Platformization and the enactment of multiple economic forms: the rise of a neoliberal moral economy of education

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Abstract

This chapter explores how platformization and its acceleration during the COVID-19 pandemic can be related to an intensification and multiplication of the entanglements between a market economy and a moral economy in the education sector. Drawing on an emerging body of literature on platformization and platforms business models in education, we will focus on how the embracing of humanitarian rationalities by EdTech corporations and Edu-businesses and their alliance with public authorities, schools and professionals through digital solidarity initiatives, has widened the space for the enactment of different economic forms through digital platforms: branding and brand loyalty, profit-making, rentiership and assetization. We understand these as a complex of appropriative practices that allocate benefits from a variety of processes of production (data, educational contents, users' activities) and will discuss the multiple ways in which those economic forms are remaking education processes and subjects as commodified and commodifiable entities. Taking inspiration from Foucault's analysis in *The Birth of Biopolitics,* the chapter ends with a reflection on the emergence/reinforcement of a complex ecosystem of competing and interacting economic forms through which platforms and EdTech corporations, consultants, advisors, trainers are enrolling schools, teachers, parents and students within a 'neoliberal' moral economy of education. We argue that the pandemic is a distinctive event for the moralization of the EdTech market and the further expansion of neo-liberal governmentalities and neo-liberal visions of education and education governance.

Introduction

Digital platforms can be considered nowadays as the pivotal socio-technical arrangement for the core business model in the digital economy (Srnicek 2017). As a dynamic 'combination of socio-technical and capitalist business practices' (Langley and Leyshon 2017, p. 3), platforms act as continuously programmable spaces of action, intermediation, and capitalization. As digital architectures in which user activities become possible and unfold (Decuypere et al. 2021), platforms streamline activities of economic, social and communicative exchange, creating multi-sided markets and coordinate network effects that feed the broader process of capitalization (Langley and Leyshon 2017). At the same time, they are spaces of knowledge production that classify and record all activities happening within their connective space and make transactional data circulate. As such, platforms can be considered as a new kind of firm/organization that has invented a 'means of value production […] revolving around the measuring of user activities as data' (Decuypere et al 2021, p. 6). The COVID-19 crisis has been a turning point for the stabilization and expansion of platformization and a related set of new business model in most of the key spheres of our life, including education, offering an unprecedent global opportunity of private business and capital accumulation (Williamson et al. 2020). But this is not something that is completely new neither is it completely contingent. As Burns (2019, p. 1111) aptly observes, 'the history of securing capital accumulation practices is marked by crises and deliberate interventions by state and non-state actors'.

This chapter addresses the processes of platformization in education from a governmentality perspective (Foucault, 2008), moving from the recognition that the current growth of platformization is the acceleration of long-standing processes, and is one small part of the variegated, globalizing processes of financialization and neoliberalization (Peck and Phillips 2021). This growth has operated within larger-scale political-economic logics and shifts, including the growing digitalization of our social and working lives and the growing faith in digital technologies as innovative drivers that can 'solve' every social problem (Burns 2019, 1103). During the pandemic, within such a system of belief

and in response to what was described as a failure of states to provide a solution to the crisis, EdTech businesses have enacted a *gift logic* (Elder-Vass 2016). That is, they made digital technologies available free, for a period of time, to governments, schools, students and families, while expecting that their gift policy would help them, in the longer term, to enroll more clients and sell more of their products. At the same time, building on previous knowledge about market dynamics, these businesses assumed that by donating their products, they would be able to channel and strengthen their social and political influence through the establishment of their platforms as obligatory passage points for the basic system-wide functioning of education (Peruzzo et al. 2022). It was already the case that in the sphere of education policy the boundaries between nonprofit and for-profit actors, social forms and imaginaries had become more and more blurred and subjects (in education and other social fields) increasingly hybridized – as consumers, producers, and commodities. As such, platformization represents a significant shift in the modes of governing education (van Djick et al. 2018), with platforms as architectures, intermediaries and firms opening a variety of dispersed points of rupture in the epistemic terrain that make possible to (re)think education, the ways power relations unfold in the field of education and, finally, the making of educational subjects.

By working at the intersection of the epistemic and governmental implications of platformisation, the chapter talks to scholars, policy-makers, educators, unionists and other educational subjects who are interested in a detailed understanding of the political economy of educational online platforms. The chapter explores how platformization and its speeding up during the COVID-19 pandemic is related to an intensification and multiplication of the entanglements between a market economy and a moral economy in the education sector. The chapter further identifies as a key ethico-political urgency the problematization of the nexus between platformization and marketization is a key aspect of our educational present. It invites not to consider the widespread diffusion of digital platforms in education as a 'natural event' but rather to question the constitutive grid of conditions, forces and effects which make the emergence of platformisation as a constitutive trait of our educational present. This involves asking 'political-economic questions' (Komljenovic

2021, p. 11) about knowledge production, power relations and value construction that come into play in the relations between platforms, EdTech providers, the State and education institutions, teachers, students and families as end-users.

Throughout this process of problematization, the chapter adopts a particular focus on *value*, taking Komljenovic's (2021, p. 2) invitation to reflect carefully on the relation between platformization in/of education and the emergence of new ways in which financial value is constructed in the field. We intend to problematize the nexus between education and platformization as a new site for capital accumulation, but also as a new site of neoliberalization (Peck 2010). That is, the variegated, uneven and ongoing process through which social relations are reconstituted in the images of the market and the firm and subjects are re-moralized in competitive, entrepreneurial and commodified terms (Ball and Grimaldi 2022). Moving from the recognition that platforms as technological infrastructures afford opportunities to communicate, interact, or sell (Gillespie 2010) and 'host and exchange content, but […] are also sites of cultural interaction, consumer-driven business models' (Beltz-Imaoka 2017, p. 1), we emphasize the entanglement between platformization as both a new form of capital accumulation in education and a driver for neoliberally-oriented processes of objectification and subjectification of/in education.

