

SUSTAINABILITY AND DIGITALIZATION: DOUBLE STRATEGY GUIDELINES IN NATIONAL DEVELOPMENT

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Abstract

The article's aim is to show the development of global and European actions in sustainability and digitalisation, which provide a background in the Baltic States' efforts to streamline their economic governance according to modern challenges.

The research focuses on revealing the essence of the European institutions' activity in transforming the Baltic States' economic growth towards more sustainable and digital policies. Therefore, the research methods include mainly, though not exclusively, the European Commission's recommendations and actions concerning sustainability and digital agenda/economy in the Baltic States, for example, through analysis of these states' "smart specialisation strategies" and their efficiency.

Several Baltic States have already adopted sustainability and digital agenda plans and strategies. These aspects of modern growth are going to define the EU states and the Baltic countries progressive development in the years to come.

Finally, the paper formulates some conclusions and recommendations, both theoretical and practical, in the Baltic States' adaptations to new sustainability and digital paradigm in the countries' perspective growth.

Key words: digitalisation, growth strategies, sustainability

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Introduction

Modern revolution in national growth patterns, ignited by the sustainability requirements and the digital agenda/society's parameters, has affected almost all spheres of socio-economic development in the Baltic States.

At the end of 2015, during the United Nations (UN) General Assembly about 200 states adopted 17 ambitious Sustainable Development Goals (so-called SDGs) to be reached by 2030. The goals are numerous: from ending extreme poverty and combating inequality to addressing climate change emergency, to health care, to air and water quality and so on and so forth. The progress towards SDGs delivery is monitored by both the European Union (EU) institutions and the authorities in the member states; however, after five years in action, the process is far from being optimal and in some SDGs the situation is even reversing.

Using modern digital "applications" and new technologies could have definite positive effects on SDGs implementation through "green growth" development patterns by large and small companies, by economic sectors in general, by industries and by policy-makers.

According to "Global survey on Sustainability and SDGs" (published in 2020), the SDGs are rather unknown globally in science and education spheres with a negative SDG awareness in economic science (50% globally and 56% in EU).

This is the reason that presently, the SDGs are still "rarely addressed in classical business studies and research fields of economics", acknowledged a global survey. Among various SDGs, priorities, generally, are attributed to such goals as SDG-12 "Responsible consumption and production", SDG 13 "Climate actions" and SDG-4 "Quality education" with the most important SDG-17 "Partnerships for the goals". (Global Survey, 2020)

The effect of modern industrial technology

All EU member states are desperately trying to unite modern technologies (embedded in the 4th Industrial Revolution report, 4IR published in 2016) with the SDGs: no doubt, the 4IR serves as a driving force in implementing SDGs. (Schwab, 2016)

For example, about 70% of the SDGs could be actively implemented with already existing digital technology applications. However, the states are presently quite slow and inefficient in unlocking digital potentials, including

artificial intelligence (AI). State governance structures have to be more active in deploying new technologies for both short-term growth and long-term (commercial) gains through a more responsible and purposeful approach in using digital technology in implementing SDGs. The figure below shows the 4IR's inherent connections in modern decision-making processes.

