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DIGITAL DOLLAR?

AN EXPLORATORY STUDY OF THE INVESTMENTS BY IFC IN THE INDIAN EDUCATIONAL TECHNOLOGY SECTOR

IN COLLABORATION WITH IT FOR CHANGE SOCIAL SERVICES, BENGALURU

Disclaimer

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Executive Summary

EdTech[1] in India got funding of 3.8 billion from venture capitalists in 2021 and has a future valuation of USD 30 billion. Accordingly, this study examines the World Bank International Finance Corporation's (IFC) investments in this sector, particularly the extent of investee companies' compliance with the IFC's mandate and the aims and priorities of Indian education. These companies include two of the five Indian EdTech privately held startup companies with a value of over $1 billion in existence. The study is largely based on desk research, complemented with interactions with select experts in the education and EdTech spaces.

Five of the 20 investments made in the education sector in India were in EdTech companies. The study identifies the following issues with IFC investments:

- Inadequate disclosures on project performance which fail to provide information salient to the educational sector like improvements in access, quality, equity and inclusion.

- Inconsistent standards for assessing EdTech projects over time with the recent biggest investments not consistently and inadequately capturing educational impact.

- Inadequate monitoring and assessment of social risks by excessively relying on corporate self-declaration; in so doing it appears to assume that the existence of policies is equivalent to compliance and it is unclear how the IFC is responding to information related to consumer complaints, court orders, labour practice reports etc. or whether it is cognizant of the high externalities associated with the rapid scaling of technological solutions in education.

- Lack of transparency on investments through financial intermediaries make project tracking for accountability impossible.

A review of the investee companies reveals that there are serious gaps between the work of these companies, and the priorities of Indian education, with respect to questions of access, affordability and inclusion; adherence to labor, environment and child protection standards, and quality of services. The larger impact of mainstream EdTech risks diluting the role of the teacher and weakening the public education system.

The report recommends that IFC needs to conduct a serious evaluation of its protocols and processes for funding EdTech companies. It needs to be more transparent about the design, monitoring, and assessment of its funding, in line with its role as a public institution, to ensure that such funding does not harm its development mandate. Thirdly, it needs to institute monitoring mechanisms that can regularly and adequately assess if the funded entities conform to the funding norms and exit if they are not.

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[1]EdTech a term that popularly refers to the provision/use of digital technologies in education, including through commercial products and services.

INTRODUCTION

EdTech and its rise during COVID-19 in India

EdTech has been rapidly growing in India over the last decade. EdTech businesses' founders have prophesized that the digital paradigm will transform the future of education, relegating physical classrooms and teachers to a pre-modern "chalk and duster era",[2] thanks to the new possibilities unleashed by the 'gamification of education and the 'hyper-personalization' of learning[3]. The next decade (2020-2029) is expected to see up to $87bn of global EdTech funding.[4]

It is, however, during the pandemic that India's EdTech market saw rapid growth even as several industries suffered shutdowns and losses. Education technology startups globally secured $16 Billion in venture capital funding in 2020 alone, more than double the $ 7.1 Billion funding in 2019.[5] EdTech in India got funding of 3.8 billion of venture capitalist funding in 2021.[6] While some of the rising profits that had prevailed during the peak of the pandemic has somewhat subsided[7],[8], the EdTech market is estimated to reach the USD 30 billion mark by 2030[9]. India has five EdTech unicorns- startup company with a value of over $1 billion[10]. The sector's future evaluation is pegged at USD 30 billion which is more than double that of India's education budget. This has grown during the pandemic with a 30% increase in the time spent on education apps on smartphones reported since the lockdown[11]. Language apps[12], virtual tutoring[13], video conferencing tools, or online learning software[14], saw a significant surge in their usage[15]. As schools and colleges remained closed, teachers had no way to reach their students, and it became increasingly necessary to integrate technology into education. While this was potentially inevitable given the suddenness of the spread of the COVID- 19 pandemic, India's schools remained off for an inordinate time, seemingly creating a reliance on educational technology[16]. Online platforms also launched aggressive marketing campaigns urging recent high school graduates "not to go to college."[17]

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[2]Digital or nothing: the future of EdTech and online education in India. cnbctv18.com. (2021). Retrieved 18 May 2022 from https://www.cnbctv18.com/technology/digital-or-nothing-the-future-of-EdTech-and-online-education-in-india-9456031.htm.

[3] rown, G. (2021).Predictions for the future of EdTech from industry thought leaders - Education Technology. Education Technology. Retrieved 18 May 2022 from https://EdTechnology.co.uk/people-policy-politics/predictions-future-EdTech-from-industry-thought-leaders.

