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INCLUSIVE ECONOMIC GROWTH AND INCLUSIVE CYBERSECURITY: ARE THERE CONTACT POINTS?

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This article examines ways to incorporate people with disabilities using modern information and communications technologies (ICT). This process is understood as an integral part of inclusive growth, which is currently considered as a fundamental principle of socioeconomic development worldwide.

Keywords: inclusion; inclusive growth; cybersecurity; inclusive cybersecurity; disabled; people with disabilities; information and communication technologies.

Inclusive economic growth is defined as economic growth that is equitably distributed among all members of society, creating opportunities for all, regardless of social status, location, gender, age, and other characteristics. The World Bank defines inclusive growth as high and sustainable growth, broadly dispersed across all sectors of the economy, and involving a significant portion of the labor force. Fundamental components of inclusive growth also include equity and equal access to

resources and markets. Thus, the inclusion of the maximum possible number of the population, representing all social groups in economic activity lies at its core.

Traditionally, the key characteristics of inclusive economic growth include the following perspectives [1-3]:

• reducing poverty and inequality, which primarily implies that income growth among the poorest segments of the population should be higher than the average for the economy, as well as narrowing the gap between the richest and poorest members of society;

• creating opportunities for active participation in economic life, primarily through the creation of highly productive jobs with decent wages, as well as through the involvement of youth, women, and people with disabilities;

• equal access to essential services such as education, healthcare, infrastructure, and financial services;

• ensuring social protection for people through a system of pensions, benefits, and other social transfers;

• an environmental component, which stands for the economical use of natural resources and environmental protection.

The implementation of the concept of inclusive economic growth aims to ensure social stability and cohesion, the sustainability of the economic system, increased efficiency in the use of human capital, and the reduction of the risks of social upheaval and long-term negative consequences for human capital. Thus, inclusive economic growth represents a unique paradigm of economic development, which fundamentally postulates that sustainable and long-term growth is only possible in a society where everyone has the opportunity to realize their potential and benefit from the benefits of societal progress. This is the path not only to a more equitable society, but also to a more sustainable and prosperous one.

In this context, the inclusion of persons with disabilities in socio-economic life is particularly important. According to the WHO, 1.3 billion people worldwide currently suffer from significant disabilities, representing approximately 16% of the population. Experts predict an increase in the number of persons with disabilities, attributing this to the increasing prevalence of non-communicable diseases and the aging of the population. Overall, people with disabilities represent a diverse population, differing in many factors, such as gender, age, gender identity, religion, race, ethnicity, and economic status.

According to the National Statistical Committee, there are approximately 500,000 people with disabilities in the Republic of Belarus. However, a discouraging trend is clearly evident: the number of individuals aged 18 and older newly recognized as disabled in the Republic of Belarus increased by 13% from 2020 to 2024, reaching 52,625 people; per 10,000 people, this indicator increased by 1.15 times. The number of children newly recognized as disabled in the Republic of Belarus has also increased by 25% (from 4,142 in 2020 to 5,183 in 2024) during this period [4]. The inclusion of people with disabilities is already high on the agenda; if current trends continues, the current share of people with disabilities in Belarus (6%) unfortunately will increase. This will further exacerbate the importance, significance, and relevance of integrating people with disabilities into the socio-economic system of the Republic of Belarus.

It is important to note that the informatization and digitalization processes that currently occur in Belarus, as well as worldwide, affect all categories of the population without exception, including people with disabilities. In [5, 6], the issue of ensuring access to ICT was raised; this problem is incredibly important. But the issue of ensuring information security is important too – after all, as soon as a person (regardless of his/her gender, age, health status, etc.) accesses the internet, he/she becomes a potential target for cybercriminals. Issues of cybersecurity, as well as information security, are incredibly pressing now. In the context of people with disabilities, this issue takes on a number of unique features, for example:

- some users with cognitive impairments are forced to use simplified interfaces and special versions of software, such as websites and apps, which may not have adequate security level;
- attackers can exploit the physical and/or psycho-emotional state of a person (e.g., gullibility due to cognitive impairments or difficulties in verifying information due to visual/hearing

impairments) for phishing, fraud, or extortion;

- adaptive devices (e.g., smart prosthetics) may be targets for theft or unauthorized access;
- the particular value of medical information for a person with disabilities increases the risk of theft or restricted access to their personal medical data.

The following challenges facing people with disabilities in the area of cybersecurity can be identified. First and foremost, these include complex interfaces, unclear links, and warnings that are available in audio or video format only (inaccessible to people with hearing or vision impairments respectively). People with visual impairments often cannot visually verify URLs in a browser, invisible captchas, and phishing sites that bypass screen readers. The widely used color coding of red for danger warnings and green for security information is difficult for people with color blindness to perceive. People with hearing impairments may have difficulties with audio warnings and with voice communication with technical support specialists. People with musculoskeletal disabilities may have difficulties with quick typing/entering passwords. People with cognitive impairments may have difficulties with creating and remembering complex passwords, may also be highly vulnerable to social engineering, and fail to understand warnings. These are just a few examples that demonstrate the depth and significance of the problem. The author believes that every (or at least most) reader has experienced problems with Google's reCAPTCHA security system, which protects websites from bots and spam. Depending on the level of suspicion, the system may require the user to complete a challenge, such as selecting certain images or entering garbled text. Now imagine being practically blind, or having stiff fingers and having difficulties with selecting bridges, buses, or motorcycles with a mouse – and perhaps under a time limit.