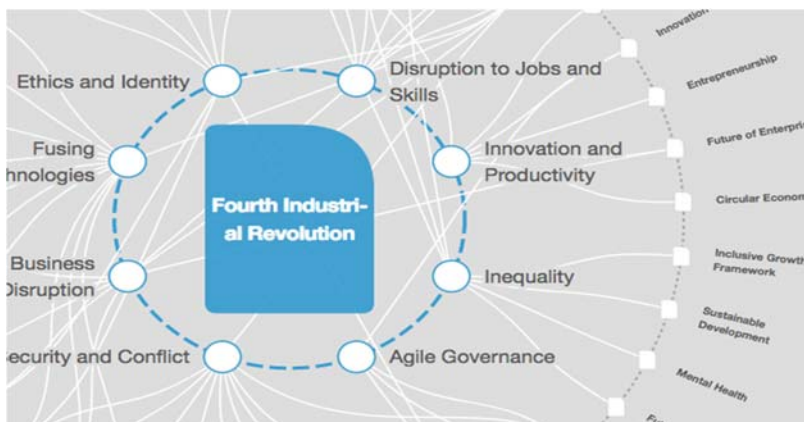


Figure 1

Source: World Economic Forum, 2020

Digital agenda and sustainability: effect for the Baltic States

European digital policy and technologies are not only interconnecting the member states in developing new growth paths, but they are also integrating the EU countries into the global processes of which the SDGs are a vital component. EU institutions have already set standards in telecoms and data protection, for instance, though the states fall behind in other areas of the digital economy. Investments in blockchain, high-performance computing, quantum computing, algorithms and new tools for secure data sharing and usage are the vital points on the path to innovation (Eteris, 2018).

Digital data and AI technologies can definitely help to develop smart solutions in the member states concerning numerous socio-economic and sustainability issues: from health to farming, to food security, to manufacturing including “smart specialisation strategies”. In these directions, new approaches to education and learning – with improved quality education – are the keys to paving the way for a new area of sustainable growth.

The following are the main directions in the optimal use of digital solutions in sustainability:

- 1) digital economy and society issues, which can ensure that citizens and businesses would have full advantage of digital opportunities. However, the Commission noted, about 47 per cent of the EU population is not properly digitally skilled, yet in the near future, about 90 per cent of all jobs will require some level of digital skills (EC, Europe for digital age, 2020);
- 2) the EU member states actions (with the assistance from the EU institutions) in creating proper and efficient conditions for digital networks and services. The Commission acknowledges that high-speed, secure and trustworthy infrastructures and services shall be supported by the EU. Only the “right environment” for innovative digital services will help in creating advanced infrastructures and feasible conditions for investment in digital networks (Global Survey, 2020).

Better regulations for digital networks and services are also important for creating rules that match the pace of technology, such as the next-generation of 5G mobile connections or the financial technology implementation, so-called fintech. There are presently several directions in the EU digital single market: some of them are both directly and indirectly connected to sustainability. In creating a digital society, the European Commission aims for an inclusive digital society in the member states, which will benefit from the digital single market. Building smarter cities, improving access to e-Government, e-Health services and digital skills will enable a truly digital European society. (EC, Shaping Europe and creating a digital society, 2020);
- 3) the countries’ digital priorities: digital issues are not a “specific priority” in the new Commission; in the previous college, there were even two “digital Commissioners” – one for the digital economy and another one for the digital society. Increasing “digital role” in the member states’ socio-economic development is a vital component in European integration too. Data protection has become an important issue and reforming data protection will give people control over their data and help businesses comply with the single market. In May 2018, the General Data Protection Regulation entered into force in the member states, which provided for a single set of data protection rules for all companies operating in the EU, wherever they are based. Stronger rules on data protection mean that: a) people have more control over their personal data, and b)

businesses benefit from a level playing field in digital spheres (EC, Data protection, 2018);

- 4) the commercial aspects of the “EU digital society” strategy, which guarantee a better access to online goods for consumers and businesses by helping the member states create a commercial level-marketplace. The new rules adopted in the EU prevent an unjustified geo-blocking in the EU states: i.e. people can freely buy from a website based in another EU state; thus barriers for consumers in cross-border shopping are abandoned. New rules entered into force in the member states in December 2018, which ended online discrimination on the basis of nationality or place of residence. These rules ensured that people no longer face barriers as being re-routed back to a country-specific website, or having to pay with a debit or credit card only from a certain country. Besides, online sellers are obliged to treat all EU consumers equally regardless of the “shopping place”. The new Commission President, Ursula von der Leyen acknowledges the college commitment to upgrade the Union's liability and safety rules for digital platforms, services and products, with a new Digital Services Act (EC, New rules on commerce, 2019).

Investments for the EU's digital agenda

For the successive implementation of the European Fund for Strategic Investments, EFSI (which was a focal point in the *Investment Plan for Europe*, originated in November 2014) the Commission extended in 2016 its duration and capacity to boost investment. The so-called “EFSI 2.0” is in force from mid-2018 to the end of 2020 and intends to help the states in increasing investment targets from € 315 billion to at least half a trillion euros. In December 2017, the EU institutions together with the states agreed on the “EFSI 2.0 Regulation”; it became the law in December 2017 (EC, State of the Union, 2016).

