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THE ROLE OF PRIVATE AND PUBLIC EDUCATIONAL PROVIDERS IN THE DIGITAL POST-COVID WORLD

The paper discusses and investigates the differences in the aims, purpose and roles of public Higher education institutions and private sector actors in digital education. Specifically, we discuss whether big tech multinationals play an invasive role in the educational arena that risks undermining the role of traditional public sector Higher education institutions and, therefore, whether we need digital education governance and what kind. The paper uses secondary data and critically evaluates opposing arguments in the literature to analyse and investigate theories and practices of educational offering in both the private and public sectors, arguing that: (1) there are differences between Higher education teaching & learning (public domain) and training and professional development (private domain) purposes; (2) tech companies like Microsoft and Alphabet (private) have a role to play in the knowledge-based economy especially in the post-Covid era; (3) this prompts the need for public funded Higher education institutions to work with industry to become more entrepreneurial and re-design their pedagogy by incorporating some of the best-practices in digital education; (4) we need independent instruments and institutions to safeguard our citizens and communities of learners; (5) and finally, argue that public investment in digital education should increase accordingly to enable universities to meet these new educational challenges. The paper does not position the analysis within a specific framework but rather presents a focus for discussion of current issues, located within a theoretical context. It is concluded that any «threat» publicly funded Higher education Institutions may face in the current commercialised educational world, is the result of outdated educational practices and a misconception of the roles and missions of public and private institutions in education. As such, we do not need stringent governance of digital education but a better digital education framework.

KEYWORDS *Higher education, EdTech, Covid, Private, Public.*

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1. Introduction

The paper discusses and investigates the differences in the aims, purpose and roles between public Higher education institutions and private sector actors in digital education in the post-Covid era. Specifically, we discuss whether big tech multinational, a term that refers to the most dominant and largest technology companies in their respective sectors, and Educational technologies (EdTech) companies play an invasive role in the educational arena, and whether these risks are undermining the role of traditional public sector Higher education institutions (Heis). Furthermore, this paper critically addresses the question of whether «digital education governance» is needed, and, if so, what kind. The analysis focuses primarily on the European educational system. However, some of the conclusions drawn may be useful for other countries where private institutions are gaining a growing role and influence in the business of digital education.

Secondary data has been utilised throughout this paper. This data type has been employed to best investigate theories and practices of educational offering in both the private and public sector, to discuss the field of job retention and professional development in the post-Covid era. Furthermore, this paper argues that any «threat» publicly funded Heis may face in the current commercialised education world, is the result of outdated educational practices, and a misconception of the roles and missions of public and private institutions in education. To facilitate the analysis, important categories and terms are defined, such as the difference between teaching and training, the different roles of public and private sectors, universities and companies, the difference in online learning pre-Covid and post-Covid, and the different Higher education types.

- More specifically, the paper argues that:
- There are differences between Higher education teaching & learning (public domain) and training and professional development (private domain) aims.
- Private tech companies like Microsoft and Google have a prominent role to play in the knowledge-based economy especially in the post-Covid era.
- It is in the best interest of Heis to work with the EdTech industry to effectively re-design their pedagogy by incorporating some of the best practices in digital education. This does not mean a «one-size-fits-all» approach, but rather that they should translate the best practices and results of pedagogical research into their specific context.

- Independent institutions are needed to safeguard our citizens and communities of learners.
- Investment, both in terms of human resources and infrastructure, in digital education should increase accordingly to enable Heis to meet these new educational challenges.

Finally, we conclude that any «threat» publicly funded Heis may face in the current commercialised educational world, is the result of outdated educational practices and a misconception of the roles and missions of public and private institutions in education. In other words, we do not need stringent «governance of digital education» but better «processes for digital education».

This paper will begin by examining trends of privatisation in Higher education (He) in the 20th century globally. We will then proceed with an analysis of the growing role of EdTech companies in He after the Covid-19 pandemic. We conclude with a discussion of the challenges faced by Heis and recommendations to solve these obstacles. Finally, this paper seeks to rethink the role of Heis in the presence of the increasing penetration of EdTech companies in the Global Higher education industry, and growing relevance of digital education, reskilling, and life-long learning.