[4] $87bn+ of Global EdTech funding predicted through 2030. $32bn last decade. Holoniq.com. (2020). Retrieved 18 May 2022 from https://www.holoniq.com/notes/87bn-of-global-EdTech-funding-predicted-to-2030.

[5]$16.1B of Global EdTech Venture Capital in 2020. Holoniq.com. (2021). Retrieved 18 May 2022 from https://www.holoniq.com/notes/16.1b-of-global-EdTech-venture-capital-in-2020

[6] https://www.holoniq.com/notes/global-edtech-venture-capital-report-full-year-2021/

[7] https://inc42.com/features/indian-edtech-startup-bubble-bursts-as-byjus-unacademy-co-downturn/

[8] https://www.business-standard.com/article/companies/edtech-firms-build-brick-and-mortar-centres-across-india-to-woo-students-122062801436_1.html

[9] https://kr-asia.com/indias-edtech-market-to-grow-5x-to-reach-usd-3-5-billion-by-2022-blinc-invest

[10] https://www.holoniq.com/edtech-unicorns/

[11] https://www.oxfamindia.org/edtechbrief

[12] https://www.forbes.com/sites/mergermarket/2020/04/15/language-learning-apps-are-seeing-a-surge-in-interest-during-the-covid-19-pandemic/?sh=59a6e1fb48f4

[13] https://www.thestar.com.my/tech/tech-news/2020/03/23/covid-19-online-tutors-boosting-incomes-as-demand-surges-due-to-coronavirus-lockdowns

[14] https://www.zdnet.com/article/online-learning-gets-its-moment-due-to-covid-19-pandemic-heres-how-education-will-change/

[15]Li, C., & Lalani, F. (2020).The COVID-19 pandemic has changed education forever. This is how. World Economic Forum. Retrieved 18 May 2022, from https://www.weforum.org/agenda/2020/04/coronavirus-education-global-covid19-online-digital-learning

[16]After Uganda, India Saw Longest Covid-Induced School Closures, Says Government Citing UNESCO Report. NDTV. (2022). Retrieved 18 May 2022 from https://www.ndtv.com/education/after-uganda-india-saw-longest-covid-induced-school-closures-says-government-citing-unesco-report.

[17]Janetsky, M., & Ormerod, A. (2021).The pandemic is giving start-ups a shot at replacing teachers with technology. Rest of World. Retrieved 18 May 2022 from https://restofworld.org/2021/the-pandemic-is-giving-tech-leaders-a-shot-at-replacing-teachers-with-technology.

One of the organizations that has invested in EdTech companies in India has been the International Finance Corporation (IFC). This report examines IFC's funding of EdTech in India. It explores the issues and challenges with respect to this funding while recommending specific actions for IFC, governments and civil society.

The IFC and its investments in education

The IFC is a member of the World Bank Group that invests in the private sectors of emerging markets. It is the largest multilateral investor in private education in emerging markets[18]. The World Bank Group's stated objectives include ending extreme poverty and promoting shared prosperity – and specific to education, reducing learning poverty by half by 2030, (cutting by at least 50%, the number of children who cannot read and understand a simple text by age 10[19]). The IFC describes itself as "one of the few international financial institutions that set corporate targets for direct development impact[20]."

IFC's current portfolio in education (including EdTech) is approximately $560 million. Recently, responding to growing concerns on the rampant commercialization and commodification of education in low-income countries caused by the use of public aid to fund privatization of the education sector, IFC itself announced a freeze on investments in private for-profit primary and secondary (K-12) schools in April 2020.[21] Following a report of the World Bank's Independent Evaluation Group (IEG) in June 2022, the IFC announced that it would not resume such investments, citing a number of challenges including weak financial results and the "potential for investments in private K–12 schools to exacerbate inequalities and have unintended, undesirable spillovers into the public sector school system."[22] Separately, one of the areas of priority for its lending has been in EdTech entities. IFC intends to continue to support education technology and digitalization in the K-12 sector[23] though as this report suggests, some of the issues that afflict for-profit schools will also be relevant for EdTech.

Objectives, scope, and methodology of the study

The study evaluates the investments that IFC has made in EdTech in India:

1. To explore how IFC's investments in EdTech in India have been in line with its mandate, and how have they impacted the realization of the right to education, and the overall interests of children.

2. To examine the extent of adherence with respect to human rights and other regulatory obligations, of the companies funded by IFC.

3. To develop recommendations for IFC, the Government of India and civil society to ensure adequate accountability in their investments in EdTech.

