ISSN 2661-2666 (Online) International Scientific Journal Monte (ISJM)
DOI: 10.33807/monte.20243113 | Volume 9, No.1 (2024): April

DIGITALIZATION OF HIGHER EDUCATION IN THE CONTEXT OF ECONOMIC DEVELOPMENT OF THE REGION OF SOUTH EAST EUROPE, WITH REFERENCE TO MONTENEGRO AND BULGARIA

Dr. Slobodan Nešković
International Academy of Sciences, Arts and Security
University St. Cyril and St. Methodius Veliko Tarnovo, Bulgaria
University of Business Academy in Novi Sad, Serbia
Ukrainian Technologies Academy in Kiev, Ukraina
slobneskovic@gmail.com

ABSTRACT

This paper explores the impact of higher education on the digital economy's development. Employing methods such as analysis, synthesis, content analysis, scientific abstraction, and systematization, the authors conclude that enhancing dual education is crucial. This approach aims to supply the national economy with innovative thinkers and actors, thereby bolstering higher education's positive influence on the digital economy.
The economic system is undergoing significant transformations under the influence of information and communication technologies. Educational institutions offer training for highly qualified specialists aligned with employers' needs, fostering innovation and its transition to the economy. Enhancing higher education's constructive impact on digital economy development necessitates transforming universities into robust innovation and transfer hubs. The analysis is based on the latest data and research findings, highlighting the challenges and opportunities faced by these South East Europe countries in leveraging digital technologies for educational advancement and economic growth.

Key Words: Digitalization, Higher Education, Economic Development, Montenegro, Bulgaria;

INTRODUCTION

The aim of this paper is to examine the higher education system's role in shaping and advancing the digital economy. Key goals include identifying contemporary factors influencing digital economy development, exploring scholarly perspectives on education's role in societal and economic progress, analyzing higher education institutions' contributions to the digital economy's advancement based on their functions, and highlighting the significance of dual education in digital economy development processes.

Digital technologies are profoundly influencing economies across all sectors, reshaping how economic value is generated, the nature of jobs, the methods of work, and the requisite skills. This trend particularly underscores the growing demand for digital skills in the workforce. While digital technologies are automating certain “routine” tasks, they are also creating new job opportunities that necessitate diverse technological skills, not limited only to skilled ICT professionals (Kholiavko, N., et. al, 2022, The role of higher education in the digital economy development, p. 3).

The digital economy and society have experienced rapid growth since 2000, demanding an increasingly broad range of digital skills for both work and daily life. Digital knowledge, defined as acquiring information through learning about facts, rules, theory, and practice related to digital technologies, is essential. Digital skills, on the other hand, involve applying this knowledge to complete tasks or solve problems using technology. This can range from using social media to coding a website.

The national higher education system plays a pivotal role in advancing the information society and the digital economy. This paper argues that examining the operational intricacies and significance of higher education institutions in the digital economy's development is crucial.

ISSN 2661-2666 (Online) International Scientific Journal Monte (ISJM)
DOI: 10.33807/monte.20243113 | Volume 9, No.1 (2024): April