In our view, G3ict uses the term "inclusive cybersecurity" very accurately and exactly understanding it as a key and dynamic area vital to protecting all people and communities from cyberthreats, regardless of their origin, identity, or resources [7]. Cybersecurity, at its core, is not simply a set of technologies, but rather the art of protecting networks, devices, and data from unauthorized access, while also ensuring the confidentiality, integrity, and availability of information. It involves the implementation of specific technologies, processes, and measures to protect information and information systems from hacking, phishing, malware, ransomware, and other cyberthreats. To ensure a secure and inclusive digital environment, each stakeholder must understand its roles and responsibilities. These collaborative efforts are essential for understanding the potential vulnerabilities of networks, devices, and users, especially the most vulnerable ones.

It should be noted that inclusive cybersecurity is not limited to people with disabilities; it has also been successfully used to manage cybersecurity processes for, for example, children, the elderly, and others. In the context of people with disabilities, inclusive cybersecurity includes a number of key measures tailored to their specific needs. These measures include the following:

- accessibility of cybersecurity technologies, which includes ensuring the availability of required security tools, such as screen readers for visually impaired users, voice recognition software for the hearing impaired, etc.;
- inclusive cybersecurity policies in organizations developed with the needs of people with disabilities in mind, including training support staff to work with people with disabilities;
- informing people with disabilities about cybersecurity threats using specialized resources and materials adapted to various physical and psychological limitations;
- developing authentication methods that are accessible to all users, including people with disabilities, such as biometric authentication;
- conducting regular security audits to ensure their accessibility for various groups of people with disabilities.

Thus, inclusive economic growth implies the maximum involvement of all groups in the socio-economic life of society. Today, this implies, among other things, active participation in digitalization processes, inclusion in information processes, access to e-government, e-learning, e-finance systems, and so on. In this context, people with disabilities demand inclusion and equality. The access to ICT is important for them, and – as a next step – ensuring their information security is

essential. The concept of inclusive cybersecurity implies not only data protection, but also the creation of a digital environment that is safe and accessible for everyone, including vulnerable and underrepresented groups. It is aimed at protecting vulnerable users, including people with disabilities, improving digital literacy, ensuring equitable access to technology, strengthening trust in information technology, and reducing digital inequality.

References

1. Рожковская, Е.А. Риски и источники уязвимости инклюзивного экономического роста в Республике Беларусь / Е.А. Рожковская // Устойчивое развитие экономики: международные и национальные аспекты [Электронный ресурс]: электронный сборник статей IV Международной научно-практической online-конференции, Новополоцк, 26 ноября 2020 г. / Полоцкий государственный университет. – Новополоцк, 2020. – 1 электрон. опт. диск (CD-ROM). – Режим доступа: https://clck.ru/3Q3Dwv. – Дата доступа: 10.10.2025. – С. 171-175.

2. Агарвал, Р. Что такое инклюзивный рост? [Электронный ресурс]. – Режим доступа: https://www.imf.org/ru/Publications/fandd/issues/2024/03/B2B-what-is-inclusive-growth-Ruchir-Agarwal. – Дата доступа: 10.10.2025.

3. Левенков, А. Инклюзивный рост: понятие, индикаторы, международный опыт / А. Левенков // Банкаўскі веснік, № 12, 2015. – С. 41-46.

4. Демографическая и социальная статистика / Национальный статистический комитет Республики Беларусь [Электронный ресурс]. – Режим доступа: https://dataportal.belstat.gov.by/osids/rubric-info/1063066. – Дата доступа: 10.10.2025.

5. Князькова, В.С. Цифровизация и инклюзия: пути повышения качества жизни людей с ограниченными возможностями здоровья / В. С. Князькова // Непрерывное профессиональное образование лиц с особыми потребностями: сб. ст. IV Междунар. науч.-практ. конф. (Республика Беларусь, Минск, 9–10 декабря 2021 года) / редкол.: А. А. Охрименко [и др.]. – Минск: БГУИР, 2021. – 347 с. – С. 110–113.

6. Князькова, В.С. Инклюзивность – ключевое слово социальной и экономической повестки развития общества / В.С. Князькова, А.Д. Петрович // Непрерывное профессиональное образование лиц с особыми потребностями: сб. ст. V Междунар. науч.-практ. конф. (Республика Беларусь, Минск, 14 декабря 2023 года) / редкол.: А.А. Охрименко, [и др.]. - Минск: БГУИР, 2023. - 356 с. – С. 136–139.

7. Inclusive Cybersecurity – Brief. Strategies to ensure an accessible and safe digital experience [Электронный ресурс]. – Режим доступа: https://g3ict.org/publication/inclusive-cybersecurity-brief. – Дата доступа: 10.10.2025.

ИНКЛЮЗИВНЫЙ ЭКОНОМИЧЕСКИЙ РОСТ И ИНКЛЮЗИВНАЯ КИБЕРБЕЗОПАСНОСТЬ – ЕСТЬ ЛИ ТОЧКИ СОПРИКОСНОВЕНИЯ?

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В статье рассматриваются направления инклюзии людей с инвалидностью при помощи современных информационно-коммуникационных технологий (ИКТ). Данный процесс понимается как неотъемлемая часть инклюзивного роста, который в настоящее время рассматривается в качестве основного принципа социально-экономического развития стран мира.

Ключевые слова: инклюзия; инклюзивный рост; кибербезопасность; инклюзивная кибербезопасность; инвалиды; люди с ограниченными возможностями здоровья; информационно-коммуникационные технологии.