2. The role of higher education in the 20th century

To understand the role of Heis today we need to examine the transition of education from a public service to a private one, that occurred twenty-five years ago. Although there is much debate on what constitutes public and private He, in this paper we adopt the commonly used criteria which fall into legal ownership (i.e., state or nonstate ownership), funding (e.g., government subsidies or student tuition), and contribution to society (i.e., public good vs. private returns) (Buckner 2017). However, not all three criteria are needed to define an institution as private or public. Amongst scholars, it is widely accepted that «legal ownership» is the definitive criterion that distinguishes a public from a private He and this is the one used   throughout this paper.

In his article on «Higher education: Public good or private commodity», Williams (2016), gives a very informative overview of HE's shift in aims in the last quarter of the century «from being treated by governments as essentially a public service to one that is largely bought and sold as a private commodity» (131). This transformation was evident not only in the Anglo speaking world but also in Eastern Europe, China and most countries in the Organisation for economic co-operation and development (Oecd). The reason for this

shift is the result of neoliberalism, a term first used in 1898 by the French economist Charles Gide to describe the economic beliefs of the Italian economist Maffeo Pantaleoni, and then established as an economic term at the Colloque Walter Lippmann meeting in Paris in 1938. Neoliberalism, however, became prominent as an ideology in the Seventies when Keynesian policies began falling apart, and economic crises struck both sides of the Atlantic. Martinez and Garcia (2000) identified five defining features of neoliberalism: the rule of the market; cutting public expenditure of social services; deregulation; privatisations; eliminating the concept of the «public good or community». Former Prime Minister Margaret Thatcher's notorious statement in 1987, «there is no such a thing as society», served to undergird this ideology (Margaret Thatcher Foundation, 1987). What this means in terms of funding of Heis is a model that relies on the market economy and is mostly funded privately but still relies heavily on state funds, as per the Uk funding model.

Neoliberalism has had a tremendous impact on Higher education worldwide. In the 1980s public funding reductions to universities resulted in privatisation, marketisation and commercialisation of He and institutions started competing for students and funding. An increase in student tuition fees was another consequence of neoliberalism. In the last decade, privatisation of Heis worldwide, a trend we witnessed notably in the Anglo-Saxon world, outnumber public Heis globally (Altbach and Levy 2005; Buckner 2017).

Privatisation resulted in the development and expansion of private institutions, reliance of public institutions on private funding, and the operation of institutions as business, or as what Ball and Youdell (2008) refer to as exogenous and endogenous types. Ball and Youdell (2008) describe exogenous privatisation as the involvement of the private, for-profit, sector in public education, while the latter designates the process of introducing the language and other business practices into public education. Although the exogenous type is easily recognisable, the endogenous one takes the form of data and surveys, Key performance indicators (Kpis), academic boards where financial officers have the power to «make or break» deals and processes such as the Teaching excellence framework (Tef) in the Uk. In terms of commercialisation, a survey by Russian presidential academy of national economy and public administration (Ranepa) Expert analysis centre, published by O'Malley (2015) showed that the «[...] trend towards commercialisation is being driven (in Russia) by a combination of limited government funding and a growing demand for education».

There is consensus worldwide that neoliberalism shifted the purpose of Heis which is «to educate students for lives of public service, to advance knowledge through research, and to develop leaders for various areas of the

public and private sectors and other civic responsibilities, including job creation and peace making» (Pee *et al.* 2015). Ibi Group (2017) describes Heis' purpose presently as considering that «every student is a customer, every professor is an entrepreneur, and every institution is seen as a seeker of profit». Undoubtedly, this shift has also had a significant financial impact on graduate students, who enter the professional world with hefty debts. This has been evidenced in the Usa, which reached a record high of $38,792 in 2020 according to Board of Governors, and students collectively owe about $1.58 trillion as of November 2021, according to the Federal Reserve Bank of New York. In addition, this trend has resulted in an increase in the workload of staff who are asked to produce more with less (Noman 2021) and issues with academic subjects like humanities which are deemed not viable for Heis to run as they are not profitable subjects (Preston 2015).