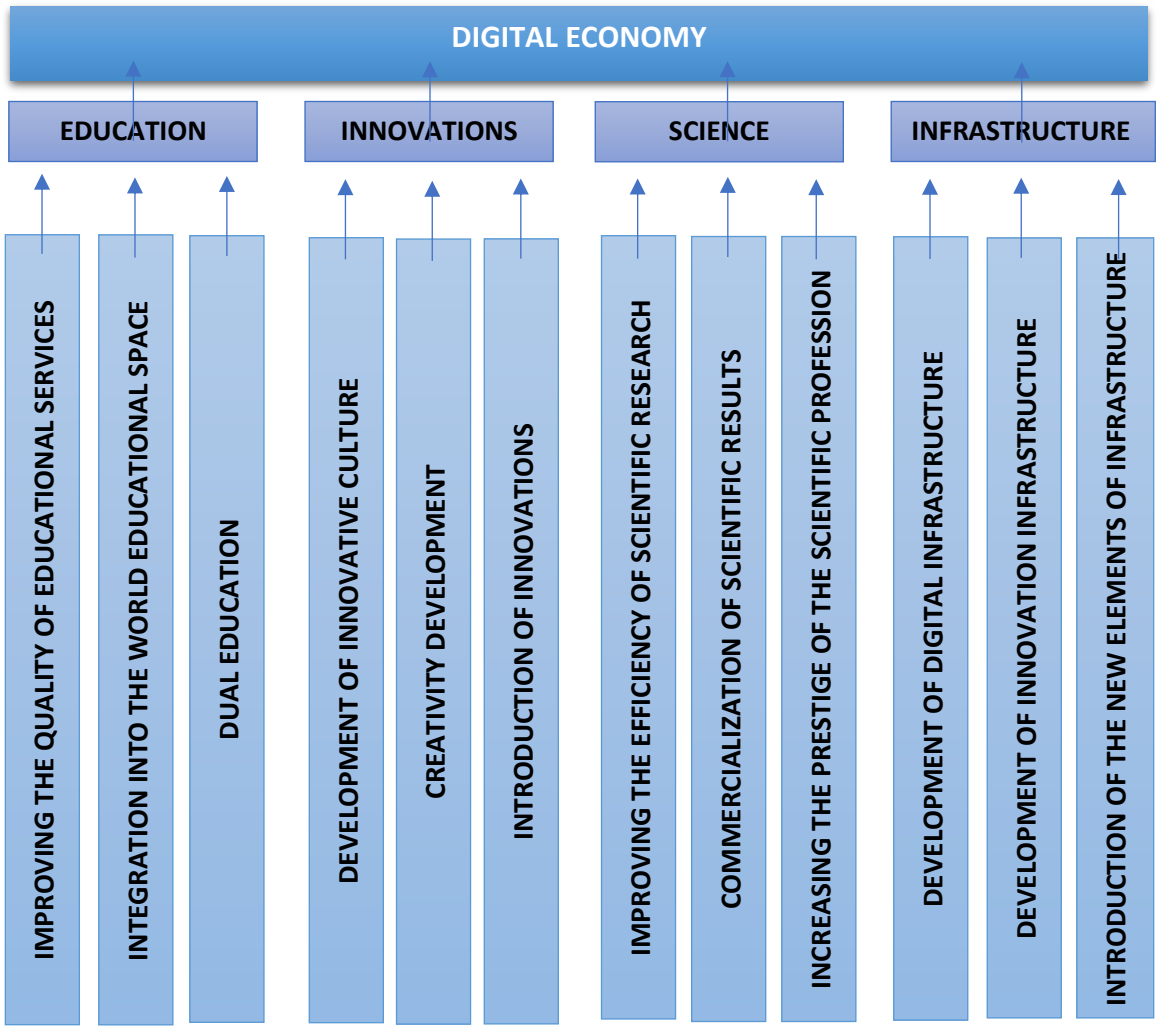
Educational institutions shape the digital economy's evolution not only through educational functions (such as training, retraining, in-service training, lifelong learning, and dual education) but also through research activities coupled with innovation endeavors. In a market economy, the research and innovation pursuits of universities enable them to fulfill their entrepreneurial role. The entrepreneurial engagement of universities actively aligns the higher education system with the entrepreneurial sphere, fostering mutual interests, pooling resources, and coordinating partnerships. Successful implementation of individual research projects by higher education institutions, funded by businesses, sets the stage for long-term, mutually beneficial collaborations (Regional Cooperation Council, 2018, p. 22).

In this context, universities play a crucial role in fostering innovative youth entrepreneurship. This involves not only educational initiatives (especially within dual education frameworks) but also the establishment of technology parks, innovation centers, research parks, business incubators, and start-up consulting centers.

Engineering developments, cutting-edge technical devices, computer, digital, information, and communication technologies are increasingly commercially attractive, alongside growing demands for biotechnology, nanotechnology, and medical inventions.

Facilitating effective communication between higher education and entrepreneurship expands, simplifies, and accelerates innovative businesses' access to modern scientific advancements, further enhancing dual education. Moreover, trends of globalization and higher education internationalization enhance access to leading global scientific achievements, facilitating international technology and information transfer. The digital economy's development processes are influenced by innovation factors (Figure 1), which encompass innovative capacity, the readiness and willingness of economic entities to adopt innovation.

Figure 1 The components of digital economy development



The capability of economic entities to establish adaptable organizational structures and foster innovation is crucial. This approach will facilitate the creation of efficient mechanisms for cross-sectoral collaboration in education, science, and innovation, thereby enhancing the effectiveness of dual education programs implemented through cooperative efforts between universities and businesses.

Among countries of South East Europe, Montenegro and Bulgaria have made significant advancements in digitalizing their higher education systems, as evidenced by increased investment in digital infrastructure, online resources, and e-learning platforms. The COVID-19 pandemic further accelerated this transformation, leading to a rapid expansion of digital tools for remote learning. Montenegro has modernized its educational infrastructure and witnessed a surge in online course offerings, although challenges like the digital divide persist. Similarly, Bulgaria prioritizes digital literacy, STEM education, and collaboration with the private sector to drive innovation and digital skills development. The digitalization of higher education in both countries has positively impacted economic development by preparing students for digital careers and attracting global talent, despite ongoing challenges that also present opportunities for growth and innovation.

METHODOLOGY OF SCIENTIFIC RESEARCH

Digitization of higher education represents the modern concept of implementing information and communication technologies in the teaching process, in the context of eliminating contradictions and improving the situation in society. The fact is that the region of Southeast Europe has enormous resources in all areas of public life, while innovative trends in the sphere of education and science contribute to the prosperity of each individual state. The subject of our research is the digitalization of higher education in the region of Southeast Europe with implications for the economic development of the countries of the observed territory, especially Montenegro and Bulgaria.