The study was conducted primarily through desk research, reviewing information available in the public domain. This included official policy documents of IFC and World Bank, the information disclosed by IFC in their disclosures section, and through scanning media reports on the investees. In addition to examining the IFC website, we undertook a systematic review of web-based/web-hosted resources on the IFC's support on educational technology and the performance of IFC investee companies. We conducted discussions with experts to seek specific inputs to triangulate what was gathered through desk research. The experts included retired senior employees of the Central Institute of Education Technology, NCERT and the education team of the World Bank. We also sent emails to BYJU's, upGrad and IFC in Nov 2021 seeking

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[18]IEG, 2021, World Bank Group, Evaluation of IFC investments in K-12 Private Schools – Approach Paper

[19]Education Overview. The World Bank. (2022). Retrieved 18 May 2022 from https://www.worldbank.org/en/topic/education/overview#2.

[20] https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/development+impact

[21]Raj, A. (2020).A Big Win- IFC World Bank to Freeze Investment in For-Profit Schools. Centre for Financial Accountability. Retrieved 18 May 2022 from https://www.cenfa.org/blog/world-bank-groups-ifc-has-decided-not-to-fund-for-profit-private-school-educational-institutions-a-big-win-of-civil-society-organizations.

[22]IFC Management Response to the World Bank Independent Evaluation Group (IEG) An Evaluation of International Finance Corporation Investments in K–12 Private Schools (June 2022) https://ieg.worldbankgroup.org/evaluations/evaluation-international-finance-corporation-investments-k-12-private-schools-7

[23] https://ieg.worldbankgroup.org/evaluations/evaluation-international-finance-corporation-investments-k-12-private-schools-7

information on specific questions relating to the development impact of the investments, however, we did not receive a response from them.

A study of the IFC site was a key part of our desk research. In the disclosure section[24] of the IFC website, we selected the country filter "India" and used the keyword "education", in combination with a number of filters listed in the table

Table 1		
Filter	Records shown	Shortlist
Industry – Health & Education	134	6
Industry – Financial Institutions	38	9
Private Equity Funds – Project Sub-Disclosures	13	5
Public-Private Partnerships	8	0
Financial Intermediary (FI Sub-Disclosure)	1	0
Development Results	15	0
Total		**20**

below. After reviewing the project descriptions to understand if the investment was linked to education, we identified a total of 20 records pertaining to IFC's investments in education in India from 2000 until the end of 2021 for our study. Five of these 20 are direct investments in EdTech companies, nine are investments through financial intermediaries and five are through Private Equity (PE) Funds which are investing in multiple sectors that could include education.

Since the scope of this report is restricted to EdTech investments, we **focused on the direct IFC investments in five EdTech companies**. These include – BYJU's, upGrad, NIIT - Hole in the Wall, e-Gurucool and Educomp. PE funds that are focused on EdTech (e.g. Kaizen Private Equity), or NBFCs provide financing for education (e.g. DHL Eduventures) are not part of this analysis. Investments made through such intermediaries cannot be identified to specific companies, as information on allocations made by the intermediaries is not available.

Table 2: Development Impact Themes across the six investments
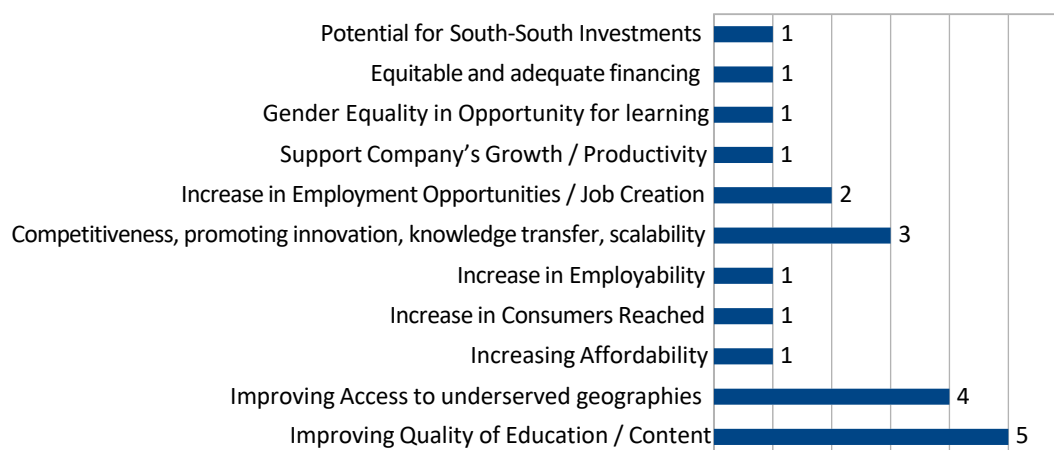
Table 3: Basic information on the six investments (as reported)				
EdTech entity	**Year invested**	**Million USD**	**Aim of investment**	**Status**
upGrad	2021	15 (Equity)	- Increased access to upskilling services, potentially resulting in higher employability and income for the learners and improved productivity for businesses. - Maintain the competitiveness of the higher education sector in India by inducing other online education platforms and institutions to up their game through innovation, thereby maintaining the growth of the online education segment, beyond the Company.	Active
BYJU's	2016	15 (Equity)	- Democratization of access to affordable, high-quality education in underserved geographies: Given the overall shortage of quality teachers available for students in most emerging markets, BYJU's will use disruptive technology to enable easy access to quality education for K-12 students. Currently, more than 43% of students on BYJU's platform are from outside India's top-10 cities. The company intends to expand the coverage of its curriculum to include several subjects and grades.	Active
Educomp	2012	15 (Equity) & 40 (Loan)	- Improving quality education in India, both in public and private schools and in tertiary education, through its learning management systems and technology products, tutoring, assessments/test preparation, and teacher training services. - Promoting innovation, knowledge transfer and scalability in the Indian education sector - Bringing about a significant demonstration effect that the use of technology in education can effectively help improve learning outcomes.	Active
NIIT-Hole in the Wall	2001	1.65 (10% pref shares in SPV)	- Education, through access to information and access to teaching. Distance learning is a valuable tool in the struggle to overcome resource constraints in developing world education. - Development of equal learning opportunities for both boys and girls in urban and rural areas of the country. Children from the lowest-income families will benefit.	Completed
eGurucool.com	2000	0.25 (2.4% stake in the company)	- eGurucool.com has a comprehensive range of content. This includes academic curricula for schools through tailored tutorials, tutoring and testing for competitive examinations, academic content for graduate studies, career counselling, and a 24-hour online help-line for students appearing for board exams.	Completed