One of the EU agencies, the European Policy Center, EPC launched in 2017 a programme “Connecting Europe” jointly with Stiftung Mercator. Connecting Europe enables projects and organisations to actively engage with EU policymakers. Besides, the programme focuses on joint activities both on the future of Europe and sustainability, climate change and other key EU issues. By conducting those activities, Connecting Europe fosters an open, constructive dialogue among the member states and the EU decision-

makers. In this way it promotes favorable exchanges between civil society initiatives on the ground and the EU policy community. The project enhances mutual understanding among the EU states in positive contribution to sustainability (European Policy Center, 2019).

Sustainable aspects in the “digital industry” particularly attracted the EU’s attention: thus, the Commission launched in April 2016 the first industry-related initiative of the “digital single market package”, complementing the various national initiatives for digitising industry, such as Industry 4.0, Smart Industry and *l’industrie du future*.

The Commission is taking actions along 5 main directions:

- 1) use of policy instruments;
 - 2) financial support;
 - 3) coordination among the member states in “digital industry”;
 - 4) legislative efforts to trigger further public and private investments in all industrial sectors;
 - 5) creating framework conditions for the digital industrial revolution.
- (EC, Shaping Europe’s future, 2018)

Industry is one of the pillars of the EU economy: e.g. manufacturing sector in the EU accounts for 2 million enterprises, 33 million jobs and 60% of productivity growth. However, the new industrial revolution, driven by new-generation information technologies such as the Internet of Things (IoT), cloud computing, big data and data analytics, robotics and 3D printing has opened new horizons for industry to become more efficient and innovative. Recent studies showed that digitalisation of production and services can add more than € 110 billion of annual revenue to the European economy in the next five years.

European industry is strong in digital sectors such as electronics for automotive industry, security and energy markets, telecom equipment, business software, as well as laser and sensor technologies. European states are also have world-class research and technology institutes; however, there are large disparities in digitisation among EU’s regions.

Present EU plans are aimed at mobilizing up to € 50 billion of public and private investments in support of the digitisation of industry. This money is divided into the following activities: € 37 billion investment to boost digital innovation; € 5.5 billion national and regional investments in digital innovation hubs; € 6.3 billion for the first production lines of next-generation electronic components; and € 6.7 billion for the European Cloud Initiative. (European Commission, digitising industry, 2018)

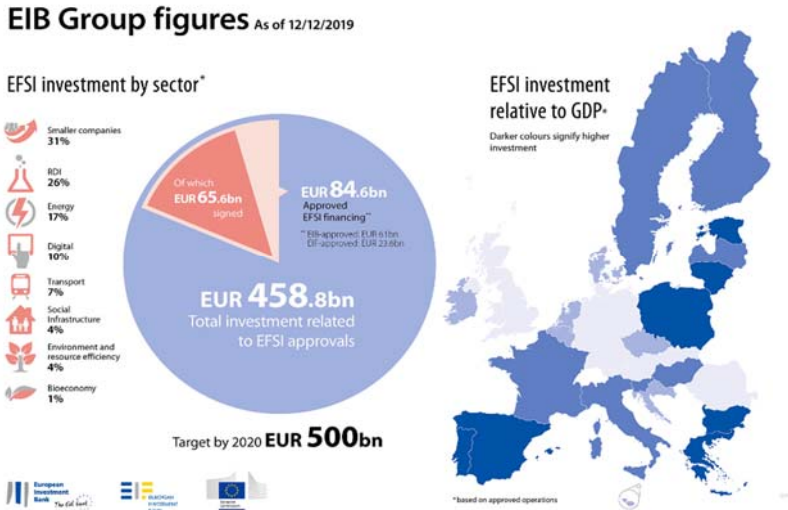


Figure 2. EIB's efforts in activating investments

Source: European Commission. Investment plan results (2020)

As to EFSI finances for the Baltic States approved by the EIB Group, Estonia has had €158 mln, Latvia – € 270 and Lithuania – € 386 mln; this financial “loans & guarantees” were supposed to trigger, correspondingly, € 1335, € 1133 and € 1809 mln of investments. The investment activity, as to the share of GDP, is the highest in Estonia (second among EU-27), seventh in Lithuania and ninth in Latvia (first was Greece and third Portugal).