European universities though, have a different approach. They are considered as a public good and finance is drawn primarily from the State. In Germany for example, the public share of university funding is 86%, there are no tuition fees for German students, and people from outside Europe pay a small tuition in only one of the 16 federal states. Similarly, in Finland, public funding covers roughly 92% of institutional expenditure, and education is free of charge for domestic and Eu students (Arnhold *et al.* 2020). The global financial crisis though in 2007-9 resulted in changes in the financing scheme which meant reductions in public funding. The financing of the universities became more complex, as many countries were not as generous as they once had been and have become more demanding and competitive. This created the urgency for universities to find new sources of income, such as Eu funds and via the private sector, and their ability to meet certain policy goals in a cost-effective way (Pruvot *et al.* 2015). However, as we can observe in Figure 1, Eu Heis find it hard to obtain funds from the Eu due to the competition with other sectors/bodies (Lamborelle and Alvarez 2016).
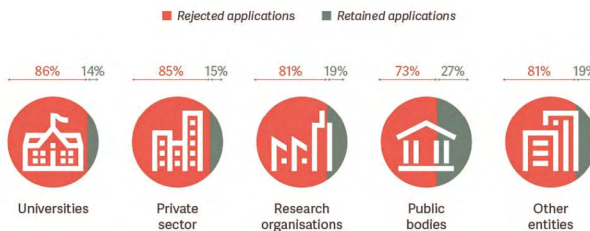

Fig. 1. Number of applications to Horizon 2020 per type of organisation.
Source: Euroactiv (2016).

Although Eu funds allocated under Horizon Europe and Erasmus+ are likely to grow in the coming years, and teaching and research have different sources of funding, Eu Heis will find it difficult to sustain income from Eu funding and different strategies need to be employed. Regardless, Eu Heis have still managed to keep the student fees stable, with the exception of the Uk where student fees tripled and some countries like Finland, Denmark and Sweden introduced fees for non-European students.

Fast forward to 2020 and the emergence of the Covid-19 pandemic provided fertile ground for further commercialisation of Heis with the most obvious example of the rapid acceleration of digital technologies. Although the connection between Covid-19 and neoliberalism is currently under researched, there is evidence to show that amongst other consequences, the pandemic has been used as an exceptional opportunity for the expanding privatisation and commercialisation in He via private companies (Williamson and Hogan 2021). Although Eu Heis funding during the Covid–19 crisis was not hugely affected, some countries received double-digit percentage budget increases in 2020, according to early data exploring the impact of the crisis on institutional finances (Matthews 2021), while other universities, such as Spain and Romania, had their income limited due to reduced family income caused by the pandemic. The pandemic also created the need for Eu Heis to invest in digitally enhanced learning and virtual mobility which requires new investments in infrastructure and skills. It also requires adaptability and a mindset that allows change to happen. However, this is in contrast with many Eu Heis academic staff who are in favour of the traditional face to face teaching and consider online learning to be a Zoom class (Zimmerman 2020). In addition, many Eu Heis as well are only now in the process of developing a digital strategy and/or face a lack of specialised people like learning technologists, instructional designers, and pedagogues with expertise in online learning. The question remains if Heis are able to compete with the private world, not only in terms of digital infrastructure but also in terms of the digital skills and abilities required to deliver online education. Proceeding, this paper will discuss how private organisations and commercial companies profited from the socio-economic changes and gained more influence in the educational world.

3. The growing role of EdTech industry in digital education

The pandemic outbreak in 2020 has dramatically accelerated digitalisation, commercialisation, and privatisation processes in Higher education in

Europe. Commercialisation, marketisation, digitalisation, and privatisation are all interconnected but distinct phenomena, all of which have seen an increase in scale during the pandemic. Commercialisation has to do with the public-private partnership in the creation, purchase, and selling of educational products for profit. Marketisation refers broadly to the introduction of market logic in public education, where He becomes a public good rather than a state-controlled system «for» the public good, Heis are considered as economic actors competing in a traditional market, and students are treated as consumers (Molesworth *et al.* 2011). Digitalisation refers to the process of incremental use of digital technologies to deliver teaching and learning and administrate educational activities in Heis. Privatization refers to the expansion of private educational providers and/or increased reliance of public Heis on private funding (Fryar 2012).

With universities and public institutions shut down to contain the spread of coronavirus, many students and teachers found themselves using digital learning tools for the first time, forced to carry out their teaching and learning activities from home. An open public consultation conducted by the European Commission between July and September 2020, revealed that almost 60% of educators surveyed had not used distance and online learning before the pandemic and 95% believe that the Covid-19 pandemic marks a turning point for the way technology is used in education and training (European Commission 2021b).

The first emergency response to Covid-19 was that of digital technology and online remote learning, also labelled by Hodges *et al.* (2020) as «Emergency remote teaching» (Ert) to mark the differences between the production of traditional teaching activities with digital tools and the design of proper online learning experiences following best practices in digital education. While this has generated an opportunity for educational data scientists to collect data on the effectiveness of online learning vis-à-vis face to face, it also raised genuine concerns for the potential misuse of data, and potential issues with data collection, data ownership, and privacy. Additionally, it created an opportunity for EdTech companies to consolidate their position in the Global education industry (Gei), by establishing a new partnership with public institutions and international organisations and coalitions (Williamson and Hogan 2020).