Drawing on an emerging body of literature on platformization and platform business models in education (Williamson 2021) and keeping our focus on value creation in mind, we will focus our analysis on how the embracing of a gift logic by those EdTech corporations and Edu-businesses has opened the space for the enactment of distinctive economic forms of value creation in a new mode of EdTech-capitalism: branding and brand loyalty, profit-making, rentiership and *assetization*. We understand these as a complex of appropriative practices, emerging from the entabglement of EdTech corporations, Edu-businesses, public authorities, schools and professionals through digital solidarity initiatives (Ball 2021), which allocate benefits from a variety of production processes (data, educational contents, users' activities). In each section of the chapter, we focus on one of them as both an economic form and a related set of economic relations. Our general aim is to reflect on what forms

the platformization of education take in and through diverse contexts as a political-economic process, that is what 'political and economic rationalities it espouses, and the tangible forms it takes' (Burns 2019, p.1107).

Taking inspiration from Foucault's *The Birth of Biopolitics,* the chapter ends with a reflection on the emergence/reinforcement of a complex ecosystem of competing and interacting economic forms. It reflects on how platforms and EdTech corporations, consultants, advisors, and trainers are re-crafting education as both a site for the construction of neoliberal subjectivities and a specific case of the extension of the economic form of the market into a social domain formerly considered as being 'beyond the calculus of profitability' (Foucault 2008). We will primarily remain at the analytical level of economic forms and rationalities, while acknowledging that such an approach does not capture the nuanced diversity of particular EdTech companies and the peculiarities of the diverse national and local contexts where EdTech have contributed to the COVID-19 crisis solution through their digital gifts. A few illustrative examples are included, mostly from Microsoft products.

Branding and the making of loyal prosumers

Williamson and Hogan (2020) in their report for *Education International*, explored how the mass experiment in online education during the pandemic established new frontiers for EdTech-businesses who present themselves as the agents that can fix the crisis and keep education going for the benefit of children, parents and teachers. These businesses acted philanthropically offering their education technology tools for free and, in doing so, positioned 'educational technology as an integral component of education globally, bringing private sector and commercial organizations into the centre of essential education services' (Williamson and Hogan, 2020, 1). Relatedly, they created the conditions of possibility for an acceleration and consolidation of the digitalization agendas in education (Cone et al. 2021). Specifically, in many countries Google offered *G-Suite Education* and Microsoft *365 for Education* to school systems with no charge for a limited period of time, alongside

an enormous range of teaching and learning resources and training on how to use their packages. Other companies followed suit, in the US Blackboard provided free access to products, resources, and training designed to schools and teachers, including education packs, free data&analytics, resources and training courses. Coursera and FutureLearn also offered free of access training courses and entire modules. At the same time, these businesses sponsored and partnered with multiple intermediary organizations providing skills training, support and encouragement to schools, so to take up digital solutions.

By supplying free access to technology and establishing themselves as the saviors of public education, these businesses also engaged in *branding* (Lury 2004) as a specific economic form, and the creation of the *loyal prosumer* (Strähle & Grünewald 2017) as a specific economic relation, turning schools, teachers, students, and their families into committed consumers of technology and producers of data. Our point here is that this is not merely a short-term marketing move, but rather a profound and long-term epistemic shift, with governmental and ethical implications.

In general terms, branding is a marketing form that works through the association of a product with a positive, appealing and/or distinctive idea, concept, value and/or emotion that is intended to become fixed in the minds of consumers. Such an association serves to convince people that a commodity and the company that produces it 'offer more than just technical services' (Beltz-Imaoka 2017, p. 3). Branding involves making a product a commonplace in daily practices, and establishing a relationship between the brand, feelings of trust, moral well-doing, and public recognition. Branding, of course, is a marketing strategy whereby companies intend to secure profit generation for the present and the future, and to do so they occasionally work on the association between a brand and multiple forms of philanthropic giving. At the same time, what is interesting is that the creation of a brand, that is the association between a product/commodity and 'images, discourses, qualities, cultural values, and ultimately products - functions as a relation between' that company and a constituted consumer (Burns 2019, p.1107-08).

Branding is not something completely new in the field of education technology, neither is it something specific to the COVID-19 crisis. Before the pandemic practices of branding were already common in the EdTech sector, as exemplified by a blog post written by Vivek Puthucode, general manager, Public Sector, Microsoft Asia Pacific, back in 2016 (see Box 1).

Box 1 - How could education inequality be eliminated by 2026?

How could education inequality be eliminated by 2026?
*April 20, 2016	Microsoft Asia News Center*
This blog post was authored by Vivek Puthucode, general manager, Public Sector, Microsoft Asia Pacific
Education is the passport out of poverty, but not everyone is eligible to apply.
If you look at the Human Development Index, education is fundamental to tackling all of the social problems we face in Asia Pacific, such as unemployment, child labour, and human trafficking. Ultimately, it is about improving people's lives.
But three barriers hold back education in Asia. First is access to education; second is the quality of provision; and third is the resourcing available in schooling systems. By 2026, I believe that technology will have helped tackle these issues. Here is why we at Microsoft are doing all we can to eradicate education inequality

Source: https://news.microsoft.com/apac/2016/04/20/how-could-education-inequality-be-eliminated-by-2026/

Proactively building on feeling good rhetoric, Vivek Puthucode shapes the contours of Microsoft's work through carefully crafted strategies that equal bottom-lines to the work of education in saving lives (Burns 2019). Mobilizing what Grubb and Lazerson (2004) called 'the education gospel', that is 'the belief that social, economic, civic, and moral problems can be solved through schooling' (https://www.edweek.org/leadership/opinion-the-education-gospel/2005/05), here Microsoft's branding works to "cultivate name recognition and expectation of service that is typically associated with consumer dynamics in the private sector" (Burns 2019, p.1109) and merges them to the moral good of EdTech.

However, during the pandemic crisis EdTech companies seized the opportunity to increase their

perceived value to educational grassroots subjects and, more generally, to civil society through a process that reinforced their brand identities. Boxes 2 and 3 exemplify the commitment to tackle gender gap and accessibility in using technologies.

Box 2 - Closing the gender gap

Closing the gender gap
Our DigiGirlz program gives high school girls the chance to participate in hands-on computer and technology workshops, learn about careers in technology, and connect with Microsoft employees. We also help girls grow their skills and love for technology through our support of Technolochicas, Black Girls Code, and Girls Who Code.