The EFSI can contribute to large, “green digital infrastructure” projects, with deployment of the latest technologies to allow access to ultrafast broadband in the EU states. These projects can originate from national broadband plans, regional initiatives or be led by private companies willing to invest in future oriented broadband infrastructures and digital services such as high-performance computing and cloud services. The EFSI is one of many EU financing tools available to start-ups in the digital sector: for example, projects suitable for financing in the digital sector under the EFSI could also benefit from the support of grants and financial instruments from Horizon 2020, European Structural and Investment Funds (ESIF) and the Connecting Europe Facility. This funding source may finance part of the project (in the form of a grant or a loan) while an EFSI-backed loan may cover the remaining costs of the project.

The European Investment Plan includes more than just a guarantee provision to unlock additional investments through the EFSI. The digital economy and

the digital sector should significantly benefit from the various elements of the Plan.

As for all sectors, project promoters in the digital sector can seek technical assistance through the *European Investment Advisory Hub* (EIAH). The Hub offers a single access point for advisory and technical assistance services to allow promoters get their projects off the ground. (European Investment Bank, 2020)

The European Investment Project Portal – the *#InvestEU Portal* – is a platform to boost the visibility of investment opportunities, including those in the digital sector, across Europe. The aim of the Portal is to bring together project promoters seeking investment with investors seeking projects. (European Commission. European Investment Project portal, 2020).

The European Investment Project Portal (EIPP) offers assistance in numerous viable projects connected to sustainability issues: 111 projects in “energy union”, 138 in transportation, 145 in environmental quality and protection, and in use of natural resources.

For example investment opportunities can be seen in the EIPP by all EU member states according to numerous criteria, e.g. environment and natural resources, infrastructure and innovation, etc.

In order to implement the SDGs, it is critical to mobilize private finance at a greater speed and scale. Financial innovations, new technologies and digitalization have the potential to contribute significantly to this task. In this regard, the UN Secretary-General has recently appointed a Task Force on Digital Financing in SDGs to investigate how this potential can be unlocked while managing at the same time the associated risks. The Task Force results and the outcomes were seen at the “German Sustainable Fintech” undertaken by the Sustainable Digital Finance Alliance to include representatives from business, politics, civil society and academia in Germany and Europe. The idea is to reveal new trends in the finance sector, to leverage innovation for financing sustainable development with key actors from the digital, sustainability and finance sectors to trigger further initiatives.

Most EU states created national SDG solution networks; thus, the German Sustainable Development Solutions Network (SDSN Germany) was founded in April 2014 which pooled together knowledge, experience and capacities of German academic, corporate and civil society to contribute to the sustainable development in Germany and around the world.

In this regard, the Sustainable Digital Finance Alliance is to leverage digital technologies and innovations to enhance financing for sustainable development. The UN Secretary General's Task Force on Digital Financing of the SDGs is a clear example of activating some concrete and actionable steps to identify ways through which the digital revolution should be harnessed to help advance the SDGs.

Sustainability in the European context

Since the adoption of the 2030 Agenda in 2015, the EU has made significant progress in delivering on the SDGs and continues to reinforce its efforts. Thus, the EU institutions have activated the member states' policies towards transition to a low-carbon, climate neutral, resource efficient and circular economy that goes hand in hand with increased security, prosperity, equality and inclusion. (European Commission. Reflection paper, 2018)

Among most pressing sustainability challenges for the member states the Commission suggests for example a transition from a linear to circular economy. One of the leading persons in the advocating SDGs, Jeffrey Sachs once underlined that sustainable development had been both the greatest and most complicated challenge for modern civilization; however, he also warned against cynicism, confusion and "miserable politics" on many issues. Being a former environmentalist leader, Sachs' conclusion on the global scene sounds dramatic: enormous world economy has already created a gigantic environmental crisis that threatens lives and wellbeing of billions of people. Besides, the environmental threats are rising on several fronts at the same time: climate change, shortage of fresh water, chemical pollution of oceans and threatening habitat of other species, etc. The answer to these threats is not a reduced or alternating "de-growth", but "sustainable development", presently dubbed SDGs.