The goal of the work is the scientific consideration of the possibility of applying the concept of digitalization of the higher education system in the area of Southeastern Europe. Also, pointing out the importance of innovative trends for achieving stable economic development of countries. The basic hypothesis is: Digitization has a first-rate importance in the development of the higher education system and the economic progress of all countries in the region of Southeast Europe, including Montenegro and Bulgaria. Auxiliary hypotheses are: 1) The area of Southeast Europe has enormous resources in the sphere of higher education and improvement of the economic environment; 2) Existing human and material potentials with optimal use can ensure perspective development of individual countries of the region.

During the research, known scientific methods and techniques will be implemented. Methods of analysis and synthesis of relevant literature content, descriptive method, comparative method, specialization and generalization of selected materials will be used. The scientific justification of the work is reflected in the contribution to the academic community from an area that has not been sufficiently researched so far. The social justification of scientific work means analyzing the topics of application of innovative postulates for the purpose of higher education reforms and economic prosperity, which are of first-class importance for every community. This is particularly expressed in the current global constellation, burdened with numerous contradictions, which is reflected in all areas of human existence.

DISCUSSION AND RESULTS

Digitalization has transformed various aspects of modern society, including education. In the context of higher education, digital technologies offer new opportunities for teaching, learning, and research, leading to more efficient and effective educational outcomes. For countries like Montenegro and Bulgaria, which are striving to enhance their economic development and competitiveness, digitalization of higher education is crucial. It not only improves the quality of education but also prepares students for the digitalized workforce, thus contributing to overall economic growth.

The economic system is undergoing significant transformations under the influence of information and communication technologies. The implementation of modern technologies allows to optimize and accelerate the flow of business processes, thus reducing the period of

production and delivery of goods to consumers. The technological lag of producers from South East Europe in the new economic conditions causes a deepening of the technological gap between the national economy and the leading countries - world innovation leaders. Innovative information and communication technologies are increasingly integral to business operations. This is evidenced by the significant expansion of services, the extensive development of e-business, and the rise of virtual enterprises. In the higher education sector, this trend is manifested in the proliferation of dual education programs, while in the government sector, it is seen in the adoption of electronic document management systems (Kholiavko, N., 2022, p. 6).

Commercialization of research outcomes drives the diffusion of innovative developments, cutting-edge technologies, and modern information and communication technologies into the national economy's practical realm. Their integration into management practices aids in optimizing enterprise cost structures, transitioning to innovative and information-driven operational paradigms, expediting decision-making processes through ICT utilization, reducing production cycles, and meeting end-user needs by enhancing informatization, automation, and robotization of production processes.

Digitalization offers significant societal and economic benefits, yet its progress is often uneven. While new technologies create opportunities, they can also disrupt industries, displace workers, and exacerbate inequalities. Consequently, national digital strategies focus on creating favorable economic and social conditions to enhance countries' competitiveness, economic growth, and societal well-being. In South East Europe, Albania, Bosnia and Herzegovina, the North Macedonia, Kosovo*, Montenegro and Serbia have adopted a Multi-annual Action Plans that prioritizes digital integration as its fourth component. These plans emphasize the need for comprehensive interventions, including future-proof digitalization strategies, updated regulatory frameworks, improved broadband infrastructure, and initiatives for digital access and literacy. These efforts aim to expand the digital economy and integrate SEE economies into the broader European digital market (OECD, 2018, Digital Society in South East Europe, p. 389).

Serbia has continued to effectively implement their digital strategies, particularly focusing on supporting the ICT industry and promoting e-business development. In contrast, North Macedonia has experienced a slowdown in implementing certain activities since 2015. A positive development occurred in Bosnia and Herzegovina, which adopted electronic communications and information society policies in the first half of 2017, laying a foundation for improved performance in the future.

On average, South East European economies demonstrate strong performance in ICT access and usage, effectively facilitating broadband development. They also excel in digital security and privacy, driven by reforms in digital public administration and e-government development. However, they face challenges in e-business and e-commerce, particularly in consumer protection and fostering digital business. The weakest area is digital empowerment, particularly in e-inclusion. Overall, there is a need for SEE economies to improve the monitoring, evaluation, and adjustment of policies across all areas (Regional Cooperation Council, 2018, pp 25-26).

The availability of e-skills is crucial for the ICT sector, driving innovation in the digital economy and enabling individuals to benefit from digital services. Shortages and mismatches in e-skills, leading to a digital divide, can hinder economic growth and competitiveness. Comprehensive e-skills strategies ensure that education systems equip students and professionals with the necessary digital competencies. These strategies should also be closely linked to e-inclusion efforts to address challenges faced by groups at risk of exclusion from the digital economy due to factors such as age, disability, lack of skills, cultural background, income, or location.