companies

IFC's investments in this sector are largely focused on the K-12 segment, although some of the investments include a focus on tertiary education. eGurucool.com was IFC's first investment in a web-based education company[25]. The IFC investment in this sector has been taking place over the last twenty years, but the quantum of investment has increased significantly over the last decade. The IFC's Education Investment guide[26] has highlighted the need for their investments to focus on enterprises with viable and scalable models, those that promote affordability and education quality and convergence through sharing best practices and partnerships.

[25] It was acquired by NIIT in 2003. https://www.afaqs.com/company-briefs/243_niit-acquires-egurucool

[26] *https://www.ifc.org/wps/wcm/connect/7a4867c2-7091-4b1d-9c83-54364b759a68/EduInvestGuide.pdf?MOD=AJPERES&CACHEID=ROOTWORKSPACE-7a4867c2-7091-4b1d-9c83-54364b759a68-jkCXNnX*

OBSERVATIONS AND ANALYSES BASED ON DISCLOSURES MADE

Inadequate disclosures on project performance

Apart from providing a high-level overview of the expected development impact of each of its projects, the IFC website does not provide any details on how these expected impacts translate into educational outcomes or how companies were held accountable for achieving specific metrics in areas such as access, quality, equity and inclusion. Additionally, for completed projects, there is no information available on the extent to which the investments were able to meet their stated objectives. This aligns with similar conclusions from an IEG initial review of IFC's K-12 investments, where it was found that at the screening stage, the project objectives did not address the impact of its investments on educational outcomes, access, poverty and inequality[27]. The lack of adequate information on these parameters made it very difficult for us to assess the extent of the development impact of IFC's investments even when we tried to apply their own standards.

Lack of consistent impact measurement standards for EdTech projects

Developmental impact is not consistently captured across projects. Some of the older projects prioritized educationally salient metrics like learner to teacher ratio, prevalence of full-time staff in faculty, accreditation (tertiary and vocational), percentage of teachers with required qualifications (K12) and employment rate within 12 months of graduation (tertiary and vocational). In contrast, metrics for BYJU's and upGrad prioritize parameters such as reduction in transaction and processing times due to reduced bottlenecks, digitization of supply chain, change in product variety/customization, ICT training for users, etc. which give no indication of the impact on learning or education. The use of such metrics means that IFC may consider the project successful, even though the actual impact in terms of educational outcomes could be poor, and vice versa. As is explained later, education should drive the design of EdTech, rather than technology itself.

IFC's ex-ante impact assessment tool - the Anticipated Impact Measurement and Monitoring (AIMM) framework was introduced in 2017 to better define measure and monitor the development impact of each project[28]. Only one out of the seven projects cited in the report are AIMM assessed (UpGrad) because the rest pre-date AIMM. Different frameworks are now integrated to evaluate a single project, and this is the case for EdTech. However, as things stand, there is also a lack of transparency about the impact achieved by existing investments. While it is possible that the new AIMM system will help to address this lack of transparency, this remains to be seen.