Another challenge is in a sustainable transformation "from farm to fork", i.e. food production is already a burdening issue in many countries in the world, while 20 per cent of food is wasted. Besides, the agro sector can reduce greenhouse gas emissions and limit climate risks.

Two other challenges are: future-proof energy sector, effective construction and mobility, as well as ensuring a socially fair SDGs transition. Thus, the EU states have to include in the national governance such priorities as promoting renewable energy, energy efficiency in buildings and in climate-neutral transport. As the Reflection paper confirms, buildings, for example,

are responsible for around 40% of energy consumption and transport represents 27% of Europe's greenhouse gas emissions.

Thus, the normative side of sustainable development should envision the following basic objectives of "good governance": economic prosperity, social inclusion and coherence, environmental sustainability and exchange of good practices. In this regard, the *normative objectives of sustainable development* could be used together with "environmental integrity and resilience".

The real global challenges demonstrate a growing inequality in the world: there are huge differences in incomes between the industrial countries and the least-developed countries; there are great urban-rural inequalities, as well as income inequality within countries. The only way out of these inequalities is to take into consideration the global ecological realities; that means that the world and regional economies should develop in a fundamentally different way (e.g. in energy sector, consumption and food issues) with the concept of circular economy's approaches.

There are already powerful low-carbon energies available at sharply declining prices, and more of them are coming each year: the governments have to find new energy pathways based on energy efficiency and low-carbon energy supplies; besides, new agro-farm systems adapted to local ecological conditions and causing less ecological damage shall be available to farmers. The end result from these and other examples would be to "de-couple" growth from resource use and environmental impacts. However, according to J. Sachs, in the global perspective, "resource de-coupling" and "impact de-coupling" have not yet occurred (Sachs, 2015).

Teaching sustainability: SDGs in universities

After the sustainability issues have occupied a permanent place in the states' political economies, another problem occurred: i.e. implementation of SDGs and an optimal use of time in the necessary transitional periods. The important part of the latter is the process of "introducing" the SDGs into peoples' minds and experiences. Thus, the issue of teaching sustainability came into the education policies' agenda. The author has presented a first in Europe (and probably, in the world) introduction into the complexities of such teaching with new approaches to SDGs-learning, which are no longer an option but a must

Teaching sustainability is challenging on numerous grounds: first, because of the novel essence of sustainability; second, because of the interdisciplinary

nature of SDG problems: the teaching process requires both cross-sectoral and holistic knowledge which is not presently taught in the universities.

In teaching sustainability, instructors often face the need to dwell into uncharted waters of other scientific fields – natural, technical and social. Hence, the ways to build sustainability's qualification need interdisciplinary approach.

As soon as sustainable growth becomes a critically urgent concept in the states' governance theories, economically feasible approaches and solutions shall become win-win situations. However, most of the educators/teachers are still in the linear market economy practice, which does not allow for revolutionary approaches to modern SDGs.

Thus, **new forms of teaching and learning are necessary** in delivering on SDGs, that can help students deal better with complexity, ambiguity, uncertainty, with new values and moral dilemmas; in line with breaking the "business-as-usual" approach, it has to challenge the "education-as-usual" concept. And in this regard, the new author's book deserves an additional attention to all interested in the SDGs phenomenon.

Higher education has experienced during last decades dramatic changes: higher education and research are to take more active role in the SDGs' perspective implementation. SDGs provided means and ways to draft concise and credible approaches to their implementation with a view of using different levels of education and training by using modern tools and techniques to reveal necessary knowledge and required skills.

Knowledge based system shall include SDGs components and system thinking. Besides, the following aspects shall be considered: "teach the teachers" about the SDGs requirements; develop new e-learning skills in SDGs teaching; developing partnerships with other universities teaching SDGs; providing coordination among national political, economic, business, cultural and educational authorities to facilitate the states' SDGs fulfillment obligations under the UN Agenda 2030, as well as an exchange of positive practices.

