

Political Economy of the ‘Virtual’ Internationalisation of Higher Education to Foster Glocal Sustainable Development

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ARTICLE INFO

Received: 17 February 2022

Revised: 6 June 2022

Accepted: 6 July 2022

Keywords:

Environment Policies

Sustainable Development Policies

Political Economy

Virtual Internationalization of Higher Education

Sustainability

doi: 10.53850/joltida.1075392

ABSTRACT

Background: The COVID-19 pandemic challenged the higher education institution’s face-to-face education. Higher education institutions have overcome this challenge through enhanced virtual education which has provided further opportunities to the higher education institutions. One of these opportunities is the ‘virtual’ internationalisation of higher education which enables higher education institutions to reach more students globally.

Purposes: This paper aims to investigate the ‘virtual’ internationalisation of higher education’s role in glocal sustainable development and how to enhance its use to support glocal sustainability and sustainable development. This paper emphasises importance of political economy of the ‘virtual’ internationalisation of higher education to support glocal sustainable development and environmental policies.

Methodology/Approach: The aim of this paper is achieved based on an in-depth literature review.

Findings: This paper highlights effective, strategic and successful ‘virtual’ internationalisation of higher education’s role in competitiveness of higher education institutions. This paper highlights political economy of the ‘virtual’ internationalisation of higher education and provides recommendations and key success factors for the ‘virtual’ internationalisation of higher education to enhance glocal sustainable development and sustainability as well as environmental policies. This paper emphasises importance of considering the ‘virtual’ internationalisation of higher education in countries’ sustainable development plans, strategies and policies.

Discussion: Effective and strategic ‘virtual’ internationalisation of higher education can support higher education institutions’ competitive advantage globally. They can support higher education institutions’ success in getting intelligent students from all over the world. This can further contribute to their competitiveness. Furthermore, this can enable them to employ, in these ‘virtual’ internationalisation of higher education programmes, globally competitive and competent academic staff from all over the world. This paper can be useful to academics, policy-makers and researchers in the relevant field.



INTRODUCTION

Internationalisation of higher education has been fostered recently. Experiences and lessons learnt from as well as successful cases in student and academic exchange programmes (e.g., European Union’s Erasmus programme), and research funds and programmes enabling and encouraging international collaborations (e.g., Horizon 2020, British Council’s research funds and researcher links). Furthermore, collaborations between HEIs (higher education institutes) in different countries (e.g., dual diploma programmes) encouraged internationalisation in higher education which has been added to the competitiveness factors in higher education and to the sustainable development. Internationalization process has become a standard (Poulova & Simonova, 2015). Tanhueco-Nepomuceno (2019) emphasised importance of internationalization highlighting its contribution to the institutional growth and countries’ economic interests.

The COVID-19 pandemic has further fostered online education and VIHE (‘virtual’ internationalization of higher education). The COVID-19 pandemic has challenged the higher education and HEI (higher education institution)’s face-to-face education. As UNESCO (the United Nations Educational, Scientific and Cultural Organization)’s data revealed, approximately 1.2 billion students at all education levels have stopped getting face-to-face education due to the pandemic (ECLAC-UNESCO, 2020). Pandemic conditions have necessitated online learning which has been widespread recently especially through integration of internet into the education (Koksall, 2020). The COVID-19 pandemic has affected higher education’s functioning globally (Farnell, 2021) as well as face-to-face internationalization of education. International students encountered challenges due to the COVID-19 pandemic caused lockdowns’ uncertainties (e.g., their status on campus and in their host country, their decision whether or not to return home) (Schleicher, 2020). The COVID-19 pandemic has accelerated online learning and affected how teaching and research, university operations and governance are performed (Farnell, 2021). The COVID-19 pandemic crisis acted as an opportunity for education modernization as well as digital solutions using pedagogic approaches (Anderson, 2020; Trombly, 2020 as cited in Ilovan, 2020).