In South East European economies, efforts to address e-skills development have begun, but resources and implementation remain limited. Implementation of these strategies is still in its early stages. Albania, Kosovo*, Montenegro, and Serbia have established policy frameworks to promote the integration of ICT into education, including IT infrastructure, connectivity, e-curricula, and teachers' training, as well as to provide lifelong learning opportunities for ICT professionals. Among these countries, Serbia has made the most progress, with its strategies covering e-skills development within its information society, education, and IT industry frameworks. The establishment of the inter-ministerial Joint Body for ICT Infrastructure in Education in Serbia aims to improve coordination of these strategies across relevant government bodies.

Several quantitative indicators reflect the status of e-skills development in SEE economies. For example, a significant percentage of households in some economies lack Internet access due to a lack of skills. In 2016, this percentage was as high as 36% in North Macedonia and Republika Srpska in Bosnia and Herzegovina, and 33% in Montenegro, while it was approximately 10% in Serbia. Although Internet access in schools is fair across the six economies, Albania has made notable progress in this area, scoring 5.2 on the World Economic Forum indicator for Internet access in schools in 2016, up from 4.1 in the previous assessment cycle. However, North Macedonia and Serbia saw a decrease in scores in 2016, dropping from 5.5 to 5.2 and from 4.2 to 3.9, respectively, while Montenegro's score remained almost unchanged (4.2 to 4.3). According to current data from SEE governments, all primary schools in Serbia have IT equipment and software, with the majority having ICT labs and over 65% having Internet connectivity. However, in other SEE economies, a large number of schools either lack installed or operational IT equipment and software (OECD, 2018, p. 350).

Montenegro has made significant strides in digitalizing its higher education sector. The country has invested in modernizing its educational infrastructure, including upgrading classrooms with digital technologies and providing students with access to online learning platforms. According to the latest data, Montenegro has seen an increase in the use of digital tools and platforms for teaching and learning, with a growing number of courses being offered online.

One of the key challenges facing Montenegro in its digitalization efforts is the digital divide, particularly in rural and remote areas where access to high-speed internet is limited. Addressing this challenge requires further investment in digital infrastructure and ensuring equitable access to digital resources for all students (Ministry of Public Administration, 2021, p. 9).

Similarly, Bulgaria has prioritized the digitalization of higher education as part of its economic development strategy. The country has focused on enhancing digital literacy among students and faculty, promoting the use of digital tools in teaching and learning, and fostering collaboration between universities and the private sector to drive innovation.

Bulgaria has also invested in developing digital skills among its workforce to meet the demands of the digital economy. The country has seen a rise in the number of students enrolled in STEM (science, technology, engineering, and mathematics) fields, indicating a growing interest in digital-related professions.

The digitalization of higher education in Montenegro and Bulgaria has had a positive impact on economic development. By equipping students with digital skills and knowledge, universities are preparing them for careers in the digital economy, thus contributing to the growth of the ICT sector and other digital industries. Moreover, digitalization has enabled universities to offer new and innovative programs that meet the needs of the digital economy, attracting students and researchers from around the world.

Despite the progress made, both Montenegro and Bulgaria face challenges in fully realizing the potential of digitalization in higher education. These include the need for additional investment in digital infrastructure, ensuring the quality of online education, and addressing the digital skills gap among students and faculty. However, these challenges also present opportunities for growth and innovation. By leveraging digital technologies, universities in Montenegro and Bulgaria can enhance their global competitiveness, attract international students and researchers, and contribute to the development of a knowledge-based economy.

DIGITALIZATION PROJECTS IN MONTENEGRO AND BULGARIA

As society and the business world undergo rapid changes driven by technological advancements and the onset of the Fourth Industrial Revolution, the education sector is also experiencing significant transformation. This transformation is evident in the adoption of technological trends that are shaping the world of education. To keep students motivated, teachers must stay abreast of the latest changes and key factors influencing education. Understanding these trends helps create more effective learning environments by incorporating technologies such as interactive lessons, artificial intelligence, robotics, 3D platforms, repositories, virtual simulators, and collaboration platforms (Kholiavko, N., 2022, p. 8).

In any information system, there are five critical components that must be considered by those planning its activities or seeking changes in its operation: people, hardware, data, network, and processes. The digitalization of education is no exception, requiring attention to these components for successful implementation.

The first priority in this regard is to promote the development of a highly efficient digital education ecosystem. This involves establishing the right infrastructure in schools, planning and enhancing digital capacity, and increasing the digital competence of teachers and staff to effectively manage processes. Another key objective is to improve the quality of educational content and use convenient, secure platforms that adhere to ethical standards in the digital environment.

The second priority focuses on enhancing digital skills and competencies for digital transformation. To address this, the plan emphasizes the need for individuals in the education system to possess computer knowledge, basic digital skills, and digital literacy to combat misinformation. Additionally, to advance digital education and engage learners in technological developments, advanced digital skills, knowledge of artificial intelligence, and equal opportunities for all learners are essential.