Source: https://www.microsoft.com/en-us/diversity/beyond-microsoft/default.aspx

Box 3 - Equity, inclusion, & accessibility

Equity, inclusion, & accessibility
Provide accessible technology that can meet the needs of all students looking to take greater responsibility for their learning and development of technology skills.
As part of the Student and School Success Resources, developed throughout the pandemic with a vision for the use of technologies and education in a post-pandemic world.

Source: https://www.microsoft.com/en-us/education/school-leaders/k-12-microsoft-education-transformation-framework/student-and-school-success

The two examples show the capacity of businesses such as Microsoft to unseat what Tomlinson (2017) defined as (publicly employed) professionals' benevolent humanitarianism, who *unconsciously* overpowered marginalized groups, in favor of what Kanai and Gill (2020), and later Rhodes (2022) call *woke capitalism*, at work. That is a specific address to the plight and needs of marginalized groups with a message of empowerment to signal progressive values of social justice. Through their programs and resources focused on equalizing opportunities, EdTech businesses were associated to and relied on widely held assumptions of altruism and 'the good'. Their marketable, commercial, and potentially profitable brands resonated with daily digital education practices, the

continuation of schooling in the pandemic crisis, the possibility of providing education to isolated children and frustrated families.

Moreover, this signaling is often reinforced by partnering with third sector organizations that represent or campaign for marginalized groups. Microsoft provides another example (Box 4) presenting the networked effort to share their vision with non-governmental and social oriented organizations that are morally committed to advance inclusion in the tech industry.

Box 4 - Our partners share our mission

Our partners share our mission

On a global, national and local level, we work with and support organizations that are working to advance diversity and inclusion in the tech industry—and in workplaces worldwide through research, benchmarking, program development and advocacy platforms.

Source: https://www.microsoft.com/en-us/diversity/beyond-microsoft/default.aspx

There is a complex nexus here within which the companies offer versions of themselves as saviors of education (in both a political and moral sense), as philanthropists (gifting products and services) and as innovators providing technological solutions to educational problems (like the effects of social disadvantage, overcoming barriers to change and teacher skill deficiencies). Parents, professionals, and politicians are encouraged to think about/ and be convinced of the unthreatening educational, social and economic benefits of using the digital technologies in education, in and

beyond the pandemic. Based on this kind of cognitive and emotional work on the present and for the future, EdTech companies have disseminated their fantasy of a digitized educational future by convincing investors, policy-makers, administrators, head and teachers and user-consumers of the social and educational desirability of their present and future engagement with digital educational technologies, data, and content (Beltz-Imaoka 2017, p. 4). Part of this desirability also relies on the idea that digital education technologies are not only a cost-effective and cutting-edge solution to the COVID-19 crisis, but also a means to achieve a more effective, fair and inclusive future for education.

These technologies were initially presented as the temporary solution to the pandemic interruption of schooling. However, branding messages also invited users to think more generally about the purposes of technologies adoption, which gradually shifted towards the reinvention of education, teaching and learning. Grass-roots educators were invited to actively participate in such a reinvention, engaging with the production of innovative educational contents, practices and experiences through technology. Consistent with a *prosumer-driven* approach to communication (Strähle and Grünewald 2017), EdTech products emphasize user actions assisted by technology and ignore or downplay the effects and consequences of corporate interventions into the teaching/learning process (Grimaldi and Ball 2021, Ball and Grimaldi 2022), as shown in Box 5.

Through the complex of branding strategies that associate the values of solidarity, trust, change, effectiveness, creativity, fairness and inclusiveness with their products, EdTech companies have worked to 'infuse societal ideals' into their branding practices, 'collaborating with like-minded organizations to continue convincing investors, enterprise customers, and user-consumers of the economic and social benefit' of the digitalization of education (Beltz-Imaoka 2017, p. 8).

Box 5 - Together, we learn and grow

> **Together, we learn and grow**
>
> At Microsoft we're looking to sociology, psychology, behavioral science and neuroscience to understand what leads
>
> to exclusion, and to find effective ways to change our habits and behaviors. We gladly share our learning resources so

that others can create inclusive environments where all people feel valued, heard and included.

This dispersed and indirect work of persuasion has consolidated the conditions for an increase in EdTech trade and profits for the future, through a global ideational work on the association between EdTech and positive values and feeling, but also through a strategy of internal competition in the market of EdTech providers. Companies seek to gain advantage over their competitors by convincing clients of the peculiar and distinctive qualities of their specific solutions, leveling on its potential of making visible the moral aspects of such commitments, and establishing relations of loyalty, familiarity and dependence.

As Burns (2019, p. 1113) has argued a brand carries 'with it the uneven power relations and systems of value exchange dominant within capitalism' and it 'deepens the rationality of capitalist relations' within education writ large. As an economic form branding is in a particular relation to commodity exchange. In fact, as Lury (2004, p. 6) highlights, 'the brand may be seen as both promoting and inhibiting 'exchange' between producers and consumers, and informs this asymmetrical exchange through a range of performances' that include 'the production, organization, and distribution of cultural values, immaterial significations/resources and capacities' (see also Beltz-Imaoka 2017). As Burns (2019, p. 1113) emphasizes, 'the brand thus constitutes a social and cultural relation between those producing/offering and those consuming/receiving'. A brand becomes an economic asset for the firm when people come to count on the brand to contribute to social life, when it is embedded in society and culture – to *google* is a great example. As they become lodged in social networks and cultural discourses companies are able to use this dependency as a means to extract economic rents.

During the pandemic all of this contributed to the reinforcement and acceleration of the constitution of educational subjects as consumers of digital products and services that 'associate their digital counterparts with images, qualities, and socio-cultural values that are packaged into software,

data, and organizations of labour' (Burns 2019, 1109). These include radical personalization, flexibility, modularity, choice, mobility, activation, and performance (Grimaldi and Ball 2021), while at the same time as beneficiaries 'learn to associate the digital […] technical assemblage with the delivery of aid and assistance' (Burns 2019, 1109).

Such a social, moral, and cultural relation, mediated by the adoption of technology, 'has enabled actors who started out as consumers to further enter the production process' of the EdTech business and even more importantly to 'become incorporated into a value network' (Strähle and Grünewald 2017, 113), as demonstrated by the testimony of a school in Australia selected through the scheme 'Microsoft Partners in Learning'.