The VIHE has changed the competition pattern and further intensified intensive competition among HEIs globally increasing the need for HEIs to differentiate themselves, to strengthen their core competency as well as to establish and take part in strategically competitive international HEIs clusters. HEIs' effective, successful and strategic VIHE can enable them to get advantages of the virtual education as well as advantages of internationalization of higher education. Furthermore, it can act as a strategic competitive advantage of HEIs and make a multiplier effect in increasing their capacity to innovate, and educate. Additionally, from the political economy aspect, it can influence sustainable development globally and locally. Gradstein, Justman, & Meier (2004, p. 2) emphasise importance of the education's political economy as follows: "A theoretical understanding of the political economy of education is necessary for disentangling the complex links between education, growth, and income distribution and for formulating effective policies designed to improve the public financing and provision of education." There is increase in e-learning alliances in developed and under-developed countries (Kenney, Hermens, and Clarke, 2004). This increase can support their capacity building. The VIHE can also support glocal capacity building for solving glocal problems so that sustainability can be fostered glocally at all levels (e.g., urbanization, industrial developments). For this reason, based on an in-depth literature review, this paper aims to investigate VIHE's role in glocal sustainable development and how to enhance its use to support glocal sustainability and sustainable development.

VIHE'S ROLE IN THE GLOCAL SUSTAINABLE DEVELOPMENT

'Virtual' internationalization and virtual globalization in higher education can contribute to the glocal sustainable development. HEIs' effective, successful and strategic VIHE can result in changes in competition in countries and in fostering their sustainable development (Figure 1). The development gap among the countries can influence welfare allocation and wellbeing as well as their sustainable development. 'Virtual' internationalization can have potential for HEIs to get benefit from internationalization and online education which can result in multiplier effect.

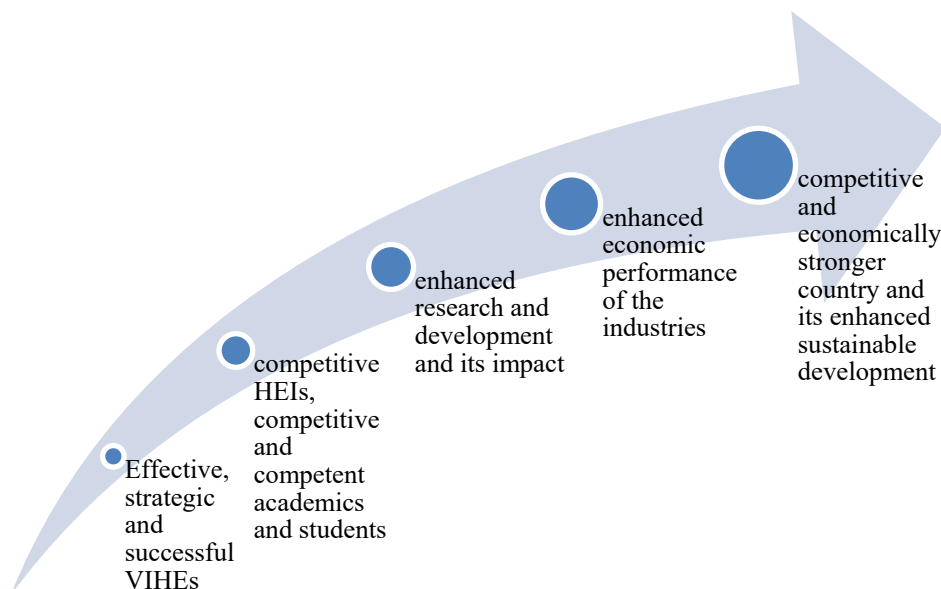


Figure 1. VIHE's impact on countries' competitiveness and sustainable development (Source: Authors)

'Virtual' internationalization and globalization in higher education can contribute to the global sustainable development enabling creation of synergy and added-value in education, training, research and development as well as resource allocation. This situation can have potential for supporting under-developed or less developed countries as well. For example, less developed countries can catch e-education technology (Hu, Noman, Irshad, Awais, Tang, Farooq, & Song, 2021). Furthermore, glocal sustainable development can be supported by achieving sustainable development of each country and by achieving contribution of each country to the global sustainable development. In other words, achieving sustainable development locally can contribute to, support and enable global sustainable development. For this reason, as supporting each country's sustainable development in compliance with the UN (United Nations) SDGs (Sustainable Development Goals) can contribute to the global wellbeing and welfare, all countries need to collaborate in enhancing each other's sustainable development. Effective virtual internationalisation of HEIs can support sustainable development of collaborating countries enabling scientific synergy creation through collaboration of academics and students as well as through integrated use of universities' resources and campuses. All countries need their intelligent and talented brains to achieve their sustainable development and added-value creation for their next generations and sustainability of the world resources. VIHE can enable smart and talented students to remain in their home country and contribute to its sustainable development while getting education and training internationally so that brain drain can be prevented. Brain drain is one of the inhibiting factors which can obstacle sustainable development of the countries. Effective, successful and strategic VIHE can reduce and eliminate brain drain problem as it can enable students and academics to remain and work in their countries and in their HEIs while being integrated into other HEIs in different countries. VIHE can enable academics to collaborate with other academics internationally or globally while remaining and working in their home countries and universities. In other words, VIHE and virtual globalization in higher education can enable keeping the academics and students in their home countries while enabling them to contribute to, collaborate with and take part in education and research programs internationally and even globally. Kenney et al.