Incorporating technologies like automated workflows, educational social networks, learning management systems integrated with academic administration systems, and virtual communities can further enhance the teaching and learning process. Providing fast internet in every lecture hall, offering free use of tablets, smartphones, and computers in the learning process, and utilizing electronic textbooks are some of the potential solutions to increase student interest in education in the future (Dimitrova, 2018, p. 34).
Montenegro's Digital Transformation Strategy for 2022-2026 places a strong emphasis on developing digital skills in education, starting from early schooling and continuing through secondary and tertiary education. One of the key goals of the strategy is to increase the proportion of graduates from IT programs compared to total graduates from all universities by 15% by the end of 2024 (According to https://www.gov.me/clanak/strategija-digitalne-transformacije-za-razvoj-digitalne-crne-gore, Accessed on: 3/18/2024).

The Higher Education Development Strategy highlights the need for continuous teacher training in educational technology and e-learning. It aims to ensure that at least 30% of teaching staff are trained in computer operation and 20% have specialized knowledge in cybersecurity.

The Ministry of Education, Science, Culture, and Sports is responsible for educational policies and implementing digital education agendas. The Bureau for Educational Services proposes measures for education development and new educational technologies. The 2014 Law on Higher Education allows public institutions to establish technology innovation centers, while the Institute of Education improves education quality through advisory, research, and development.

Established in 2017, the National Council for Information or Cyber Security advises the Montenegrin government on cyber security issues. The Montenegrin Research and Education Network (MREN) supports local connectivity and ICT development, benefiting educational and research institutions. Connecting to MREN would enhance Montenegro's ICT sector's scientific, research, and innovation capabilities.

To achieve this, the strategy recommends making informatics and computer science mandatory subjects starting from the fifth grade of primary school. Currently, informatics is only an optional subject in the first year of secondary school. The curriculum would cover information and communication technologies, digital literacy, and basic computing concepts. Additionally, preschoolers would be exposed to visual programming languages to enhance their digital and problem-solving skills (Ministry of Public Administration, 2021, p. 20).

The DigNest project in Montenegro aims to modernize Higher education institutions by fostering collaboration with leading businesses. The project's main goal is to leverage digital technologies in key sectors such as agriculture and health, ensuring that graduates and the workforce can effectively adapt to the digital era.

The project emphasizes collaboration and networking to ensure that best practices are shared across regions (According to data from: https://dignest.me/, Accessed on: 3/19/2024). By importing expertise and stimulating the growth of an efficient innovation ecosystem, the project aims to drive positive growth and development in Montenegro. DigNest project aims to achieve several specific objectives:

Strengthening the relationship between Higher education institutions and the national economy in Montenegro: This will be achieved through the creation of the MNE Academic Hub, which will serve as a platform for collaboration and knowledge exchange between academia and industry.

Enhancing the level of competencies and skills of Higher education institutions' staff members: The project will focus on providing training and professional development opportunities for staff members to enhance their digital skills and competencies.

Increasing the quality of higher education: This will be done through the introduction of new forms of practical training schemes and the study of the digitized labor market, ensuring that students are equipped with the skills and knowledge needed for the digital economy.

Improving internationalization of HEI: This includes networking with other digital innovation hubs and competency centers, sharing knowledge, and complementing expertise. This will help Montenegrin Higher education institutions stay abreast of international trends and best practices in the field of digital innovations.

The CBHE Erasmus+ project aimed to enhance the reform efforts in Higher education institutions in Montenegro, aligning them with European standards and practices. This project focused on improving the quality and relevance of higher education, enhancing its governance and management, and increasing its inclusiveness and accessibility. Through collaborative efforts with European partners, the project sought to strengthen the capacity of Montenegrin HEIs to meet the challenges of the modern educational landscape (More on the subject: https://www.erasmusplus.ac.me/capacity-building/?lang=en, Accessed on: 3/19/2024).

The Erasmus+ project on HEI reform in Montenegro was launched in response to the need for comprehensive reforms in the country's higher education sector (Table 1). Montenegro, as a candidate country for EU accession, recognized the importance of aligning its higher education system with European standards to ensure its competitiveness and relevance in the global arena. The project aimed to address key areas of reform, including curriculum development, quality assurance, student mobility, and staff training.