Box 6 - Microsoft Partners in Learning

Microsoft Partners in Learning

In 2011 we were selected as one of 20 schools nationally to participate in the Microsoft Partners in Learning Innovative Schools Project. Microsoft believes that technology is simply a tool that when used appropriately in an educational context can help improve teaching and learning'. Our engagement in the Innovative Schools project saw us participate in a rich program of peer coaching, and professional development by working on Innovation projects and sharing these with educators nationally through forums in Canberra, Darwin and Perth.

Source: https://www.gillesstps.sa.edu.au/Microsoft-Partners-in-Learning

As illustrated by the example in Box 6, the engagement of actors as loyal prosumers in the use of educational technologies makes them a distribution channel, where they 'take part in the creation of a value network for the purposes of brand and market communication' and value creation and appropriation (ibid.). This takes a variety of forms: as producers of data, providing testimonials, reviews, and 'feedback', and as experts and ambassadors in the use of technology. In this case, they become vehicles of innovative digital practices in peer-to-peer nation-wide forums.

To summarize, while Google or Microsoft educational platforms were useful for end users in schools during COVID-19 series of lockdowns, guaranteeing continuity, the brands were highlighted

and disseminated. New value-laden relations of material, organizational, moral, and cultural loyalty and dependence were established and reinforced, creating within and across public education systems of oligopoly in the EdTech market that are likely to be maintained in the mid and long term. That is, branding helped establish secure spaces for the enactment of other economic forms and economic relations, namely profit-making, rentiership and assetization, entrenching the primacy of private-sector logics in education action and affirming the centrality of technology to an increased efficiency of education systems during and beyond the crisis. We now turn to a detailed analysis of those economic forms and relations.

Profit-making, platform as a firm and the extension of the digital education value chains

Branding, the acceleration and adoption of education technology during the COVID-19 crisis, the subsequent enrolment and mobilization of loyal users/prosumers through platform *intermediation,* and the construction of a participatory and connective educational culture further reinforced and widened the reach of a digital infrastructure that enables and facilitates economic circulation and for-profit activities. As Langley and Leyshon (2017, p. 13) argue, 'the generative force of the platform in digital economic circulation turns, in different ways, on practices of intermediation and processes of capitalization', the making of multi-sided markets and the coordination of network effects (ibid, p. 4). The pandemic crisis highlighted the processes of platformization and digitalization within teaching and learning and pointed-up 'a number of different commercializations' that need to be acknowledged (Castañeda and Selwyn 2018, p. 6).

As we have already argued in the introduction, platforms can be considered as a newly emerging type of organization/firm which enacts new means of value and profit creation that can be related to the selling of services and products to widening publics of customers/prosumers (digital content, learning management systems [LMS], education applications [Apps], and universal platforms, services, data, licensing, advice, training, and so on). As Moore et al. (2021, p. 9) observe,

platformized teaching and learning requires that administrations, schools and teachers invest their [often public] money in devices, applications, platforms and LMSs and also requires that educators consume and create 'course materials, facilitate learning, assess student work, and enroll in continued professional development'. It involves students and families as part of this chain of pro-sumption (1000s of school websites name, introduce and extoll the virtues of Teams, Dreamspace, G-suite, Khan Academy, Kodu Game Lab, DreamSpark, and Small Basic, etc. etc. to parents). It also requires that consultants, technicians, and IT experts are hired to design, maintain, and update technological systems.

Reflecting on the kind of economic relations that platforms establish between students, teachers, headteachers, parents, administrators, policy-makers, consultants, technology providers and other actors in the education sector, Komljenovic (2021, p. 5) recently underlined how platforms can be understood as nodes that actively extend digital education value chains in three distinctive ways: a) creating and enlarging multi-sided education markets through the delivery/offering of technology, courses, contents and services to new schools, teachers, students and locations; b) widening the scope of education offer, allowing intermediation for a variety of new educational forms and provisions that go beyond traditional courses and programmes; c) expanding the diversity of actors in the digital ecology and, relatedly, the points of value creation.

Some aspects of these extension processes can be highlighted here. First, this extension of the digital education value chain is occurring both where 'value is produced upstream and consumed downstream' (Beltz-Imaoka 2017, p. 4). EdTech companies like Google and Microsoft have consolidated some of their closely related products or services and, through the establishment of exclusive partnerships, have also created further possibilities for profit for associated firms 'that build physical assets, provide services, or create technologies' and 'sell them down the pipeline to customers' (ibid, p. 5). Secured markets are created within the profit-oriented bounded ecosystems of platforms and technologies, that facilitate 'a smooth value-creating interaction' (ibid) between a vast array of partners, developers of applications dependent on the platform, service providers,

consultants, trainers and the administrations, schools, teachers and students as end-users. Here, platforms and technologies function as 'a sophisticated distribution engine' (ibid, p. 6) that at the same time promises educational freedom and creates the need for and the practical conditions for the selling of further products and services through and for the platform.

Second, many of these platforms are in effect very active on the content delivery side, playing an active role as provider of self-produced content (Decuypere et al. 2021, p. 6). As Williamson (2021) observes in his analysis of Pearson's Global Learning Platform as a market-making tool, the potential of platforms in modularizing, streamlining, customizing and updating educational contents and their production on a reduced time-scale enable them and their partners 'to launch personalized learning experiences more quickly and with better outcomes', on a direct-to-consumer delivery chain and do it on an economy of scale.

Third, these are markets and profit-making areas that extend beyond education, which becomes the terrain for the preparation of the loyal prosumers for the future. As Moore et al. (2021, p. 7) argue, the pandemic crisis can be interpreted as a moment where 'beyond the money that can be made from the public education system through the sale of technology, licensing, and student data' EdTech companies worked 'to create customers for life, as students are more likely to continue to use technology they were introduced to in school'.

Nevertheless, such an expansion of the education value chain in platformized education cannot be reduced simply to an enlarged provision of products and resources in the education sector. Rather, value production and profit-making in a platformized education system originate in at least two other distinct ways: the capitalization of data production and exchange and the financialization of the EdTech business.

