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IMPACT OF VIRTUAL EXCHANGE TECHNOLOGIES ON HIGHER EDUCATION DIGITAL TRANSFORMATION AND UNIVERSITY ECOSYSTEMS: VEHUB4YOU EXPERIENCE

Technological progress, particularly in the context of virtual exchange, is becoming a driving force behind transformational processes in higher education and university entrepreneurial ecosystems. In today's globalized society, operating in the era of Web 4.0 (European Commission, 2023 [1]), the development of digital technologies is of critical importance for ensuring sustainable growth of educational institutions, fostering entrepreneurial initiatives, and forming new models of interaction between universities, businesses, and society [2, p. 1525-1545]. The VEHUB4YOU project, aimed at virtual knowledge exchange between European and Eastern Partnership countries, serves as a unique example of how digital technologies can enhance educational and entrepreneurial ecosystems [3, p. 106-117]. This paper seeks to analyze the theoretical foundations of digital transformation and empirically assess the outcomes of the project.

According to Digital Maturity Theory [4, 947-976], an institution's capacity for digital innovation is determined by its level of digital maturity, which includes its infrastructure, digital competencies, and ability to adapt educational processes to new technologies. Virtual exchange, as a tool for supporting intercultural collaboration and expanding access to knowledge, enhances universities' digital maturity, particularly in regions where access to traditional educational resources may be limited. Concept of Open Learning and Collaboration [5, p. 274-291] emphasizes the importance of open educational resources (OER) and collaborative tools that allow the creation of knowledge networks by integrating new digital technologies into teaching and research processes. Virtual exchange enables students and faculty to participate in global academic communities, thereby promoting open learning and improving the quality of education. University entrepreneurial ecosystems can be viewed through the lens of the innovation ecosystem model, where universities act as catalysts for the creation of startups and new businesses. Digital technologies, particularly virtual business hubs, create favorable conditions for generating innovations and fostering entrepreneurial skills among students. This model underscores the importance of cooperation between universities, businesses, and public entities to ensure the sustainable development of innovation initiatives.

The VEHUB4YOU project exemplifies the practical implementation of theoretical approaches to digital transformation in higher education and the development of university entrepreneurial ecosystems. Its main goal—the creation of 70 virtual international business hubs in schools, universities, and rural libraries in Ukraine and Azerbaijan—demonstrates the substantial potential for fostering entrepreneurial skills among youth. Additionally, the

involvement of participants from Southern Europe and Africa creates a global network of knowledge exchange, enhancing educational quality and fostering new learning approaches. The project focuses on several key areas (Fig 1).

Accessibility and Scalability of Education
- Virtual exchange technologies reduce barriers to education access. They provide students with the opportunity to study at an international level without physical constraints. This is particularly relevant for universities in Eastern Partnership countries, where local restrictions can be mitigated through virtual access to educational resources and knowledge. Such platforms enable educational institutions to integrate into the global educational space, which is a component of digital transformation.

Fostering Innovation and Entrepreneurial Activity
- The project is focused on establishing virtual business hubs, where students can acquire skills in business planning, marketing, and entrepreneurship. These hubs create conditions for the development of startup culture within universities, supporting the generation of new ideas and their implementation in real projects. Virtual exchange strengthens these processes by allowing students to share experiences and ideas with peers from different countries, thereby fostering the formation of international entrepreneurial communities.

Interdisciplinarity and Global Integration
- Virtual exchange technologies promote the development of interdisciplinary approaches in education and research. Students and faculty can collaborate with experts from various fields of knowledge and cultures, facilitating the creation of new approaches to solving complex problems. This is particularly significant for universities aiming to integrate into global educational and research networks.

Digital Competencies and Technological Maturity
- The process of digital transformation in higher education involves not only the introduction of new technologies but also the development of relevant digital competencies among faculty and students. Virtual exchange technologies, such as the creation and management of virtual business hubs, provide participants the opportunity to deepen their knowledge in information technologies, enabling universities to achieve higher levels of technological maturity.