Teaching sustainability has become a challenging issue since the UN 2030 Agenda entered into force. The success of implementing SDGs depends, first of all, on the ability of states' education policies to accommodate the SDGs and 169 targets within the modern educational challenges. Teaching SDGs is partially divided among several education policy levels: schools, colleagues, higher education institutions (general and special).

Teaching and training today's youth means providing contemporary skills to tomorrow's policy- and economy- decision makers, providing them with necessary basic knowledge on modern 4th industrial revolution challenges

with a critical approach as well as system-thinking approaches to complex socio-economic problems.

Both existing education institutions and teaching methods shall be re-assessed fundamentally: higher education institutions shall teach the necessary skills for SDGs; the teaching methods shall be adapted to the needed general and professional skills to practically implement SDGs and targets in the transformed socio-economic policies. Long-term professional and vocational education/training shall be available through people's life span. All national middle- and high- education institutions shall provide valuable examples for teaching future decision-makers providing them with the necessary skills.

The UN recommendations to implement SDGs are expected to be included into the national education priorities; now it's the states turn to set SDGs high in education policies, teaching and training. The task is complicated; but that doesn't make national decision-makers to be the idle reviewers: "teaching SDGs" means offering a mix of knowledge and skills for effectively implementing SDGs and the global sustainable targets of the UN-2030 Agenda (Eteris, 2019).

Sustainability and digitalization: governments' role

The EU states' decision-makers shall be active in moving quickly to create new mechanisms in SDGs implementation and in digital technologies. As World Economic Forum underlined in winter-2020, "time and expertise on one hand" coupled with "enabling government policies and regulations on the other" could trigger sufficient progress. As soon as the rapid pace of change of technological innovation goes on, the "channels of technology" will play a greater role in supporting states' efforts in SDGs implementation. Thus, government actions in the member states are likely to include the following actions:

- 1) developing responsible "technology codes and standards" as well as data protocols in consultation with industry;
- 2) harnessing public procurement tools (including sustainability standards) for digital assets and suppliers of "responsible technology requirements";
- 3) prioritizing investment in the 4IR-enabling infrastructures including broadband, open cloud connections, satellites and energy grids;
- 4) taking a lead in basic/applied research and fintech at the "intersection of technology and societal/environmental impact", including opportunities for more customers' oriented research;

- 5) catalyzing innovation in new solutions, e.g. through incubators, accelerators and price support mechanisms;
- 6) performing perspective sectoral and environmental policy solutions through subsidy reforms;
- 7) updating national structural policies to reflect the 4IR achievements, including reforms in labour market, taxation, social safety nets and education (World Economic Forum, 2020).

European “green deal” through the digital agenda

The Commission is of the opinion that the “green transition” shall be a “window of opportunity” in the member states to foster sustainable and job-intensive economic activity.

Europe needs a digital sector that puts sustainability and green growth at its heart. Digitalisation presents new opportunities for: a) monitoring of air and water pollution, b) monitoring and optimising the consumption and usage of energy and natural resources.

The Commission is advocating a “sustainable products” policy, which will prioritise reducing and reusing materials before recycling them. However, presently, due to insufficient manufacturing technology opportunities, only minimum requirements will be set to regulate the share of environmentally harmful products being placed on the EU-27 markets; most important is to tackle “false green claims”.

Two visible examples: the Commission has proposed measures in 2020 to ensure that all packaging in the EU would be reusable and/or recyclable by 2030; new business models will be developed based on renting goods and services to assist member states in shifting consumption patterns away from single or limited use products.

Since March 2020, the member states would follow the EU adopted industrial strategy to support the green transformation. Hence, the member states’ industries will be provided with assistance to modernise and exploit existing opportunities nationally and regionally. Generally, the main aim is to stimulate the development of new markets for climate neutral and circular products. As a by-target for the member states, the decarbonisation and modernisation of energy-intensive industries, e.g. steel, cement, chemistry, etc. will be essential.

The potentials in sustainability are great: so far, according to the Eurostat data from 2016, only about 12 per cent of the materials used by the EU member states’ industries come from recycling. (EC, Sustainable industry, 2019)

Conclusions

Sustainability has become already “a must” in the Baltic States, as well as in other EU countries: corresponding EU strategies have turned the EU member states towards implementing SDGs. Digitalization is having an additional cumulative effect in this process, while often having some separate and positive circumstances.