(2004, p. 370) highlighted increase in e-learning alliances in developed and under-developed countries. In this way, the adverse impacts of brain drain in the development of the countries can be eliminated and/or minimized as 'virtual' internationalization can contribute to the elimination and/or minimization of the brain drain problem. VIHE enabled higher education as well as research and development can be achieved locally while they are performed at the international and global levels. Furthermore, VIHE enabled collaboration among HEIs can support capacity building, education quality and research and development impact of each collaborating HEI. In this way, VIHE can enable capacity building in different countries to support their sustainable development and to enhance wellbeing and welfare of their people. "Sustainability is also directly related to teaching, being a key concept in education" (Zamora-Polo, & Sánchez-Martín, 2019 as cited in Toader et al., 2021, p. 3). Online education can play significant role in providing and wide spreading sustainability education all around the world. There are many successful virtual higher education [e.g., TU Delft's Sustainable urban development program (TU Delft website., n.d.)] programmes. As sustainability education can play significant role in the creation of sustainable cities, solving of unsustainable urbanization problems, and transformation of cities into the sustainable ones, VIHE in the field of sustainability can foster capacity building for enhancing glocal sustainability performance and glocal sustainable development. Additionally, VIHE can contribute to the sustainability and to reduce environmental footprint through reduction in the need for traveling for international education and research purposes.

Effective use of technology in education can act as a leverage in the success and effectiveness of education supporting students to achieve their full capacity. Enabling each student to fulfil his/her capacity can further contribute to the sustainable development. As availability of necessary technologies is important to enable VIHE, technology can act as an enabler factor which can be further improved to further enhance VIHE's contribution to create synergy in glocal capacity building, innovation capacity and glocal sustainable development. For example, borderless education is influenced by developments in the field of ICT usage (Poulova and Simonova, 2015). Furthermore, AI (Artificial Intelligence) can contribute to the achievement of the fourth SDG related with education and solution of education challenges (UNESCO, n.d.). AI can enable students (Plitnichenko, 2020): to design their schedule and study whenever and wherever they wish; to experience personal approach through individual tasks, personal recommendations, etc. which can enhance their engagement; tailored lessons complying with different learning groups' needs and enabling each student to get answers to his/her questions via personal virtual assistant; to experience reduced pressure and stress in the classroom while increasing enthusiasm to study. AI technologies' integration into the education needs to support human capacities and to protect human rights (UNESCO, n.d.). AI and education are related with learning with and about AI as well as preparing for AI (UNESCO, n.d.).

VIHE SUPPORTED SUSTAINABILITY AND VIHE'S ROLE IN THE GLOCAL SUSTAINABILITY

VIHE can contribute to increase and enhance capacity of humanity to support glocal sustainable development as well as to solve and collaborate in solving global problems. For example, emphasising importance of transnational collaborations, internationalization and digitalization of higher education for teaching sustainability competencies, Caniglia et al. (2018)'s research provides a glocal model for transnational collaboration for sustainability. VIHEs focusing on global problems (e.g., sustainability) can enable synergy creation in these problems through international collaboration of VIHE partners. VIHE's effectiveness level relies on its compliance with sustainable development plans and its contribution to sustainable development and sustainability. VIHE's on strategic topics fostering added-value creation and capacity building can further support sustainable development. Effective, successful and strategic VIHE can provide the following potential main contributions to the glocal sustainable development especially at the individual (i.e., students and academics), HEI, country and global levels (Figure 2):