The IFC states that the full details pertaining to development outcomes/AIMM scores and impacts cannot be disclosed since this normally contains commercially sensitive data that its clients do not agree to publicly disclose. However, this does not minimize or negate the need for transparency regarding the impact to be achieved by the investments. Here the vendor's need for opaqueness (to protect profitability) directly conflicts with the learner's need for transparency (to protect privacy and prevent exploitation). Privileging the first need is a political choice, which may not be in line with public welfare goals of education, and raises the issue of IFC's potential conflicting accountability to the primary stakeholders.

See the table for this classification adopted by IFC.

Table 4		
Investee Name	IFC Industry Tagging	IFC AIMM Tagging
UpGrad	Health and Education	Disruptive Technologies and Funds-VC Direct Investment
BYJU's	Health and Education	Disruptive Technologies and Funds-VC Direct Investment
S Chand	Health and Education	Manufacturing, Agribusiness & Services (MAS)-Education
E-Gurucool	Health and Education	Manufacturing, Agribusiness & Services (MAS) - Education

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[27]IEG, 2021, World Bank Group, Evaluation of IFC investments in K-12 Private Schools: Approach Paper, this is referred to for other comments in this section as well.

[28]Measuring Impact by Sector. International Finance Corporation. Retrieved 18 May 2022 from https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/development+impact/aimm/measuring-impact/measuring-impact.

NIIT Hole in the Wall	Health and Education	Manufacturing, Agribusiness & Services (MAS) - Education
Educomp	Health and Education	Manufacturing, Agribusiness & Services (MAS) - Education

Inadequate assessment and monitoring of social risks

IFC's Environmental and Social Performance Standards define IFC clients' responsibilities for managing their environmental and social risks.[29] IFC prepares an Environmental and Social Review Summary (ESRS) to disclose its findings and recommendations related to environmental and social considerations regarding potential investments. These assessments are made across a set of applicable performance standards ranging from labour and working conditions to community health safety security and cultural heritage[30]. IFC states that the project documentation or data included in the ESRS section may be prepared by the project sponsor themselves and it does not necessarily independently verify it. So, it appears that IFC is relying on a self-declaration process for risk assessment, which presents a potential conflict of interest for the project sponsor. It seems that IFC sees social risks and their mitigation largely through ensuring the existence of policies and processes, such as the development of human resource policies, emergency response plans, safety standards, non-discrimination practices, etc.[31] In contrast, the extent of compliance with these policies is hard to ascertain based on corporate (e.g. annual or audit reports) or IFC disclosures. Such a lens can be narrow as it assumes that the existence of policies is equivalent to compliance.

IFC states that it monitors the environmental and social reports of its investee companies through two modes: site visits from IFC staff and submission of the client's Annual Monitoring Report on progress in meeting the E&S terms of the investment agreement.[32] The information from these processes is not available in the public domain, hence it is unclear how IFC is responding to information relating to consumer complaints, court orders, labour practices reports etc. of its investee companies that appear in the public domain largely through media and newspaper reports. For example, does IFC interview staff of the investee companies as part of these site visits? Do they independently speak to the consumers of their services? How do they verify the reports submitted by the investee companies? There is no information available on crucial questions such as these.

Overall, the definition of "risk" in ESRS seems narrow and the process for ascertaining such risks is inadequate. One benefit of EdTech is its ability to scale up, the flip side of this is that negative impact and externalities can also easily scale. Hence, EdTech warrants much closer scrutiny with respect to such risks.

Lack of transparency on investments through financial intermediaries

As mentioned before, in our analysis we were able to find only six direct investments in EdTech companies in India, the rest of them were through financial institutions and PE Funds. In the case of many PE funds, there was no information on the investee companies even though it was expected that the funds would invest in education. In the case of investments through financial institutions, it is unclear which of these investments were being channelled into education-related, particularly EdTech focused, activities. This makes it hard to estimate the total size of IFC's education portfolio in India.

More broadly speaking though, this is consistent with IFC's practice of channelling significant portions of its funding through intermediaries. A report found that between July 2009 and June 2013 the IFC invested $36

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[29] *Performance Standards*. International Finance Corporation. Retrieved 18 May 2022 from https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Policies-Standards/Performance-Standards.

[30] International Finance Corporation. n.d. *Understanding IFC's Environmental and Social Due Diligence Process*.https://www.ifc.org/wps/wcm/connect/aa10e586-be7e-46b8-91c3-cc5e98af6f3d/IFC+Process.pdf?MOD=AJPERES&CVID=jUzk.Hj

[31] *Disclosure- BYJU's.* International Finance Corporation. Retrieved 18 May 2022 from https://disclosures.ifc.org/project-detail/ESRS/38562/BYJU-s.