Positive examples of teaching sustainability in universities provide definite reasons to believe that changes in education policies in the Baltic States would have a lasting positive effect on SDGs implementation.

Existing digital applications being deployed presently through specialists’ exploration of the 4IR’s changers would provide for drastic innovation in the next decade in all spheres of socio-economic development in the Baltic States. Inherent connections between sustainability and digitalization in the research, development and innovation phase are already providing an active support for quicker SDGs implementation in the states.

Some pioneering research fields, e.g. quantum-computing have already been determining optimal carbon capture materials and AI-enabled research, which assist in creating new antibiotics to address microbial resistance to current medicines; in short, there are apparent and breakthrough innovations – in technology and social/governments policies – to assist the SDGs’ implementation in the states.

Regardless of some problematic issues, modern governing policies, in general, are showing definite potentials in turning available science, technology and digital achievements into breakthrough solutions that shall bring countries closer to optimal SDGs implementation. New EU efforts in combining sustainability and digitalization (e.g. through the “green deal”) that the countries’ “double strategies” are having a long-term potentials.

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Šajā pētījumā, pielietojot ar dažādām pētniecības metodēm iegūto datu triangulāciju, izvērtētas vietējo pašvaldību iespējas uzsākt sociālo uzņēmējdarbību, kuras tiesiskais regulējums Latvijā darbojas mazāk par gadu. Pētījumā izvērtētas Latvijas vietējo pašvaldību iespējas pārveidot esošās organizācijas, dibināt jaunus sociālos uzņēmumus un uzticēt sociālās uzņēmējdarbības funkcijas privātajā sektorā dibinātajiem sociālajiem uzņēmumiem.

Ilgtermiņa un digitalizācija: nacionālās attīstības divpusējās stratēģijas vadlīnijas

Eugene Eteris

Raksta mērķis ir parādīt globāli Eiropā veikto darbību attīstību ilgtermiņa un digitalizācijas nodrošināšanā, kas sniedz pamatu Baltijas valstu centieniem pilnveidot to ekonomikas pārvaldību atbilstoši modernajiem izaicinājumiem.

Pētījumā atklāta būtība Eiropas institūciju darbībai, transformējot Baltijas valstu ekonomisko izaugsmi ilgtermiņīgākās un digitālās politikas virzienā. Tādēļ pētniecības metodēs galvenokārt (bet ne tikai) iekļautas Eiropas Komisijas rekomendācijas un darbības saistībā ar ilgtermiņa un digitālo programmu/ekonomiku Baltijas valstīs, piemēram, analizējot šo valstu viedās specializācijas stratēģijas un to efektivitāti.

Dažas Baltijas valstis jau ir pieņēmušas ilgtermiņa un digitālās programmas plānus un stratēģijas. Šie modernās izaugsmes aspekti definēs ES valstu un Baltijas valstu progresīvo attīstību nākotnē.

Visbeidzot, pētījumā formulēti daži teorētiski un praktiski secinājumi un ieteikumi Baltijas valstu adaptācijai jaunai ilgtermiņai un digitālajai paradigmai šo valstu perspektīvajā izaugsme.

IT profesionāļu motivēšana un vadība: Latvijas situācija

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Raksta mērķis ir aprakstīt IT profesionāļu motivācijas struktūru Latvijā no diviem skatu punktiem: no pašu IT speciālistu viedokļa un no HR vadītāju viedokļa, kuri nodarbojas ar IT speciālistu piesaistišanu un vadīšanu. Pētījuma jautājums ir, kā uzlabot IT profesionāļu vadības efektivitāti. Pētījuma teorētiskais pamatojums balstīts Maklelenda vajadzību teorijā. Pētījumā izmantota teorētiska pieeja, kas koncentrējas uz indivīda vajadzību izpratni un ņem vērā cilvēku sasniegumus kā galveno motivējošo faktoru. Vadoties pēc šīs teorijas, lai motivētu darbinieku strādāt efektīvi un uzturētu tā