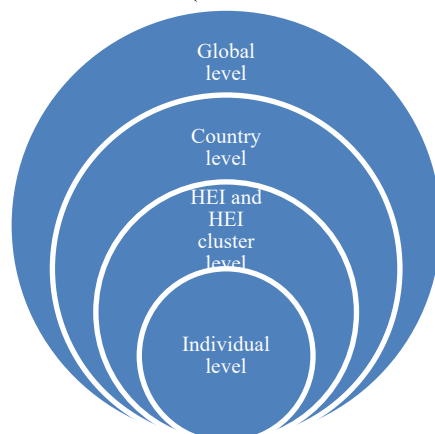


Figure 2. Levels of VIHE's contribution to the sustainable development and sustainability (*Source: Authors*)

- **At the individual level:** VIHE can provide benefit of internationalisation to the academics and students. Students at all levels of higher education (e.g., BSc, MSc, PhD levels) can reach to the high standard level of education wherever they are so that they can achieve their best in compliance with their capacity. Effective, successful and strategic VIHE can support global sustainable development jump by inclusion of all talented and intelligent students to the higher education and sustainable development of their countries. Enabling all people to get education in compliance with their capacity can support glocal sustainable development and humanity's wellbeing and welfare. Furthermore, VIHE can support students who have accessibility problems as they do not need to travel long distances to get the education. Based on their

specialisation and expertise areas, academics can collaborate with other academics in their HEI's international HEI cluster. This situation can foster their research and development activities' impact and success as well as of the quality of their lectures. For example, internationalisation of higher education can enable academics to participate in international academic activities and globalized academic communities (Solomon & Zukas, 2006 as cited in Poulouva & Simonova, 2015: 1186). Furthermore, as the Canary Islands case revealed Erasmus Master Programmes on Innovation and Higher Education at a regional level can provide various advantages (e.g., promotion of internationalization and regional cooperation) (Santamarta & Mora-Guanche, 2015). Furthermore, brain drain problem can be minimized as they can collaborate globally while remaining in their countries. Their academics capacities and capabilities can be further enhanced through collaborating with the academics in their HEI's international cluster. Intelligent and talented students can get benefit from the VIHE as they can get the relevant education/training and/or they can participate in research and development in HEIs in different countries even if they remain in their country. Similarly, academics can collaborate globally while remaining and working in their country. Especially, at the master and PhD levels, this situation can enable them to achieve their full capacity and their impact on research and development activities as they can collaborate with and learn from well-known academics and experts in that particular field. Furthermore, they can benefit from the infrastructure of HEIs in VIHE. HEIs can share their resources within their HEIs international VIHE cluster. This situation can further provide opportunities to students and academics supporting the quality and competitiveness of their lecturing and research and development activities. Effective and successful 'virtual' higher education can support HEIs international clusters to reach talented students all around the world and include them to the higher education system supporting them to achieve their capacity and self-fulfilment.

- At the HEI level:** HEIs can remain and become more competitive in case they can strategically achieve and establish successful HEIs' international clusters for VIHE. VIHE can result in changes in competition in higher education. VIHE can be considered as a game changing factor changing the competition as competition among HEIs is not only in the fields of research and development, face-to-face and online education but also in the field of virtual internationalisation. Intensified competition among HEIs can act as a driver factor for continuous improvement in education, research and facilities. Catching and attracting the most successful students can become even more challenging due to the intensive competition among the HEIs. The VIHE has changed the competition pattern and intensified competition among HEIs globally. Intensified competition necessitates HEIs to differentiate themselves and to strengthen their core competency and acquire new core competencies. HEIs can get benefit from attracting talented and intelligent students from all over the world. The more competitive a HEI is, the more attractive it can become for talented and intelligent students globally. Similarly, the more competitive a HEI is, the more attractive it can become for competent academics. In other words, HEI and its cluster for virtual internationalisation can influence HEIs' competitiveness. For this reason, scope of the competition has been widened to cover competition both at the HEI level and competition at the HEI cluster level. HEIs' international clusters consisting of HEIs having complementary competencies can get benefit from the cluster's infrastructures, labs etc., education programmes and research and development activities. Strategically successful and effective HEIs' international clusters can enable HEIs in that cluster to further enhance their capacity and to build capacity especially with the help of their complementary competencies and complying institutional cultures (Figure 3). HEIs can be encouraged more to increase their competitiveness level in the field of research and development, and lecturing. This situation can further encourage HEIs' overall quality improvement. As HEIs clusters for competitive virtual international higher education can encourage them to collaborate with competitive HEIs, HEIs having low competitiveness level can encounter risk of remaining outside of these clusters or establishing clusters with HEIs having relatively low competitiveness level. This situation can further reduce their competitiveness level in case their HEIs cluster is not successful and effective. Self-quality control among HEIs globally can be observed. HEIs can benefit from the increased synergy in attracting successful students and academics globally. HEIs remaining relatively passive or acting in delay in this virtual internationalization trend, can loss or experience reduction in their competitiveness level. Furthermore, competition among HEIs has been intensified through enhanced technologies.