[32] International Finance Corporation. n.d. *Understanding IFC's Environmental and Social Due Diligence Process*.https://www.ifc.org/wps/wcm/connect/aa10e586-be7e-46b8-91c3-cc5e98af6f3d/IFC+Process.pdf?MOD=AJPERES&CVID=jUzk.Hj

billion in Financial Intermediaries, which was three times as much as the amount that the rest of the World Bank Group invested directly into education and 50% more than the investment in health care.[33] In 2020, 60% of the IFC's entire investment portfolio (amounting to $6.7 billion) was via financial intermediaries.[34]

There is no information available about how this approach of investing in intermediaries would allow IFC to monitor the actual use of its funds towards the achievement of its aims. "IFC has, through its banking investments, an unanalyzed and unquantified exposure to projects with potential significant adverse environmental and social impacts...... Absent disclosure of information related to these projects, this exposure is also effectively secret and thus divorced from systems which are designed to ensure that IFC and its clients are accountable to project-affected people for delivery on their environmental and social commitments." (2013 CAO report on financial intermediaries[35]). This risk is relevant to EdTech investments through intermediaries, as well.

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[33]K. Mundy, F. Menashy / International Journal of Educational Development 35 (2014) 16–24

[34] Grainger, M. (2021).*New database addresses lack of transparency about financial intermediary investments of IFC, FMO | Oxfam International*. Oxfam International. Retrieved 18 May 2022 from https://www.oxfam.org/en/press-releases/new-database-addresses-lack-transparency-about-financial-intermediary-investments.

[35] International Finance Corporation. (2012).*CAO Audit of a Sample of IFC Investments in Third Party Financial Intermediaries*. IFC. Retrieved from https://www.cao-ombudsman.org/sites/default/files/downloads/Audit_Report_C-I-R9-Y10-135%20%281%29.pdf

EVALUATION OF INVESTEE COMPANIES

In this section, we briefly assess IFC investee companies on the following parameters - access, affordability and inclusion, quality of teaching, corporate adherence to standards (labor, environment, child protection) and measures adopted to strengthen the public education system. We have narrowed down the analysis to focus primarily on four companies - UpGrad, BYJU's, and Educomp. E-gurucool.com has been taken over by NIIT and very little relevant literature was available on it. Many of the projects are over a decade old and the sector has evolved since then. Accordingly, most of the analysis relies on the more recent investments.

Concerns about inadequate access, equity, and inclusion

Two-thirds of the world's schoolchildren do not have access to the internet at home. Even when children have a connection at home, their access to it is mediated by factors such as affordability, connection quality, lack of sufficient devices, low levels of digital literacy, gender differences in phone use, etc., this is referred to as the second digital divide[36]; which is the gap between those with capacities to benefit from computer use from those without it. Research studies from India, such as one conducted by Accountability Initiative, Centre for Policy Research[37] revealed that only a small minority of students can access digital devices to attend online education. Within a family, boys are given priority over girls in accessing devices. When issues of connectivity are considered, the numbers reduce even further. Before the start of the pandemic, among the poorest 20% of households in India, only 2.7% had access to a computer and 8.9% to internet facilities. 96% of STs and 96.2% of SC households whose children are in school lacked access to a computer[38].

During the pandemic, the inequities with regard to access to EdTech became more pronounced. For instance, a survey across four Indian states conducted by the Centre for Budget and Policy Studies found that in more than 70% of households, the phone belonged to a male member. Only 26% of the girls who responded to the survey said that they had unhindered access to phones at home, and girls spent a disproportionate amount of time on chores and care work and less on education (Ghatak et al.,2020). Other studies have identified that only 4% of students in rural areas have access to essential digital infrastructure; for urban areas, this is less than 20%. Only 4% of SC and STs, 8% of Muslims and 7% of OBC students, and only 2% of students from the lowest income quintile, had access to essential digital infrastructure. (Reddy et al., 2020). These figures indicate that any reliance on EdTech could serve as a strong basis for inequity and exclusion in education.

One of IFC's investee companies is BYJU's, which is the largest for-profit provider of digital education content in India. BYJU's offers a series of learning modules for students from Grade 4 to 12, as well as exam preparation for several state and national level competitive entrance exams at the college level. Until October 2021, BYJU's learning model was fully online and was delivered through an app, which meant that all its learners were individually required to have a smartphone (or purchase tablets from them) and be digitally literate to avail of their lessons. According to BYJU's only one-third of its learners are from outside metropolitan areas, and through its Education for All initiative,[39] the company has reached 3.5 million children from underserved communities with over 100 NGO partners since 2021. In the case of upGrad, this level is claimed to be 85 percent of learners. However, in the absence of statistics on income groups that it has been able to reach, and based on what we know about the digital divide, the claims cannot be assumed to mean the inclusion of historically disadvantaged groups.

It is also unclear to what extent issues of social exclusion and appropriateness of content for Dalit and Adivasi learners have been addressed. The highly inequitable access to EdTech mentioned earlier indicates that EdTech

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[36]Trucano, M. (2010).*The Second Digital Divide*. World Bank Blogs. Retrieved 18 May 2022 from https://blogs.worldbank.org/edutech/the-second-digital-divide#:~:text=One%20of%20the%20key%20findings,computer%20use%20from%20those%20without.