According to HolonIQ (2022) «Global EdTech venture capital report 2021», EdTech venture capital reached three-times pre-pandemic investment levels in 2021 and accelerated the creation of start-ups around the world with over $20B in funding, as shown in Figure 2. EdTech Venture investment is now 40 times larger than it was just over a decade ago in 2010, almost five times the previous peak investment in 2015 and three-times pre-pandemic investment

levels in 2019. These investments involved EdTech companies like Articulate and Course Hero in the Us, Eruditus and Unacademy in India, Fenbi in China. With 32 EdTech Unicorns at the end of 2021 (start-ups with a valuation over $1 billion), 61 Mega Rounds ($100 million+) in the last 12 months and now more than 3000 funding rounds above $5 million in EdTech history, this cumulative wave of investment in innovation and technology marks a significant milestone in the digital transformation of learning from early childhood through school, college, and university for a new industry approach to further education and lifelong learning.
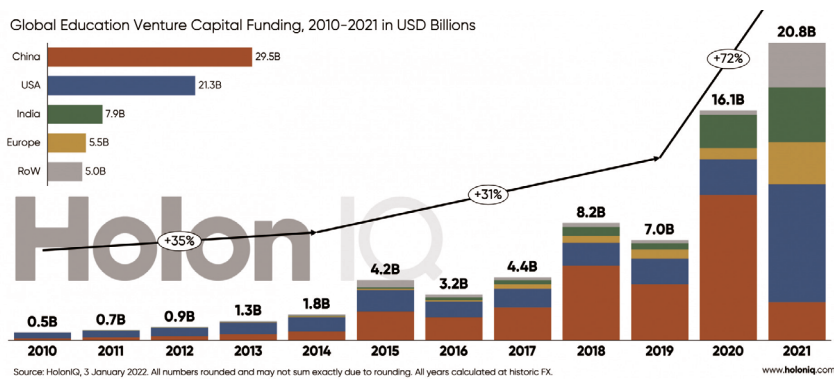

Global Education Venture Capital Funding, 2010–2021 in USD Billions

Source: HolonIQ, 3 January 2022. All numbers rounded and may not sum exactly due to rounding. All years calculated at historic FX.

Fig. 2.   Global EdTech Venture Capital Funding 2010-2021.
         Source: HolonIQ (2020).

The participation of private actors in digital education is not a new phenomenon. It has, however, gained an increased momentum during the pandemic crisis. One good example of the commercialisation of digital education is Moocs. The launch of Moocs (Massive online open courses) a decade ago revolutionised the educational scene and offered opportunities to many people to acquire knowledge and skills. Moocs' initial philosophy was to provide people in advanced economies access to free education and allow all the people around the world who have little or no access to Higher education, due to socio-economic constraints, an opportunity to study. Knowledge in many of its forms, such as scientific knowledge, is intrinsically a public good and one can argue that Moocs could be defined as Global public good (Gpgs). Gpgs are institutions, mechanisms, and outcomes that provide quasi-universal benefits, covering more than one group of countries, several population groups, and extending to both current and future generations (Kaul *et al.* 1999). This began in 2011 when Stanford University offered three online courses for free with the most notable Peter Norvig's and Sebastien Thrun's course on «In-

troduction to Artificial Intelligence» which attracted over 160,000 students from around the world. The most common Mooc providers are Coursera edX, Udacity, Udemy and FutureLearn.

However, over the years the egalitarian philosophy of Moocs turned into a business model with Coursera one of the Mooc providers, moving towards three revenue-generating strategies: 1) Fee-based courses which require students to pay a fee for access to graded assignments, 2) Specialisations, a sequence of courses with a capstone project, and 3) Course certificates (formerly known as «Signature track») with an estimated revenue between $8 and $12 million in 2014 (Shah 2014). Jeff Maggioncalda Coursera's Ceo states that:

> Coursera is seeing unprecedented demand. Since mid-March 2020, over 21 million learners have joined Coursera, a 353% increase from the same period last year. Similarly, during that time, we've seen more than 50 million course enrollments on Coursera, a 444% increase (Coursera 2020).