Datafication is a significant area of profit generation (van Djick et al. 2018) or to put it another way data production is a form of commodification of educational activities, content and subjects. As is well known, the capacity to record and retain user activities as data and make this data circulate and amenable of multi-sided processes of storage, assemblage, analysis and elaboration, visualization

and commercialization is a distinctive trait of a platform. Data are the engine of platforms as digital architectures, and many contemporary digital education platforms mainly operate as brokers that facilitate the exchange of educational content and activities, however their business model is based on the capitalization of these processes of data exchange (Decuypere et al. 2021, p. 6). Activities of teachers, pupils and students are thus organized as data relations, which are subsequently systematically elicited, extracted and monetized and become the matter of various forms of 'exchange' (Couldry & Mejias 2019). As Zuboff (2019) has pointed out datafication involves the turning of users' activities into a behavioral surplus. That is, datafication generates new needs, new market niches and new profit opportunities, with 'data models, lines of code, database design, and other technologies' providing 'small yet tangible inroads for private sector incursion' into education (Burns, 2019, p. 1115).

Moreover, platform intermediation in the marketization of the education sector and the creation of new possibilities for 'market encounters' in digital space (Çalişkan and Callon 2010, pp. 14-16) are distinctive for another reason related to the coordination of the network effects of 'connectivity' (van Dijck, 2013). Following Langley and Leyshon (2017, p. 11-13) we could observe that 'the business of intermediating digital circulation' of educational technology, content, services, and data 'is also increasingly the enactment of a unique platform business model' that performs 'the structure of the venture capital investment' and 'prescribes a novel enterprise form' where education as business is incorporated into wider processes of valuation and capitalization. Through the generalization of this business model, the education sector is made dependent on new economic and venture capital investment logics that 'leverage debt against future revenue prospects' from digital circulation, prioritize 'rapid up-scaling and extracting revenues from circulations and associated data trails' or "capitalise" on the potential of platforms to realise monopoly rents' (Langley and Leyshon 2017, p. 11).

In sum, when addressed in its complexity, the relation between platformization and the expansion of the value chains in education, i.e. the widening of the possibilities for profit-making in

the education sector, cannot be reduced to a simple increase in the exchange of commodities. Instead, it needs to be understood as inextricably intertwined with the colonization of the field by commercially-provided systems rooted in business and industry models, and the reshaping of the basic forms of teaching and learning, together with the restructuring and reorganization of educational organizations, groups and individuals 'to function and behave as if they were corporations' (Castañeda and Selwyn 2018, p. 6). As Castañeda and Selwyn (2018, p. 6-7) further observe, platformization in education 'appears to support rational market exchange as a dominant framework for organising and regulating educational engagement' but also functions as a driver for an epistemic rewriting of education 'as a product that is consumed along economically rational lines', is framed into 'market forms' and is exchangeable on the basis of its calculable and quantifiable value. Notwithstanding the branding and marketing strategies that disseminate technological hypes for a better future education, there is an epistemic and governmental process at work that prioritizes profit at the expense of education, and shifts the 'meaning of education, from a public to a private good, from a service to a commodity' (Ball 2016, p. 1049).

Creating value through rentiership and the making of the rentee-rentier relation in asymmetrical markets

The establishment of a plurality of economic relations in the field, which go beyond the economic forms of entrepreneurship, commodity exchange and the buyer-seller encounter, is also part of the epistemic and governmental rewriting of education along platformization's economically rational lines. In the section above, we discussed the different modalities in the extension of the digital education value chains, and emphasized how, through platform intermediation, the education sector is made dependent on new economic and venture capital investment logics that capitalize on the potential of platforms to realise monopoly rents (Langley and Leyshon 2017, p. 11). Expanding on this, and by drawing on Komljenovic (2021, p. 2), we could contend that the acceleration in the

platformization of education during the pandemic promoted the generalization of another economic form and relation: the *rentiership* and the *rentee-rentier* relation, as 'new ways of value construction in the EdTech industry'.

Today, the value of a platform, and more generally of EdTech solutions within financial markets, are increasingly based on their potential to draw profit from renting, in establishing longstanding rentee-rentier relations, appropriating value within these relations and regulating them in a regime of oligopoly or quasi-monopoly. A close analysis of the business models underlying the most used educational platforms and EdTech solutions indicates interesting and multiple combinations of selling and renting, rather than the prevalence of one or the other, with platform intermediation being now articulated around the making of scale economies and the extraction of 'rents from circulations and associated data trails' (Langley and Leyshon 2016, p. 4). As an economic form, rentiership relates to the 'appropriation of value through ownerships and control rights (e.g., intellectual property [IP]), monopoly conditions, and regulatory or market devices and practices' (Birch 2020, p. 3), bringing to the forefront issues of content ownership and its regulation, as shown in the example below taken from DreamSpark, a platform that 'provides no-cost access to Microsoft designer and development tools for verified students and educators around the world, to support and advance their learning and skills through technical design, technology, math, science and engineering activities' (FAQ for customers, p. 2).

Box 7 - Content ownership

Content ownership

• New customers signing any of our academic VL subscription agreements will receive information about how to activate their online subscription of DreamSpark in their volume licensing program welcome letter.

• Existing subscription customers have received notification about DreamSpark and information about how to transition from their current MSDNAA membership to a new DreamSpark membership at their next renewal. There is no impact to their existing membership. For any questions about your existing subscription or this transition, please contact: www.dreamspark.com/Support/RSC

The institution must stop providing DreamSpark subscription benefits to students, faculty, or staff when they cease being eligible, per the use rights.

The Windows operating system license available through DreamSpark Premium is an upgrade license and may only be installed on a device that already has a Windows Operating system installed on it. It may be installed on a "naked PC" only if the device is owned or leased by the institution and the device will at all times remain physically located in the labs operated by the STEM department with a DreamSpark Premium subscription.

Source: https://www.uprm.edu/cms/index.php?a=file&fid=130

As in this example in Box 7, the platform owner (the rentier) regulates the rights of access, conditions of operation, and extraction of data and generates value/profit through the forms of capitalization of the user activity we have described above. The income or value derived from the ownership and control of the platform (that here becomes an asset) can be economically conceived as a rent, which is profitable in the mid or long term in so far as the rentier-rentee relation is established in a context where the platform/technological solution is inherently scarce or is constructed as such, or presents a distinctive quality or productivity, or again is provided under conditions of limited or no competition (see also Christophers 2019; Birch 2020). Echoing Srnicek (2017), Komljenovic (2021, p. 3) observes how 'in the case of digital platforms, the rents come in the form of transaction fees, subscription or similar flat fees, fees per click, fees per view, and so on, depending on the type of intermediation that the platform performs'.