Table 1 CBHE Erasmus+ priorities for Montenegro

Curriculum development	Improving management and operation of High Education Institutions	Developing the Higher Education sector within society
Education; Languages; Social and behavioral science; Business and administration; Law; Environment; Information and Communication Technologies; Engineering and engineering trades; Agriculture, forestry, fisheries and veterinary; Health;	Governance, strategic planning and management of HEIS; University services; Internalization of HEI; Quality assurance processes and mechanisms;	Development of school and vocational education at post-secondary non-tertiary level; University-enterprise cooperation;

ISSN 2661-2666 (Online) International Scientific Journal Monte (ISJM)
DOI: 10.33807/monte.20243113 | Volume 9, No.1 (2024): April

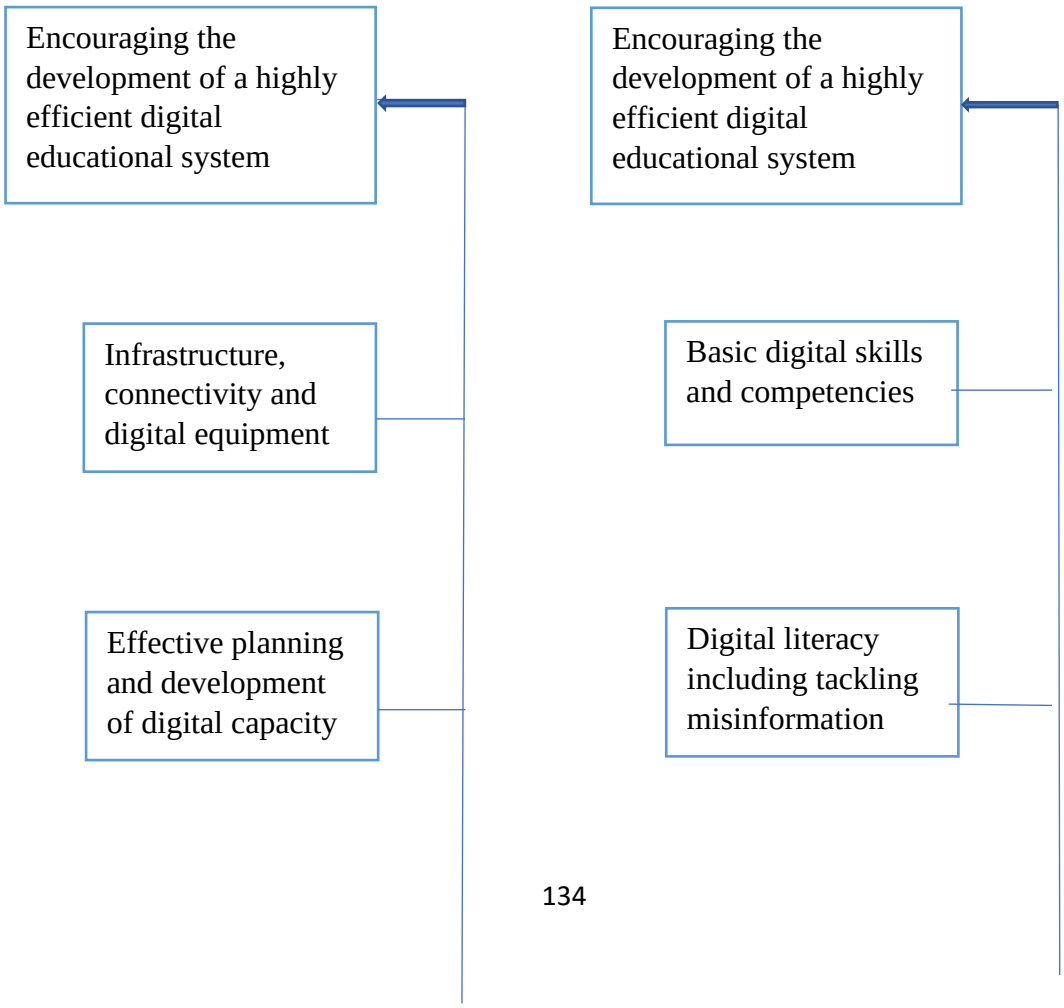
Higher education curricula would be aligned with market demands, incorporating aspects like dual education and lifelong learning. Collaboration among universities, high schools, IT companies, and other industries would help tailor curricula to meet job market needs, especially in areas identified in the Smart Specialization Strategy.

The Erasmus+ project on HEI reform in Montenegro has been instrumental in advancing the country's higher education sector. By aligning with European standards and practices, Montenegro has improved the quality, relevance, and accessibility of its higher education system. The project's success demonstrates the value of international cooperation and collaboration in driving meaningful reforms in higher education. The Bulgarian Higher education system started its reform a bit later than all the European countries and still needs some time to complete the process. Every country that is part of the European Union tries to adapt all the policies and programs that are produced by the institutions in the Union, but some countries can do it faster than others. Universities and colleges are very often big institutions, and the processes of digitalization could be split up in three main spheres: Campus, Teaching and Learning. Each of these processes includes many people who either work, study or teach and have an integral part in the digital transformation.