Coursera, like all the Moocs and EdTech providers, also offer certificates. According to Coursera's webpage, a «course certificate» is Coursera's official credential stating that someone completed the course they enrolled in. Courses offered by companies such as Google, Facebook, Ibm, Salesforce and Intuit «help the learner to become job ready» (Coursera, What is professional certificate) and certificates can be shared in the Certifications section of the learner's LinkedIn profile. The success of Coursera, in terms of enrolments, though is not an isolated example. Data by Class Central show that in 2020, Moocs attracted 180 million learners, excluding China and providers launched over 2800 courses, 19 online degrees, and 360 micro-credentials. Table 1 demonstrates how the top Mooc providers look in terms of users and offerings (Shah 2020):

Tab. 1. *Mooc providers in terms of users and offerings*

	Learners	Courses	Microcredentials	Degrees
Coursera	76 million	4,6003	610	25
edX	35 million	3,100	385	13
FutureLearn	14 million	1,160	86	28
Swayam	16 million	1,130	0	0

Source: Shah, Class Central (2020).

In terms of financial gains, the Mooc market could be worth $25.33 billion by 2025 according to Global News Wire (2019 in Chernev 2022) and the worldwide e-learning market is projected to be worth $325 billion in 2025 (Source Forbes in Chernev, 2022).

As demonstrated, discussions on the issues of privatisation, commercialisation, marketisation, and digitalisation of Higher education were present before 2020 (for a review on the topic see Weller 2020; Komljenovic 2019; Burch and Good 2014; Komljenovic and Robertson 2017). However, these processes were certainly accelerated by the Covid-19 pandemic, which forced a shift to online learning. As part of this shift to digital and data-intensive universities, a Global He Industry has expanded and mutated to include a range of digital providers and vendors: global education companies such as Pearson, large global technology companies such as Amazon, Alibaba and Microsoft, education technology market intelligence agencies, education technology investors, visionary consultancies and think tanks, and a whole host of education technology vendors, start-ups and their platforms and services. The global industry of educational technology and data services industry has grown to encompass every aspect or «market segment» of Higher education activities, including: recruitment, enrolment and admissions services; student management systems; basic digital infrastructure; management dashboards and analytics platforms; learning management systems and virtual learning environments; digital library and information services; e-learning software and courseware; learning analytics; online assessment; plagiarism detection; graduate talent analysis; alumni-graduate relations management; and alumni and graduate relationship management, and more (Williamson and Hogan 2021).

Accelerated post-pandemic processes of marketisation, privatisation and commercialisation are supporting the emergence of powerful aspirations to modernise Higher education with technology, with different tasks and institutional functions delegated to digital platforms and data systems, supported by a diverse cross-sectoral set of He agencies, think tanks, consultancies, private companies and coalitions (Williamson 2019). As a result, commercial providers of digital technologies and data systems for Higher education are perceived to be increasingly influential in the Global He Industry. This comes with concerns that logic in favour of private gain and to the detriment of good education, will take over in Heis (Ball and Youdell 2008; Reckhow 2021). According to some authors, these trends have the potential to, in turn, reshape universities, colleges, and the tertiary education sector itself to act in more market-like ways (Komljenovic and Robertson 2016) with different assessments of the benefits and risks of this process from a pedagogical perspective.

Among the critical voices, Mirrlees and Alvi (2019) identify a long list of risks associated with the penetration of the logic of private capitalist markets into public Higher education, which allegedly would set it apart from its ideal scope of public good for social emancipation. In their book, they describe the economic and political structure, social power relations, organizations and

interests that shape EdTech's development, diffusion, and adoption. Among the concerns of the authors about the risk of EdTech is the potential to thwart social justice, labour's dignity, deliberative democracy, and cultural integrity. The analysis sheds light on the interests of big tech companies – Alphabet (Google), Amazon, Apple, Microsoft, and Meta (Facebook), and other private EdTech companies promoting digital transformation in He to advance their interests and businesses. However, it also implies that EdTech companies deliberately attempt to influence and reconfigure public institutions of education into new spaces of capital accumulation. The critique to EdTech goes as far as affirming that EdTech industry and Moocs «advance digital capitalism in the classroom» and «EdTech corporations may work to cannibalize, compete with and eventually displace publicly provisioned systems of education in North America and around the world» (Mirrlees and Alvi 2019, 7). They do so by blurring the boundaries between education and exploitation, learning and labour, students, and workers.