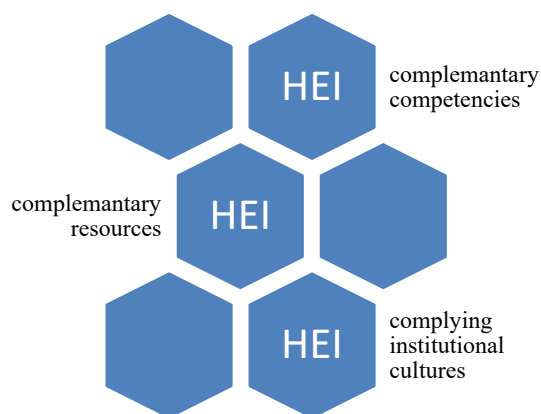


Figure 3. Characteristics of HEIs cluster in the VIHE (Source: Authors)

Drivers for and advantages of the VIHE need to be covered considering drivers for and advantages of both online education and scientific collaboration at the higher education level as well as internationalisation of higher education. VIHE can benefit from and be enabled by the online learning and collaboration. Online education can provide many advantages including: scheduling flexibility, ability to choose either traditional or accelerated courses (Broderick, n.d.); lower total costs especially due to no need for on-campus housing or meal nor for commuting (Broderick, n.d.); flexibility in geographic location (no need for moving expenses, etc.) which can support reduction in the cost of living (Broderick, n.d.); contribution of experts in different institutions to the online courses (UIS, n.d.); ability of students to have access to resources available in different places (UIS, n.d.) and to study courses recorded (EF English Live, n.d.); technology supported learning (e.g., videos, live exams) (EF English Live n.d.); increased student satisfaction through effective communication and flexibility of online learning (Elshami et al., 2021); online learning being a useful tool for curriculum delivery under the pandemic conditions (Elshami et al., 2021). The COVID-19 pandemic challenged higher education globally. Unless the necessary technologies for online education were available, the education at all levels could have been suspended or obstructed under the pandemic. Pandemic has increased students' involvement in online learning (Jamalpur, Kafila, Chythanya and Kumar, 2021). Many HEIs have shifted to the virtual education (Jamalpur, Kafila, Chythanya, and Kumar, 2021). The pandemic has provided opportunities to the higher education such as: acceleration of higher education transformation, improvement in learning process, adaptation of virtual mobility and 'internationalisation at home', prioritisation of higher education's social dimension in European higher education systems (Farnell, 2021). HEIs' international institutional branding can influence their competitiveness level. HEIs effective, successful and strategic VIHE can provide added value in research and development as well as in education as it can enable competitive advantage. 'Virtual' collaboration of HEIs in different countries can enable the collaborative HEIs to get benefit from each other's infrastructure and resources through virtually integrated campuses. These international and 'virtual' university alliances/clusters can enhance competitiveness of each university taking part in the alliance/cluster in case they are effective, successful and strategically viable.

- **At the country level:** Effective, successful and strategic VIHE can have potential to contribute to the reduction in the development gap among underdeveloped, developing and developed countries. Furthermore, it can contribute to the solution of the brain drain problem. Considering the potential impacts of the VIHE on sustainable development and achievement of the effective environmental policies, this topic needs to be covered in the development plans of the countries.
- **At the global level:** Effective, successful and strategic 'virtual' higher education can support global sustainable development as it can enable students and academics to achieve their best working in their home country, the science to progress even more faster, the competition to become even more intensive both at the HEI level and at the HEI cluster level, the quality of HEIs and higher education to be improved. Students and academics in the HEIs' international clusters can contribute to the global sustainable development and collaborate in solving global problems. VIHE can be a tool for achieving sustainable development globally. Sustainable development achieved locally can contribute to the global sustainable development.