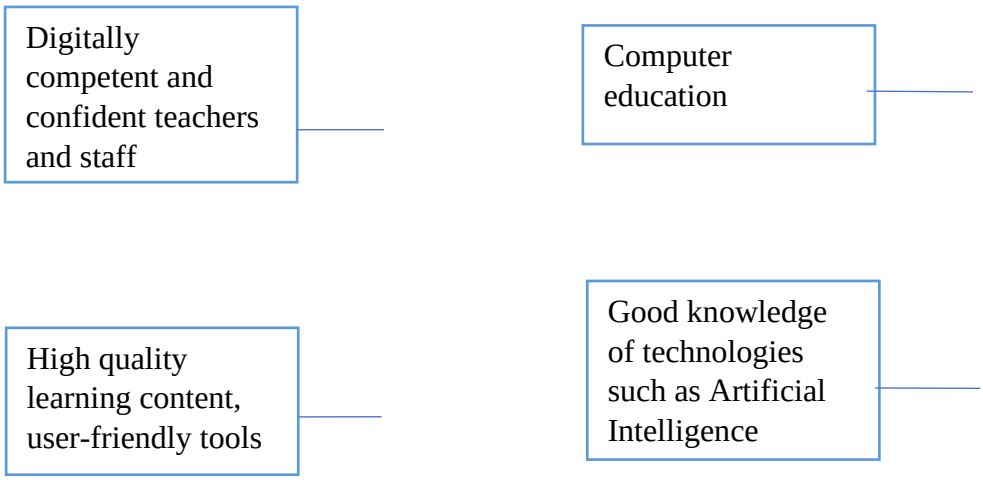
The Bulgarian national education system comprises over 2,600 educational institutions, including schools, colleges, and universities, with a collective teaching force of more than 85,000 teachers and lecturers. Within the higher education sector, Bulgaria boasts 51 institutions, comprising 37 public and 14 private establishments. Among these are 44 universities and specialized high schools, along with 7 independent colleges. Each institution exhibits varying levels of technological competencies and infrastructure, but the COVID-19 pandemic has underscored the urgent need for comprehensive digitalization and transformation across all facets of education, encompassing administration, teaching, learning, and assessment (Kovacheva, Velkova, 2021, p. 6).

A public consultation led by the European Commission took place from June to September, revealing surprising insights. The consultation highlighted significant disparities in the digital literacy of schools and the digital skills of teachers across Europe, with many being deemed unsatisfactory in their current state of development. The action plan resulting from this consultation focuses on two key priority areas, as outlined in Figure 2.

Figure 2 Priority areas



ISSN 2661-2666 (Online) International Scientific Journal Monte (ISJM)
DOI: 10.33807/monte.20243113 | Volume 9, No.1 (2024): April



The DIGI-HE project, implemented with the support of European universities and the Erasmus+ program, aims to enhance digitalization strategies by sharing best practices and fostering peer-to-peer learning and experiences among institutional management in higher education institutions across Europe. The project utilizes various surveys to assess digital self-awareness in participating countries and partner groups, along with reports, seminars, and learner groups to develop and showcase best practices. The ultimate goal is to create and launch an independent digital training resource through these seminars.

The primary national program, Digital Bulgaria 2025, builds upon its predecessor, Digital Bulgaria 2015. The foremost objective, particularly relevant to our paper, is the modernization of school and higher education in the ICT field. This involves enhancing the ICT infrastructure at schools and higher education institutions, improving digital competencies, and modernizing teaching methods for high school teachers and university lecturers.

The second objective aims to increase the number of highly qualified ICT specialists through two key activities: expanding the pool of young people trained for ICT professions and promoting the development of these specialists. The third objective focuses on enhancing the digital and ICT skills of the workforce.

The Bulgarian education system, particularly the methods of student learning and teaching practices, must adapt to the era of digital transformation. This adaptation is crucial because, in addition to traditional skills like reading, writing, and arithmetic, digital skills have become essential for success in education and the workforce. To make digital education a reality, teacher training must be modernized. Educators need to be well-trained in using digital media to effectively impart knowledge to students. This can include utilizing digital platforms, virtual or augmented reality, online libraries, and webinars. Urgent measures are needed in the Bulgarian education system to enhance the digital skills of young people in practical settings. This can be achieved with the support of businesses and the civil sector, as the development of these skills is crucial for employees in all sectors of the economy.

CONCLUSION

The South East European countries have undergone significant transitional processes. Currently, with increased investments in education, research, institution-building, and reform, these countries, as members or candidates, aim to accelerate economic growth. Most countries in Southeast Europe, sharing similarities in economics, education, geography, culture, and tradition, are reforming their education systems, enhancing educational institutions, and aligning standards and legislation with the EU. However, despite these efforts, the SEE region has not yet demonstrated clear indicators of dynamic and stable economic growth rates.

Modern social development is acknowledged as complex and multidisciplinary, incorporating economic, technical, and educational factors. Education is increasingly recognized as a crucial element in economic development, often linked to technical progress. Additionally, institutional factors such as intellectual property rights protection, anti-corruption measures, and budgetary and fiscal stability are vital for economic development. These factors interact closely and play significant roles in shaping the region's economic future.