Mirrlees and Alvi (2019) make a convincing point in disputing the idea that EdTech should be the silver bullet for a revolution in education or the solution to the problem faced in He. However, the fact that there are economic interests and incentives at stake does not invalidate the idea that EdTech, if used according to sound educational practices, can be a useful, powerful, and necessary part of Higher education. The use of EdTech itself with no pedagogical guidance is not resolutive or revolutionary, and it can also be detrimental. But the informed use of digital technology can make a difference and have a positive impact on the learning experience. As it will be argued in the next section, these views and concerns, although they may be common to part of the academic community, are based on a misconception of the role and mandate of EdTech companies and public institutions, and overlook some fundamental differences in digital education, such as the difference between teaching and training, assuming that practices and instructional design in the private sector (e.g. Moocs) can be a replicable model that can even replace traditional teaching and learning in public institutions.

4. Discussion

The promises of education technology (EdTech) to reduce the cost of education, increase the efficacy of education and make education more inclusive, are now confronted with the fears and challenges embedded in universities' digital transition, including, crucially, the role of private actors and privately owned platforms and EdTech providers in Higher education. Even departing

from the most sceptical voices of EdTech that would want the ostracisation of private companies from the Global Education Industry, there remain several issues related to the digitalization of Higher education that requires further analysis. One of the most important is data ownership, sharing, and storage. As mentioned above, the integration of the digital infrastructure of different apps and digital services is opening unprecedented opportunities for EdTech companies to collect educational data with limited transparency on how this data will be stored and used. Furthermore, this is linked to the issue of intellectual property rights over digital educational content. Within the conventional educational environment, academics normally hold ownership of the content they produce.

However, in digital learning ecosystems where lectures are delivered online and recorded, and learning materials uploaded to Lms/Vles, content ownership and intellectual property issues may arise, if not properly regulated in agreements between Heis, instructors and EdTech providers. This also applies to EdTech Ai-powered systems for exam supervision and related assessment tools. Hybrid and online learning ecosystems expose learning content to the surveillance of administrators, and this can lead, according to some authors, to problems of academic freedom with academics induced to censor their teaching content (Tanczer *et al.* 2020). This is particularly relevant because commercial providers such as Zoom, YouTube and Facebook, have terms of service that grant them significant power to determine what is allowed to be broadcast on their platforms and this makes classes, events, and other teaching and learning activities, vulnerable to corporate control (Nyu-Aaup Executive Committee 2020). The problem of «self-censorship» might become more acute in states like China, where there are Internet regulations governing «allowable» material (Cogan 2020). All these challenges call for governance solutions.

As a first step, to find solutions we should recognise the fundamental difference between Higher education teaching & learning (public domain) and training and professional development (private domain). As discussed earlier, the shift of Heis in the last twenty-five years to operate as a corporate entity and meet the market and economic needs of the society resulted in today's Heis aiming: «to develop relationship between university education and the external world, including greater responsiveness to labor market needs; to enhance social and geographical access to university education; to provide a more significant level of occupational preparation in a more applied way; and to accommodate the growing diverse population of graduates who have various qualifications and expectations» (United States Agency for International Development, 2014 in Pee *et al.* 2015). Despite all the efforts though, there are

still many people who either cannot afford to enroll in a university programme due to the sky-rocketing fees, or they want/need a specialisation in an area an Hei cannot provide in their geographic area or in the time and duration needed, or simply Heis are not the appropriate service providers to educate certain skilled workforce as determined by the market. As a result, private companies, especially in the EdTech sector, came to fill this gap with the creation of short online courses, paid or free. One of the great advantages the private companies offer to potential students worldwide is flexibility and choice in terms of cost, type of qualification, time spent on acquiring the qualification, specialisation, skills and, as all the courses are online, geography. This means that anyone can shop online to find the best deal to satisfy their needs and obtain the qualification needed.

However, what is the difference between Heis and private providers in terms of their educational offering? The main difference is that the former provides a holistic educational experience, including the development of critical stances to serve the public interest delivered via teaching while the latter provides training with no obligations or attachments to the improvement of society. Although the terms «teaching» and «training» are often used interchangeably, there are important distinctions that need to be identified to have a better picture of what is offered. In the following table we provide an overview of the two terms in terms of their meaning, approach, aim, emphasis, duration, outcomes, flexibility, access, and credentials.