RECOMMENDATIONS AND KEY SUCCESS FACTORS FOR THE VIHE TO ENHANCE GLOCAL SUSTAINABLE DEVELOPMENT

Sustainable Development Policies Covering VIHE

'Virtual' internationalization and globalization of HEIs and political economy of their VIHEs can be considered and covered in the countries' development plans as effective, strategic and successful VIHE can affect and contribute to their sustainable development, innovation capacity and added-value creation in all industries. VIHE's capacity to create synergy through integration of talented and successful experts, academics and students from all over the world on virtual platforms which are both local and global, enabling them to stay local while contributing glocally and collaborating globally can contribute to the global sustainable development, local and global capacity building, enhancement in the innovation capacity and added-value creation glocally (Figure 4).

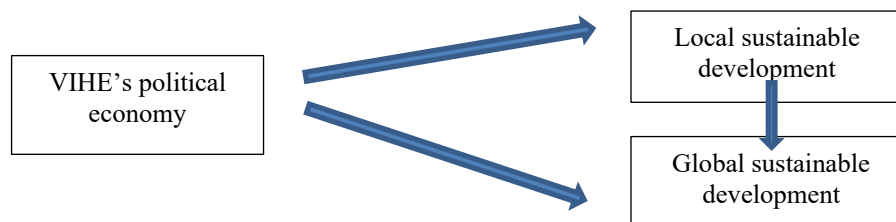


Figure 4. VIHE's political economy impact on local and global sustainable development (*Source: Authors*)

Policy aspect of VIHE needs to be considered so that effectiveness and success of VIHE's can be supported. Countries' sustainable development plans can be one of the main factors affecting VIHE's widespread and impact on society, science, and economy. Furthermore, policies' effectiveness can be enhanced in case they rely on the accurate data. Data management is important for effective education policies (Lennox et al., 2021). Additionally, experiences and lessons learnt at all education levels can be integrated to the education policies to enable continuous improvement at all education levels including the higher education. For example, pandemic resulted in rethinking education system and a requirement of digital and non-digital modalities' mix (Lennox et al., 2021) as well as in importance of adequate and equitable allocation of pandemic response resources to HEIs (Freeman et al.,

2021). In compliance with the importance of policy aspect in education, Tanhueco-Nepomuceno (2019) highlighted researches to be carried out in the field of policies on inter-institutional arrangements, measures to manage out brain drain; mechanism at the Ministry level to monitor the internationalisation programs and their quality; knowledge transfer as a source of economic growth (Tanhueco-Nepomuceno, 2019). Kenney et al. (2004) have emphasised government's role in supporting e-learning through their policies.



Figure 5. Sustainable development plans and strategies supporting VIHEs (Source: Authors)

The HEI and Countries' HEI Policies

Countries HEI policies are important for supporting VIHE at the HEI level and for encouraging establishment of VIHEs focusing strategic topics capable of supporting added-value creation and sustainable development. For this reason, countries HEI policies need to consider political economy aspect of the VIHEs and their role in sustainable development and sustainability. VIHE needs to be covered within the scope of the strategic management of HEIs. Tanhueco-Nepomuceno (2019, p. 152) emphasised importance of "articulated visions, missions, goals, and core values" and well-defined strategic plans for internationalization. Furthermore, AI can be covered in education policies considering its multidisciplinary nature and investment requirements (UNESCO, 2019). Additionally, establishment of the HEIs international clusters is a critical aspect in the success in the HEI's virtual international higher education. HEIs international cluster can be established considering core competencies of each HEI giving priority to the HEIs having complementary core competencies, complying institutional cultures and strategies. Effective VIHE necessitates HEIs to collaborate with the most compliant HEIs in different countries. This compliance can be assessed at the HEI level as well as at the discipline-based requirements level. As collaborating HEIs need to collaborate in harmony their institutional cultures' compliance can influence their success. Institutional cultural challenges need to be addressed in the VIHE. Availability of necessary internal resources and supportive culture at the institution level can support internationalisation (Tanhueco-Nepomuceno, 2019). Furthermore, collaborating HEIs can gain advantages and increase their competitiveness levels both at the local and global levels especially through their complementary core competencies. HEIs can get benefit from the integration of their complementary core competencies to further enhance their competencies, capacities, capabilities and resources to outperform other HEIs and to foster the quality of education and impact of their research and development. For this reason, 'virtual' internationalization of each HEI needs to be planned and executed strategically complying with its strategic management decisions. Furthermore, the performance of each activity within the scope of internationalization needs to be monitored.