Ensuring Ecosystem Sustainability
- Virtual exchange stimulates the development of university entrepreneurial ecosystems oriented toward long-term sustainability. This occurs through the creation of connections between universities and businesses, ensuring flexibility in education and adaptation to changes in the labor market. The implementation of such technologies also contributes to the formation of partnerships, which can facilitate the acquisition of additional resources for universities and their entrepreneurial ecosystems.
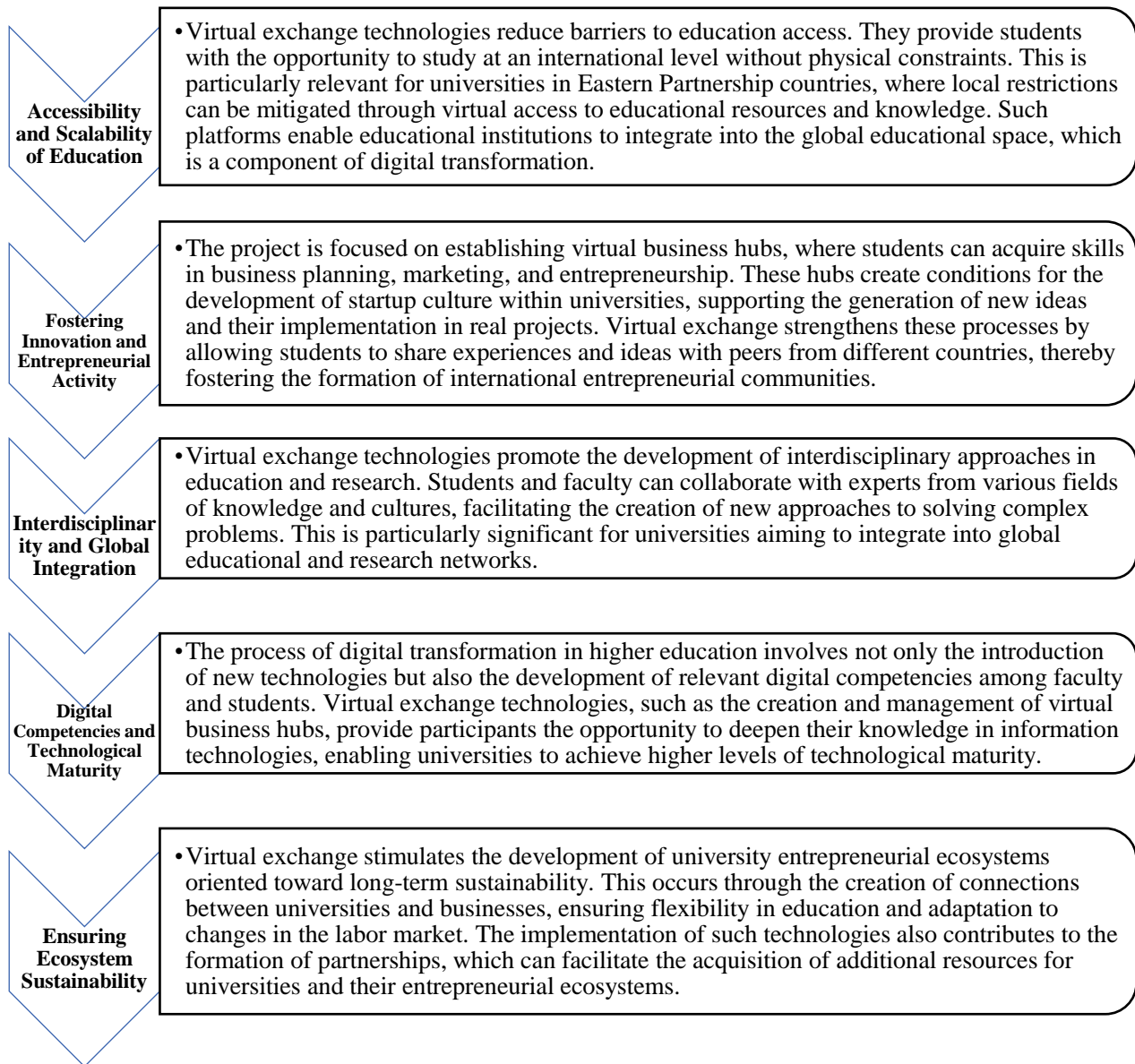
Fig. 1. The VEHUB4YOU project's key areas
Source: developed by authors

As demonstrated by the VEHUB4YOU experience, virtual exchange technologies have a significant impact on the digital transformation of higher education and university entrepreneurial ecosystems. They support the development of global educational networks, increase access to quality education, stimulate innovation, and promote entrepreneurial activity among young people. Universities that actively integrate virtual exchanges are better positioned to achieve digital maturity and effectively integrate into the global educational landscape.

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THE ROLE OF INTERACTIVE EDUCATIONAL PLATFORMS AS A TOOL FOR SOCIAL AND PROFESSIONAL ADAPTATION OF WAR VETERANS

The outbreak of a full-scale war leads to an increase in the number of vulnerable groups, namely war veterans. Today, there are 1.2 million registered veterans in Ukraine, and after the war is over, including family members, their number may increase to 5-6 million [2].

During the full-scale war, unfavorable conditions for the social and professional reintegration of veterans were created directly in the domestic labor market. The war increased the number of unemployed and expanded the shadow labor market in Ukraine, including at the expense of war veterans. According to official statistics, since the beginning of this year, the number of unemployed war veterans has increased by 700 people. At the same time, the number of unemployed war veterans who received services from the State Employment Service in January-September 2023 amounted to 4.2 thousand people, including 4.1 thousand registered as unemployed; 672 employed; 92 attended vocational training; and 71 received a voucher for training. The number of unemployed combatants covered by vocational guidance services in the specified period amounted to 3.5 thousand people [3]. Of course, due to a number of organizational, managerial, and psychological reasons, these statistics do not fully reflect the real situation in the field of employment of war veterans.

After demobilization, it is extremely difficult for soldiers to find a prestigious job and return to their normal lives. For many of them, the solution to this problem is to create and run their own business as a tool for socio-economic adaptation, because an important condition for returning to a full life of a Ukrainian soldier is his self-realization, obtaining a stable economic income and ensuring an appropriate social status in society [4]. This suggests the need for additional measures, namely the use of interactive platforms that will allow war veterans to fully receive qualified training and consulting services to start their own business even from a distance.

Today, the system of higher education institutions has a strong capacity for distance learning based on the use of interactive platforms, but only a few have been documented in the military environment using this educational technology.