[37]*Coalition releases Research Brief – Education Emergency*. Education Emergency. (2021). Retrieved 18 May 2022 from https://educationemergency.net/2021/09/coalition-releases-research-brief.

[38]Oxfam India. (2021).*The Inequality Virus- Davos Supplement*. Oxfam International. Retrieved from https://d1ns4ht6ytuzzo.cloudfront.net/oxfamdata/oxfamdatapublic/2021-01/The%20Inequality%20Virus%20-%20India%20Supplement%20%28Designed%29.pdf?RrFsF8iTfT.g_PfT0H7HLpMvSTrb.M_

[39] https://byjus.com/educationforall/

solutions can only reinforce such inequities. Secondly, most EdTech tools are available in a small minority of languages (11 regional languages in the case of BYJU's for example) which are different from the languages spoken in children's homes. Structurally market goods promote inequity by stratifying offerings based on 'as you pay' principle. Richer customers access costlier offerings and the poor can afford cheaper products and services which translates into unequal educational provision. Similarly, Tech products provided "free" to the user meet their expenses through monetization of user data. Privacy and dignity should not be a market good which only the rich can afford and the poor need to trade away for services.

In the case of upGrad, its claims to fill the employability deficit created by the current static nature of curriculums in formal schools and colleges (that does not equip them to keep pace with the fast-changing dynamics of the learning environment), however, has the potential to lead to exclusions and further inequity, especially because access to courses offered by upGrad require adequate social capital (knowledge of English and ability to clear entrance tests) and economic resources (a smartphone with an internet connection at the minimum).

Risks from unethical practices, unaffordability, and regulation

BYJU's subscriptions are reported to have increased by 60% after it made its app free for a short time at the start of the pandemic[40]. While expanding its paid business, it also aims to expand its free education program to 1 crore students in rural and remote areas by 2025 and has partnered with 128 NGOs to provide free education; it seeks to educate one student free for every new paid student.[41] NITI Aayog has also partnered with BYJU's to deliver free education to children from 112 aspirational districts[42].

This commendable public commitment, however, is accompanied by consistent media reports alleging unethical hard-sell tactics to middle and lower-income groups by BYJU's[43,,44]. BYJU's business model works on a freemium subscription. In this model, parents/students are encouraged to sign up for a 15-day free trial, and their activity on the app is available to BYJU's. At the end of the 15 days, sales agents reach out to the parents and persuade them to sign up for a paid subscription for any period between 1 and 8 years. The free service thus serves as a basis for harvesting data about students and their families. Secondly, there have been numerous reports of consumers filing complaints about not receiving refunds on cancellations of services despite repeated reminders to BYJU's[45]. Ken, a daily that covers start-ups, analyzed 110 complaints[46] against BYJU's in several consumer complaint forums and social media platforms and found that 54 of the complainants did not know they were signing up for a loan for financing their subscription. Mainstream newspapers have begun carrying articles exposing the unethical practices of EdTech companies[47]. The investigation also noted

[40]*BYJU'S announces free access to its learning app amid COVID-19 crisis*. The Economic Times. (2020). Retrieved 18 May 2022 from https://economictimes.indiatimes.com/small-biz/startups/newsbuzz/BYJU's-announces-free-access-to-its-learning-app-amid-covid-19-crisis/articleshow/74578778.cms.

[41]*BYJU'S announces free access to its learning app amid COVID-19 crisis*. The Economic Times. (2020). Retrieved 18 May 2022 from https://economictimes.indiatimes.com/small-biz/startups/newsbuzz/BYJU's-announces-free-access-to-its-learning-app-amid-covid-19-crisis/articleshow/74578778.cms.

[42] *BYJU's enhances free education target from 50 lakh to 1 cr by 2025. Read here*. Mint. (2022). Retrieved 18 May 2022 from https://www.livemint.com/companies/BYJU's-to-expand-free-education-prog-to-cover-1-cr-students-by-2025-11644505474429.html.

[43] https://restofworld.org/2021/inside-india-edtech-byjus/

[44] https://officechai.com/startups/byjus-predatory-pricing-raised-in-indian-parliament/

[45] Singh, A. (2022).*Hard sells and 'toxic' targets: How Indian EdTech giant BYJU's fuels its meteoric rise*. Rest of World. Retrieved 18 May 2022 from https://restofworld.org/2021/inside-india-EdTech-BYJU'S/.

[46] Banerjee, O. (2022).*The making of a loan crisis at BYJU's - The Ken*. The Ken. Retrieved 18 May 2022 from https://the-ken.com/story/the-loan-crisis-at-BYJU'S/.