Factors, which can influence VIHE's success and online education quality, need to be considered and addressed in the management of VIHE process. Online education's quality can be enhanced through allocation of time, expertise and investments required, enhanced pedagogical skills, training of human resources, and enhanced digital literacy of academics and students (Ilovan 2020). Furthermore, technical assistance and students' enthusiasm are important for enhancing faculty satisfaction in online education (Elshami et al., 2021). Student and lecturer interactions (Jamalpur, Kafila, Chythanya, & Kumar, 2021), communication, feedback, and level of information (Poulova, & Simonova, 2015) can support online education as well. Additionally, subject specific conditions are important for identifying the best method on instruction (e.g., some subjects, such as surgery, require both physical movement and practice) (UIS, n.d.).

VIHEs resilience to the online learning challenges need to be enhanced. There are many e-learning related challenges which include "... access to appropriate technology, scalability, measurement, and changed governance structures ..." (Kenney, Hermens, & Clarke, 2004, p. 370). Students' need to be ensured to have access to the web, computer etc. Students' attention to the lectures needs to be kept high during the online lectures. Furthermore, McKeown & McKeown (2019) (as cited in Madhesh, 2021) emphasised difficulty of deaf students in distance learning. Madhesh (2021) emphasised deaf students' exclusion from alternative education methods in Saudi Arabia in the pandemic (Madhesh, 2021). Furthermore, Elshami et al. (2021)'s research revealed that students encountered challenges related with long learning sessions and technology whereas academics encountered challenges due to increase in workload and preparation time, and due to technical problems. Additionally, online education problems at different education levels can be encountered at the higher education level as well. For example, problems related with online education at the college level include: students' belief that the tuition fees need to be reduced in case courses are fully taught online (Oneclass blog 2020 cited in Hess, 2021); students' withdrawal from the school (Oneclass blog 2020 cited in Hess, 2021); students' dissatisfaction of the online classes' quality (Oneclass blog 2020 cited in Hess, 2021); students' difficulty in concentrating and in collaborating with peers (Sallie Mae 2021; Hess, 2021). Alam & Parvin (2021)'s research revealed that the pre-pandemic students' job-readiness scores were higher than students in the pandemic period. Online education can challenge education quality and students' performances.

Discipline-based requirements and challenges, which can be encountered in the VIHE, need to be considered to enhance success and effectiveness of VIHEs. Each discipline can get benefit from and encounter different challenges due to the VIHE. For example, according to the Chang, Wang, Lin, Cheng, & Chiang (2021)'s research on dental education, integration of face-to-face and online learning is considered as the future of the dental education and dental students assessed online learning as more effective than face-to-face learning. Furthermore, Jamalpur, Kafila, Chythanya, & Kumar (2021)'s research on engineering education emphasised importance of usage of different digital learning resources by the academics.

HEIs need to be informed about and get inspired from successful cases of VIHE as successful cases for VIHE can motivate other HEIs to establish their HEIs international cluster. Examples for successful cases in different disciplines include: a universally applicable international telecooperative project (Rauer, Kroiss, Kryvinskai, Engelhardt-Nowitzki, & Aburaia, 2021); the "Excellent Teaching and Learning in Engineering Science" project (Grodzki, Ortelt, & Tekkaya, 2018); the model of InterUniversity Study (Poulova & Simonova, 2015); Tanhueco-Nepomuceno (2019)'s framework for creating an internationalized campus; online teaching to master and PhD groups in social economy and non-governmental organizations in different countries (Parra, 2017). Additionally, successful and effective e-learning platforms can play important role in creation of glocal synergy. Furthermore, HEIs need to be informed about failures in the VIHE as these failure cases can contribute to the lessons learnt and to further improve the virtual internationalization process based on the critical success factors enhanced through the lessons learnt.