Strengthening higher education's positive impact on digital economy development requires transforming universities into robust innovation and knowledge transfer hubs. Universities should act as agents of change, adapting their activities to meet both traditional and modern demands. Specifically, they should ensure that their traditional functions educational, methodological, and research are as adaptable as possible to current and future societal demands.

The national higher education system plays a central role in the information society's development and the advancement of the digital economy. Educational institutions shape the digital economy through various activities, including training, retraining, in-service training, lifelong learning, and dual education. Additionally, their research and innovation activities contribute significantly. The higher education system's contributions include laying the foundation for technological breakthroughs through fundamental research, addressing current economic challenges through applied research, disseminating knowledge, popularizing science, patenting inventions, and ensuring the practical and commercial value of research results.

Montenegro's efforts in digitizing its higher education sector are particularly noteworthy. The country has embarked on a path of modernization, upgrading classrooms with digital technologies and providing students with access to a plethora of online learning platforms. Recent data suggests a notable increase in the use of digital tools and platforms for teaching and learning, with an expanding array of courses now available online. Despite these advancements, Montenegro faces a significant challenge in bridging the digital divide, especially in rural and remote areas where access to high-speed internet remains limited. Addressing this challenge will require further investment in digital infrastructure and ensuring equitable access to digital resources for all students (Ministry of Public Administration, 2021, p. 23).

Similarly, Bulgaria has placed a high priority on the digitalization of higher education as part of its broader economic development strategy. The country has taken steps to enhance digital literacy among students and faculty, promote the use of digital tools in teaching and learning, and foster collaboration between universities and the private sector to drive innovation. These efforts have been reflected in the rising enrollment in STEM fields, indicating a growing interest in digital-related professions among Bulgarian students (Kovacheva, Velkova, 2021, p.11)

The digitalization of higher education in Montenegro and Bulgaria has yielded positive outcomes for economic development in the region. By equipping students with digital skills and knowledge, universities are preparing them for careers in the digital economy, thereby contributing to the growth of the ICT sector and other digital industries. Moreover, digitalization has enabled universities to offer new and innovative programs that meet the needs of the digital economy, attracting students and researchers from around the world.

Despite the progress made, both Montenegro and Bulgaria face challenges in fully realizing the potential of digitalization in higher education. These challenges include the need for additional investment in digital infrastructure, ensuring the quality of online education, and addressing the digital skills gap among students and faculty. However, these challenges also present opportunities for growth and innovation. By leveraging digital technologies, universities in Montenegro and Bulgaria can enhance their global competitiveness, attract international students and researchers, and contribute to the development of a knowledge-based economy in the region.

Looking ahead, it is clear that the digitalization of higher education will continue to play a crucial role in the economic development of Montenegro, Bulgaria, and the broader SEE region. As digital technologies continue to evolve and reshape the global economy, universities must remain agile and adaptable, embracing innovation and collaboration to drive economic growth and societal progress. Through strategic investments in digital infrastructure, education, and research, SEE countries can position themselves as leaders in the digital economy, driving innovation, economic growth, and prosperity for years to come.

REFERENCES

Kholiavko, N., et. al, (2022) The role of higher education in the digital economy development, *Revista Tempos Espacos em Educao*, Universidade Federal de Sergipe Brasil.

Regional Cooperation Council, (2018) *Report: Regional Approach for Improving Digital Skills in WB6 Economies*, CID Balkans Development.

OECD, (2018) Digital Society in South East Europe in: *Competitiveness in South East Europe: A Policy Outlook*.

Ministry of Public Administration, (2021) *Digital Society and Media, Montenegro Digital Transformation Strategy 2022-2026 with Action Plan 2022-2023*.

Dimitrova, V., (2018) Digitization of Education in the Field of Security. 1-3. 10.1109/HiTech.2018.8566554. https://www.researchgate.net/publication/329564190_Digitization_of_Education_in_the_Field_of_Security

https://www.erasmusplus.ac.me/capacity-building/?lang=en

Kovacheva, M., Velkova, I., (2021) Digitalization in Bulgarian Higher Education – Present and Future Opportunities, *IAC Education 4th International Academic Conference on Education*, Barcelona.

European Commission, Digital Education Action Plan 2021-2027, (2021) https://ec.europa.eu/education/education-in-the-eu/digital-education-action-plan_en

EHL Insights, Top 8 digital transformation trends in education, (2022) https://hospitalityinsights.ehl.edu/digital-transformation-trends

Gaebel, M., Zhang, T., Stoeber, H., Morrisroe, A., (2021) Digitally enhanced learning and teaching in European higher education institutions. European University Association absl.

Stiglitz, J., E., (2017) The coming great transformation, *Science Direct*.

Union, I., T., (2018) Digital Innovation Profile Serbia - ICT centric innovation ecosystem snapshot, *ITU*, Geneva.