Secondly, and consequently, we need to acknowledge that tech companies like Microsoft and Alphabet have a role to play in the knowledge-based economy especially in the post-covid era. Also, companies like TikTok, which are not traditionally associated with the Global Education Industry, are now investing millions in the Uk and Europe for developing digital learning content on the platform, with fun and engaging characteristics (Williamson and Hogan 2020, 48). As we can see in Figure 3, this trend is unlikely to stop.

TAB. 2. *Higher education VS Training, Based on «Difference between Teaching and Training» by Surbhi* (2019)

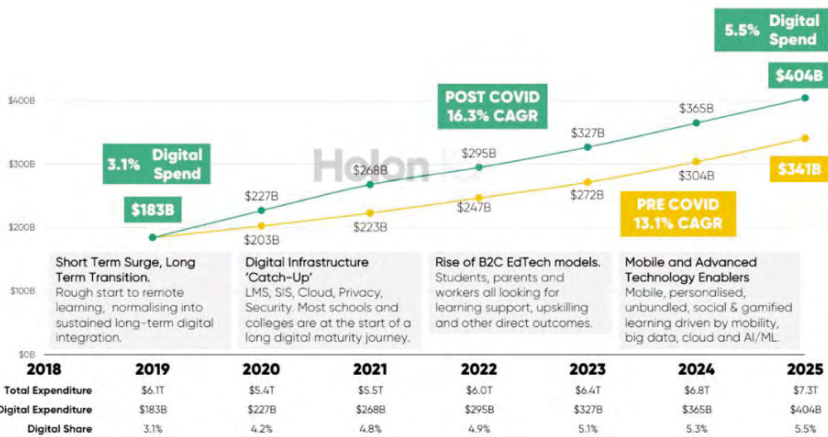| Criteria	Higher education Teaching	Private Providers Training
Meaning	Teaching is an academic activity, in which a teacher imparts knowledge and concepts to the student on a given topic, to prepare him/her for the future challenges.	Training is a learning process, wherein a person is given instructions and guidelines, by a professional or expert concerning a specific skill, related to job, for improving the learner's performance.
Approach	Theoretical	Practical
Aim	Provision of new knowledge.	Application of existing knowledge in a specific manner.
Emphasis	Education, knowledge	Skills and competencies
Duration	Long term	Short term
Outcomes/Benefits	Distant	Immediate
Flexibility in terms of duration, choice, cost, location	Limited	Unlimited
Access requirements	Specific e.g., school marks/qualifications	None
Credentials	Certificates are approved by an educational authority	Self-certification

FIG. 3.   Global EdTech Expenditure projection 2025.
         Source: HolonIQ (2021).

According to the updated global market size for EdTech calculated by HolonIQ (2021), we expect total global EdTech expenditure to reach \$404B by 2025, representing a growth of 2.5 times in the period between 2019-2025. The short-term increase in EdTech investments brought about by Covid-19 is expected to continue in the long-term with the integration of digital technologies and a transition to much higher adoption of online education in the coming years. This includes a significant investment in infrastructure to manage learning, data, and administration, as most schools and colleges are still lagging behind. «EdTech intensive» digital education models are also on the rise, as students, parents, and workers increasingly seek flexible learning experiences to acquire new skills and adapt to a changing work environment, with expectations regarding mobility, personalisation, social and gamified learning. Big Tech and EdTech companies are highly active in promoting access to education with international coalitions, foundations, and in partnerships with international organizations. Public Heis, rather than demonising the role of these private EdTech actors, should take a leading role in these coalitions, without necessarily jeopardising their identity, their academic freedom, and their values, but being informed actors in this transition that will occur regardless.

Thirdly, this prompts the need for public funded Heis to work with industry to become more innovative and re-design their pedagogy by incorporating some of the best practices in digital education. Flexibility and adaptability are also very important in the face of an announced «reskilling emergency» prompted by the so-called Fourth Industrial Revolution. According to an estimate by the World Economic Forum, 42% of the core competencies required to perform existing jobs will change by 2022. To make this possible, it is important for Heis to employ and recognise the work of academic developers, digital education experts, instructional designers, and learning technologists knowledgeable in designing effective and engaging digital learning experiences and train teachers, staff and teaching assistants on online pedagogy. Qualitative research conducted in the Uk during the pandemic reveals that the role of learning technologist and instructional designer in Heis is often misperceived (Watermeyer *et al.* 2021). This calls for a cultural shift in Heis and major awareness of best practices in digital education.