Key technologies in the enactment of this economic form and the regulation of the rentee-rentier relation are the patent and the license (Sadowski 2020). Patents enclose ideas in restricted markets, protecting registered EdTech products and solutions (and in part their concepts) from independent development and guaranteeing relative monopoly positions to EdTech companies in their market pipelines. In addition, EdTech products and solutions and the data they produce are enclosed via copyright. Komljenovic (2021, p. 3) emphasizes how this complex bundle of rights, duties and enclosures are regulated in the rentee-rentier relation through the technology of the software license. Interestingly, in the education sector, accepting the terms of a software license has become an almost

daily act, with little or no particular attention to the signed content. But the terms of use or license agreement of a platform/software/technology are actually a contract between the owner and the users. This contract 'gives the [technology] owners exclusive rights, such as rights over access and exclusion, the right to copy software, create derivatives or modified versions, and distribute copies to the public by license, sale, or otherwise' (Komljenovic 2021, p. 4), and it regulates the recoding of our everyday lives into digital data and their ownership. Most of the licenses that educational institutions sign are contracts that establish a bundle of economic relations between them and technology providers and 'determine service conditions, including control and processing of extracted data' (Komljenovic 2021, p. 7). Rents occupy a significant role in this bundle, and it is possible to identify at least two main kind of rents that establish a rentee-rentier relations: *monetary rents* and *data rents*.

In the case of monetary rents administrations, schools, educators, students, and families pay differentiated amounts of money for accessing to digital products and services for determined periods of time and with diverse privileges, as shown in Box 8 detailing Microsoft Imagine's different subscription levels.

Box 8 - There are two Microsoft Imagine Subscription levels available to Institutions

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There are two Microsoft Imagine Subscription levels available to Institutions:

• Standard: For use institution-wide (elementary to higher education)

• Premium: For use within qualifying STEM departments only Microsoft Imagine Standard: Includes OneNote, SQL Server,

Visual Studio, and Windows Server

Microsoft Imagine Premium: Includes Project, Visio, and Windows

Please note that Microsoft Office is not available for Standard or Premium Subscription levels

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Source:

https://imagine.microsoft.com/library/main/documents/microsoft%20imagine%20guide%20for%20vl%20customers.pdf

In the EdTech sector there is an ongoing move away from purchasing goods and services and

to paying for different kinds of access and, relatedly, an inherent hierarchization of diverse rentees. As Komljenovic (2021, p. 5) aptly observes, this is a move that is changing financial circuits within the sector. In the case of *data rents*, educational institutions and their students and staff as end-users pay indirectly a cost to platforms owners. This *data rent* includes the digital traces that students and staff leave behind when interacting with digital platforms as well as access to data flows and the functioning of Application Programming Interfaces that come from plugging into the digital infrastructures of education institutions, a privilege that platform owners acquire through licences and terms of use. All of this is related to 'a more profound change of [educational] platforms into data and data intelligence businesses (Christophers 2020)' (Komljenovic 2021, p. 5). There are different degrees of integration or nestedness involved here, which have different technical and legal arrangements: a) external platforms can plug into a school or a university digital infrastructure enabling full data flows; b) platforms can be nested and exchange some data, but not all; c) 'education institution uses external platforms entirely, such as social media, to communicate with various publics' (ibid). In these ways digital platforms are able to collect a variety of personal data. These include scholarly discussions in a virtual learning environment, data on user behavior such as users' click-through on a platform, and a variety of metadata, such as users' devices, location, and internet protocol addresses. The value of such digital data comes about by extraction, enclosure, storage, aggregation, analysis, and transformation into intelligence (see *The political economy of data value and the DGA* by OECD https://issuu.com› savona-value-of-data-oecd-workshop, June 30, 2021 — Maria Savona SPRU, University of Sussex). The technical and legal arrangement indicated above allow for the turning of extracted personal data into private assets. The political economy of personal data gives rise both to a complex set of ethical and political questions, and policy issues related to the commercialization of science and technology (see Birch et al. 2020 for a full discussion).

The development of rentiership as a market form and the establishment of rentee-rentier relations also raises questions about what kind of market-making we are observing here and how educational institutions are made into market actors. Christophers (2020) has argued that these are

asymmetric markets, within which platforms and technological solutions' owners successfully construct conditions of oligopoly and dictate the cost and conditions of renting within a highly skewed distribution of negotiating power. They do so also thanks to their ability to use the follow-through rights given to them by the legal system created around IP (Birch 2020). An epistemic and governmental effect of this process of market construction, is the remaking of the State, public governments, educational organizations and subjects into rentees who are continuously asked to embrace the rational economic logic of rentiership and to passively accept monetary and data rents. There is little room for negotiation on the part of users in these *asymmetric markets*. First, established rentee-rentier relations are difficult to exit from. Licenses usually establish forms of legal lock-in and make it (financially, organizationally, and technically) costly to leave and make new arrangements. Second, licenses as contracts do not only regulate the relations between the platform/technology provider (the rentier) and the school/institution/teacher (the primary rentees) but also extend those regulations beyond this primary relation. Indeed, as Komljenovic observes (2021, p. 6), 'students and staff become liable to their education institution's data policies and policies of proprietary platforms with which their institution has a contract' and end up with very little control over how their personal data is used.

Assetization and the investor-asset relation. Turning education into assets

The pluralization of economic forms and modalities of value creation related to platformization in the education sector has also another face. That is, the extension of new forms of dependence on new economic and venture capital investment logics that capitalize on the business potential of platforms and the different forms of commercialization that we have discussed so far.

In addition to rentiership, platformization in education facilitates the emergence and stabilization of another economic form and relation that goes beyond entrepreneurship, commodity exchange and the buyer-seller encounter: that is *assetization* and the *investor-asset* relation (Birch

and Muniesa 2020a; Komljenovic 2021, p. 4). Alongside the work of EdTech and edu-entrepreneurs focused on the branding, production, and selling/renting of new products/commodities the education sector becomes a site of value creation as the object of financial strategies that operate to turn educational technologies, organizations, activities, subjects and the related data into assets that can be capitalized on, exchanged, merged or acquired in the global financial and data markets (Birch and Muniesa 2020b).