CONCLUSION

This paper examined VIHE's role in glocal sustainable development and how to enhance its use to support glocal sustainability and sustainable development. Even if the COVID pandemic challenged HEI's face-to-face education, HEIs have overcome this challenge mainly through enhanced virtual education which has provided further opportunities to the HEIs especially in the field of the VIHE. Enhanced 'virtual' education has supported HEIs to overcome the pandemic challenge and provided further opportunities to the HEIs (e.g., VIHE). This internationalisation type can enable HEIs to contribute to their capacity to reach more students globally supporting them to reach to and attract successful and intelligent students globally. As competitive HEIs can have more opportunity to attract more successful and intelligent students, their competitiveness can be further enhanced. Furthermore, HEIs which are globally competitive can hire and attract globally competitive academics. HEIs' and their international clusters' effective, successful and strategic VIHE can contribute to the improvement in their education and innovation capacity as well as in their research and development activities through synergy created by talented and intelligent students, competent academics, integrated use of resources, labs and complementary core competencies of the HEIs in their international cluster. This situation can further contribute to the sustainable development of countries as effective, strategic and successful VIHEs in compliance with their sustainable development and environmental policies can contribute to the quality and competitiveness of their education as well as innovation capacity.

VIHE has changed the competition pattern and intensified competition among HEIs globally. Intensified competition necessitates HEIs to differentiate themselves and to strengthen their core competency. Furthermore, HEIs' international institutional branding can influence their competitiveness as well. Discipline-based requirements and challenges as well as cultural challenges, however, need to be addressed in the VIHE. Additionally, the VIHE needs to be supported by the foreign branch campuses and establishment of the effective collaborations among HEIs clusters.

Today's education will shape the future. As in compliance with VIHE's political economy, today's education level can influence sustainable development as well as humanity's capacity and capability, effective investment in education, effective use of education technologies and effective education policies covering all levels of education can support the sustainable development and competitive advantage of countries. Furthermore, political economy of the effective, successful and strategic VIHE can affect the capacity building of collaborating HEIs and their countries in dealing with global problems (e.g., climate change, urbanization problems) through effective integration of collaborating HEIs' resources. For these reasons, effective, successful and strategic VIHEs can provide advantages especially at the individual (i.e. student, academics), HEI, country and global levels. It can support glocal sustainable development, environmental policies and increase in the welfare, wellbeing of the people. Furthermore, it can foster countries' capability and capacity building as well as added value creation. It can enable them to get benefit from know-how and knowledge gained through effective and strategic VIHEs and global collaboration synergy to solve local and global problems (e.g., urbanization problems, need for enhancing sustainability performance and reducing environmental footprint) hindering glocal sustainable development.

Potential challenges of and key success factors for the VIHE need to be considered for enhancing its effectiveness and success. Complementary core competencies, complying working cultures, continuous improvement in research and development as well as education, lessons learnt from success and failure cases need to be covered in the VIHE. Discipline specific requirements, student and academic specific requirements and technology investment related requirements need to be addressed. Each HEI needs to cover the VIHE in its strategic management. VIHE can enrich internationalisation of higher education. Depending on discipline specific and HEI cluster specific requirements, it can be used as complementary option to face-to-face internationalisation of higher education as well.

VIHE needs to be used as a strategic tool for enabling and supporting sustainable development both locally and globally as achievement of the local sustainable development is the key for achievement of the global sustainable development. As in case each country can achieve its best and highest performance in sustainable development, global sustainable development can be supported. Whether or not the VIHEs act as a driver for or inhibiting factor of local and global sustainable development, depends on each HEI's

strategic management, each VIHE's HEIs strategies and principles and on each country's sustainable development. For this reason, each HEI in the 'virtual' internationalisation cluster needs to respect to other HEIs in its cluster enabling establishment of long-term strategic 'win-win' relationship supporting each HEI's capacity building and competitiveness as well as contributing to the sustainable development of the countries where these HEIs are physically located. In other words, all HEIs and their VIHE clusters and countries' education policies need to focus on how to fulfil and achieve entire capacity of their people (e.g., students, academics at all levels) and their infrastructure (e.g., laboratories, know-how) to increase and achieve the potential synergy for capacity building, innovation, added-value creation, and sustainable development. This paper is expected to be useful to academics, policy-makers and researchers in the relevant field as well as to all stakeholders of sustainability.

Ethics and Consent: Ethical approval was not sought for the present study because data set has not been used. Ethics committee permission is not applicable because this article does not contain any studies with human or animal subjects.

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