Fourthly, we need independent instruments and institutions to safeguard our citizens and communities of learners, at different levels of governance. Digital education takes place on digital platforms owned by private companies, so talking about regulating digital education means to some extent talking about regulating digital platforms. In other words, the debate on the governance of digital education considerably overlaps with the one on the governance of digital platforms and can benefit from it (Jacobides and Lianos 2021). In this con-

text, we can imagine a number of governance options, which, even assuming that digital platforms are transnational in nature, and therefore regulation should be at the international level, can range from centralised to decentralised models of data governance, commercial models with a minimal regulatory framework, hybrid models with centralized regulation and decentralized implementation, or even sectoral regulatory models and self-regulation regimes (Salakhova *et al.* 2021). For this rapidly growing body of legislation to have the desired effect, it will require the establishment of independent bodies and quality assurance mechanisms, and the identification by Heis of specialised personnel to oversee their compliance. One example is the particular attention now devoted to the role of Ai in education. The European Commission (2021a) has submitted a proposal for an Artificial Intelligence Act where Ai applications in education are labelled as «high-risk». Therefore, the use of Ai in education should be safeguarded and should follow ethical guidelines suggested in a document prepared by the High-level expert group on Artificial intelligence (Ai Hleg) (European Commission 2021c). This includes the respect of fundamental rights, the recognition of human agency and human oversight (Yeung *et al.* 2020), resilience to attack and security, general safety, accuracy, reliability and reproducibility, respect for privacy, quality, integrity, and access to data, transparency, diversity, non-discrimination and fairness, sustainability and environmental friendliness, social impact, accountability. For such action to be effective, however, it is necessary to work closely with experts specialised in privacy and data protection issues (e.g., Gdpr, General data protection regulation in Europe).

This leads to the fifth point, investment in digital education in the form of human resources, and infrastructure. On this point, we argue that investments should be made and managed appropriately to enable Heis to respond to new educational challenges and learners' needs. Literature suggests that development occurs in the environment where significant and appropriate investments are made through cultivating knowledge, talents, and skills (Hahn *et al.* in Pee 2020). It also requires the revamping of Heis to become more agile and innovative and look for new partnerships with private actors, where financial gains are not detrimental to educational quality. Rethinking approaches to Higher education and improving its attractiveness to professional and lifelong learners can be part of this strategy. This will open new markets and opportunities for Heis, including income-generating opportunities, and will also help address skills and knowledge gaps by promoting innovation and producing knowledge in line with the traditional mission of Heis.

5. Conclusion

Our intention in this paper is not to debate for or against the role neoliberalism has played in Heis, nor to sugar-coat the impact of privatisation and commercialisation on Heis and the role of EdTech companies. What we have aimed to do is to offer suggestions on how we can create, if possible, an educational system that will benefit all citizens. We believe that Heis should embrace the changes and trends in the education sector that were present before, but accelerated by the pandemic, and work towards better processes for the application of effective digital education, rather than stringent governance of digital education. Clearly, it is not attainable for neither the private sector nor Heis to educate learners who possess the precise skills-sets required for today's and tomorrow's jobs in combination with academic knowledge and values. The role of each actor (e.g., Heis and private companies), is distinct and it is up to the potential learners to decide what is best for them at any given moment in their lives. Having choices is advantageous but, to be beneficial, potential learners need to be appropriately informed of what exactly they are «buying» and what they will gain to make the right decision. Although a not-for-profit, or even a not-with-agenda partnership between Heis and private companies is recommended, it is unrealistic to rely on good-will only. More tangible, sustainable and efficient measures need to be taken to ensure that the Heis purpose will not be further diluted due to marketisation and privatisation.

Regarding Eu Heis, we are suggesting therefore a series of concrete actions. One such action, and in accordance with the call from public universities in the Eu, is to strive for more sustainable and efficient funding schemes with less administrative burdens from the funding bodies in order for universities to support their activities. We do believe though that funding should be performance-based, a recommendation suggested by the European University Association, and universities need to develop a range of strategies to enjoy continued support. A possible strategy would be to invest in students and staff, to support potential leaders, and to encourage management training at all levels (junior and senior, academic, and administrative staff) to ensure their competitiveness to respond to external challenges. The pandemic created an opportunity for Heis to step up and create better education with higher reach to serve more students and increased the accessibility of education to disabled students. This opportunity should not be missed. To quote the words of Daphne Koller, the founder of Coursera, «the pandemic has created an imperative to pause «normal» and hence an opening to re-evaluate it». Private companies are already re-evaluating. Whether or not Heis will be able to do the same, remains to be seen.

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