Legal and financial regulations and the Intellectual Property rights regime secure the present and future uses of technologies (a platform, a software or a complex hardware and software solution) when these are bought or rented. These regulations and right provide to the seller/rentier a monopoly of the development, connections and data flows related to these technologies. Through this securitization of property rights platforms and other related technological solutions become assets that provide, for the owners of the property rights, a valuable portfolio of users, data, future solutions development, and economic potential that can be capitalized on in financial markets. As an asset, education technology becomes of interest not only to EdTech developers and providers but also to financial investors who are interested in immediate, and mid-term returns. EdTech becomes part of a diverse investment portfolio (see Ball and Grimaldi 2022 for examples).

Within this process, educational organizations, subjects, and activities are objectified as valuable assets and, as such, enter a specific relation with the investor. They become a source of profit and exchangeable as buyers and consumers, rentees, fee-payers, sub-rentiers, partners for digital delivery or content producers. As such, they are indistinguishable from other assets in the investor portfolio and detached from any specific ethical concern about education, any cultural value is simply that enacted through branding and the contractual agreement signed in the buyer-seller or rentier-rentee relations.

Finally, as in the case of organizations/subjects and activities, data as a salable/rentable commodity and future possibilities of data extraction are turned into valuable assets for investors in the financial markets. Key processes in the construction of data as a valuable financial entity are: a)

the design of profitable strategies to capture or extract value through ownership and control of data; b) their processing into scalable knowledge for 'either improving an existing product or service, or creating a new one'; c) the opening of new markets for data-based products (as in the case of predictive learning analytics) or other kind of automated services that work through data matching, that guarantee managing power over student learning and teachers work patterns and offer opportunities to tailor experience and nudge behavior (Komljenovic 2021, p. 5). Data can be used repeatedly in different operations and combinations and each of these provide opportunities for monetization (see Fourcade and Healy 2017). This is what Birch and Muniesa (2020) identify as turning things into assets or *technoscientific capitalism*.

Platformization and the rise of a neoliberal moral economy of education

In this chapter we argued that current trends in the platformization of education, boosted by the pandemic crisis, need to be carefully considered as part-and-parcel of the variegated processes of neoliberalization of education and the generalization of a neoliberal political rationality that strengthens capital accumulation in diverse and numerous sites and fields (Burns 2019, 1106). In particular, platformization is central in processes of market-making, with platforms becoming key nodes and technologies in the creation of 'multi-sided markets', that enable the interaction and dispersion of technologies, products and cultural values across and between users, technology designers and developers, sellers, consultants and advertisers, administrators, policy-makers and so on. Platformization and the gift strategy were also accompanied by a set of enthusiastic hypes about the positive social effects of platformization: fantasies of openness, marketplace democracy, equity and inclusion, personalization, efficiency and effectiveness, participation, collaboration and sharing. These fantasies obscured the selling of technology and the enrolment of end-users as consumers, silencing the political and financial aspects of this process.

As Ball (2020, p. 23) has argued, education as a social sphere of platforms end-users is 'refashioned as an infrastructure of organization, processes and subjects in relation to which market exchanges become a sensible and necessary form for the governing, imagination, production and consumption of education' and 'a financial sector, increasingly infused by and driven by the logic of profit'. At the same time, this brings about a remoralization of education and its organizations and subjects 'as part of a more general reframing "of socio-moral concerns from within the rationality of capitalist markets" (Harvey 2005) where doing good becomes – and seemingly is – good for business' (Ball and Grimaldi 2022, p. 298-99). The State, schools, teachers, parents, and students as platform users are re-configured as loyal prosumers, buyers and sellers, rentiers and rentee or assets and enrolled within a 'neoliberal' moral economy of education.

The COVID-19 pandemic has acted, in relation to that, as a window of opportunity where many EdTech companies used gifting as a strategy to gain advantage in the market of education services, educational ideas and pedagogies, securing for themselves, both direct access to policymakers and multi-dimensional engagements with schools, teachers, students and families. Such a strategy made them powerful cultural agents in education meaning-making processes, while strengthening the centrality of EdTech market-based investments over other priorities of education policy and schools' agendas (Williamson and Hogan 2020; Peruzzo et al. 2022).

In the chapter we have shown how new frontiers of marketization and capital accumulation are being created by integrating education, educational organizations and their subjects into new business models, under the tropes of equity, democracy and the improvement of performance, and via (neo)liberal promises of a free educational future, where a form of radically personalized learning can happen anytime from everywhere.

Our key point in this chapter is that through platformization, a fundamental redesign of traditionally non-economic educational relationships, activities, and behaviors in economic terms, and a 'silent' (re)organization of a political and moral framework for education are taking place. At the same time, the specificity of these processes needs careful analysis to identify the complexities of

this economic redesign of education and its complex relations with neoliberalization and neoliberalism as political rationality. Such an analysis has been begun here.

To make sense of those complexities, starting from Foucault's *The Birth of Biopolitics* (2004), we argue that what happened here is that both the 'enterprise' form becomes inserted within the educational body or fabric (Foucault 2008, p. 241) and a distinct set of economic forms is generalised through multiple processes of unbundling of educational institutions and experience: *branding*, *selling*, *rentiership* and *assetization*. The educational individual is positioned within a 'framework of a multiplicity of diverse [EdTech enterprises and platforms] connected up to and entangled with each other, [...] which are in some way ready to hand for the individual, sufficiently limited in their scale for the individual's actions, decisions, and choices to have meaningful and perceptible effects, and numerous enough for him not to be dependent on one alone' (Foucault 2008, p. 241). At the same time, the educational lives of individuals — and their relationships to knowledge, learning activities, educational content, teaching and so on — are made into a sort of permanent and multiple economic experience, with education being subject to business models which penetrate and operate within the fine grain and inner texture of the educational experience. McCowan (2017 p. 17) suggests that this may result in 'the loss in the relational aspects of learning and opportunities for dialogue and broader experiential learning'.

What is at stake here, is an extension of an articulated economic model that combines the relations of supply and demand and the chains of investment-costs-profit, rentiership and assetization 'so as to make it a model of [educational] relations and of existence itself' (Foucault 2008, p. 242), a form of relationship of the individual to itself, to other educational subjects, to the educational spaces and time, to the teaching and learning experience. Such an extension occurs in a social field that has been relatively but not exclusively non-economic, and reinforces at the epistemological, political, and ethical levels 'the possibility of giving [an] economic interpretation of a whole domain previously thought to be non-economic' (Foucault 2008, p. 219). As we have argued above, this extension is articulated through a narrative that emphasizes a set of 'warm moral and cultural values […] which

are presented precisely as antithetical to the "cold" mechanism of competition' (Foucault 2008, p. 242).

Thus, EdTech and platformization are at the center of the processes of de-institutionalization and re-institutionalization of education, via economic-oriented structures, mechanisms, and forms of recognition, and through the technological mediated reassembling of educational provision. This brings about the creation of new forms of algorithmic governance of education and the re-intermediation of educational relations, with the State and public governments being disempowered in their role as intermediaries and 'platforms targeting children, students, parents and staff directly' as consumers/users (Komljenovic 2021, p. 9). As such, they are involved in private governance relations that become unaccountable to the public (ibid. p. 8).

In contrast to the apoliticizing effects of the narratives that articulate these transformations, there are profound ethico-political implications here. The nexus between the gift strategy and the persuasive dynamics of branding makes these processes of change 'resistant to critical inquiry' because of their capacity to appeal to positive notions of openness, democracy and inclusion, creating new and digitally re-intermediated 'geographies of closeness' (Burns, 2019, 1104) between EdTech providers and educational subjects as end-users. As we have emphasized, branding valorizes products, and at the same time links EdTech products and solutions 'to lifestyles, politics, and even social activism they can shape consumer habits as well as political, social, and civic participation' (Beltz-Imaoka 2017, p. 8). In terms of education governance, this shifts the locus of control from the State and public governments or even 'the technological parameters of [educational] content production, distribution, and consumption' in favor of 'a growing class of globally operating digital gatekeepers' (Beltz-Imaoka 2017, p. 2). The oligopolies established through branding, selling, and renting in education thus result in a 'political project of reducing the state's roles and responsibilities' and expanding the operations of private capital (Burns, 2019, p. 1114). At the same time, the growing role of EdTech developers and providers as new intermediaries that connect supply and demand and

create teachers and students as *prosumers* 'depends on sustained public and private-sector cooperation and partnership' (Beltz-Imaoka 2017, p. 9).

Building on those forms of cooperation and partnership (as in the case of *rentiership*), platforms, EdTech companies, the State, the many intermediaries (e.g. EdTechUK, Naase, BETT, HomeLearningUK, BESA, EdTech Evidence Group, InnovateMySchool, to name few examples from a study of EdTech policy developments in England - see Peruzzo et al. 2022), schools, teachers and students all become part of a process of education world-making, that captures educational life in an enclosed, commercialized and managed market-like realm and encapsulates in it the cultural and political norms of business and, in particular – what Hands (2013) calls 'Platformitivity'. Following Komljenovic (2021), two aspects need to be emphasized here. First, as we have discussed, profit-making and rentiership involve the insertion of a form of contractual regulation into the education sector and the financialization of education, involving a move 'from production and commodities to assetization and rents' (Komljenovic, 2021, p. 6). Second, what is contractualized and financialized is a particular kind of market, where it is possible to observe a particular interplay between oligopoly and competition. As an economic form, rentiership tends to create oligopolistic enclosures and protect them from competition and innovation, and this is a condition for the full development of asset potential. Within this market environment the ownership and control of technologies, products, content and metadata and their further development and exploitation, is privileged. As (Komljenovic, 2021, p. 10) aptly observes, 'it is about who determines the future [of education as a marketplace], how they do it and what it means for everyone else'.

Of course, here we acknowledge that the pandemic and the related speeding up in the platformization of education can be understood as distinctive events in the moralization of the EdTech market and the further expansion of neo-liberal governmentalities and neo-liberal visions of education and education governance. However, at the same time, we recognize that it is important to recognize degrees of 'difference' and variety within this process of expansion. There is a multiplicity of new forms of value construction in the emerging political economy of education, which are not limited to

the production and exchange of commodities, the generalization of the buyer-seller relation and the moral ascendancy of the entrepreneurial but also include other economic processes and figures like branding/brand, *assetization*, *rentiership* and the *rentee-rentier relations* (see Burns 2019; Komljenovic 2021; Langley and Leyshon 2016).

When facing the paradoxical mix between the incipient neoliberalization of education through platformization and the multiplication of 'difference' and variety within this process, we outline here the need for a detailed public and critical scrutiny of these emerging economic forms and business practices now operating in education through the dissemination and normalization of digital platforms as an 'urgent and necessary' version of teaching and learning. Scholars, but also public authorities (the State, supranational institutions but also local governments), policy makers, educators, parents and students should concomitantly engage with a problematization of the related processes of education world-making, commodification and financialization, competition and monopoly, entrepreneurialization and re-moralization that are being played out. This is necessary in order 'to render visible the neoliberal power structures of governance at play' (Beltz-Imaoka 2017, p. 9) in the branding, selling, renting, and turning into assets digital products and services addressed to the education sector. What is needed is careful critique but more generally the problematization and questioning within the public debate of these new digital arrangements as processes changing how education is experienced and what it means to be educated. Echoing van Dijck, Poell and de Waal (2018), what we advocate for is a diffused responsibility for unveiling the value 'non-neutrality' of digital ecosystems and for 'anchoring public values in societies that are increasingly organized through online systems', where interconnected public constituencies force platforms owners and operators to submit to public scrutiny hidden platforms business models, use interdependencies for the advantage of the public good (platforms' success is foten highly dependent on private and public investments) and subject them to regulation and professional norms and standards. As our analysis hopefully makes clear, a fundamental part of this effort is to avoid any confusion between the creation of public value toward the common good and 'the creation of economic value serving a nondescript

amalgam of private and public interests' (van Dijck et al 2018 p. 23), while instead to articulate which public values and interests are at stake in any specific platformized education context and process. Public actors, professionals and civil society are continuously captured and reconfigured within a neoliberal moral economy through the platformization of education, but can yet play an important role as promoters of public value raising questions of accountability and democracy, of transparency and trust. To make this possible, we need informed analyses of how Platformization works: 'understanding how platform mechanisms reshape societies may in turn help us understand how societies can govern platforms' (van Dijck et al 2018 p. 30).

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