[47]Hindu and Deccan Herald, see Rao, M. (2022).*The bait and hook of EdTech*. The Hindu. Retrieved 18 May 2022 from https://www.thehindu.com/education/the-bait-and-hook-of-EdTech/article65320492.ece. and Gowda, V. (2022).*Selling hope: Parents fall for ed-tech's false promises*. Deccan Herald. Retrieved 18 May 2022 from https://www.deccanherald.com/specials/insight/selling-hope-parents-fall-for-ed-techs-false-promises-1109289.html.

that the average size of the loans was around 66,000 rupees (a significant 44% of the annual Indian per capita income of around 150,000 per year)[48].

Notwithstanding that these may be construed as stray cases for a company that has 6.5 million paid subscribers, it is not a claim that can simply be ignored, given that cases reported tend to be the tip of the iceberg, and a larger investigation of the subscriptions could throw up more cases. Again, some of these cases pertain to unorganized sector workers, who usually live a hand-to-mouth existence, and the exploitation of their vulnerable contexts runs are hard to reconcile with BYJU's' noble stated aims of making education affordable to underprivileged segments. The increased vulnerability of these workers stems from two aspects – these families are at a severe information asymmetry vis-a-vis BYJU'S sales team, and secondly, their desperate circumstances force the poor in India to take higher risks in seeking education, as a possible path for socio-economic mobility.

In a recent survey, 96% of parents wanted stronger regulation of the sector[49]. The issue of EdTech companies' malpractices was raised in the Indian parliament50 recently, and the Ministry of Education has issued an advisory,[51] cautioning parents and students to exercise due care before accepting the claims of EdTech companies regarding their courses. The minister has subsequently announced the start of a process to formulate a policy to regulate EdTech. Such regulation would primarily aim at preventing unethical and illegal practices to lure, retain and exploit customers/users.

Affordability would also be an issue in the case of upGrad, an online education startup that produces industry-relevant learning programs in areas such as digital marketing, data analytics, and product management, primarily targeted at working professionals. upGrad highlights as its achievement that it has on-boarded over 30K paid learners and impacted more than half a million individuals within a short span of 5 years.[52] The cost of its courses ranges anywhere from INR 99,000/- (USD 1,337 approximately) for a five-month certificate course to upwards of 1,00,000 to 2,50,000 (USD 1,351 to 3,378 approximately) per annum for a two or three-year course.[53] These courses are likely to be unaffordable in India where the median salary earned by a working professional is INR 16,000 per month (USD 216 approximately)[54].

The higher education regulatory institutions UGC and AICTE issued a circular in January 2022[55] that no higher education institution should outsource its online/digital education program to EdTech companies, as there have been numerous complaints of malpractices by these companies. With this, the business model of upGrad will be affected, since it re-brands courses offered by other institutions.

While the stated rationale and development impact for each of these companies has objectives relating to access, affordability and inclusion parameters, their actual contribution to such education objectives is hard to assess. This is especially true when the choice of metrics for these projects conflates 'reach' in terms of percentage increase in users, penetration and access statistics, etc. with impact, and when commitment to the delivery of free education, or even affordability is compromised through loans that can lead to debt traps.

The case of Educomp empirically illustrates the challenges of a for-profit company attempting to provide affordable and inclusive education. The company had a meteoric rise and a sharp collapse as the case shows.

[48]GDP per capita (current US$) - India, Retrieved 18 May 2022 from https://data.worldbank.org/indicator/ny.gdp.pcap.cd?locations=in

[49]https://www.outlookindia.com/business/edtech-customers-facing-infra-quality-refund-issues-96-seek-regulation-survey-news-200946?utm_source=related_story

[50] *Karti Chidambaram questions practices of EdTech platforms like BYJU's*. The News Minute. (2022). Retrieved 18 May 2022 from https://www.thenewsminute.com/article/karti-chidambaram-questions-practices-EdTech-platforms-BYJU-s-158718.

[51] https://pib.gov.in/PressReleasePage.aspx?PRID=1784582

[52] Become an Authorised Business Associate. upGrad. Retrieved 18 May 2022 from https://programs.upGrad.com/business-associates.

[53]Education (UG/PG) Programs for Professionals, Online Degree Courses | upGrad Great Britain, Europe. upGrad. Retrieved on 18 May 2022 from https://www.upGrad.com/.

[54]Singh, S. (2022).What is Average Salary in India? (2022) - Moneymint. Moneymint. Retrieved 18 May 2022 from https://moneymint.com/what-is-average-salary-in-india/.

[55]See UGC, AICTE warn against "franchise arrangement" between colleges, Ed-tech companies - Times of India. The Times of India. (2022). Retrieved 18 May 2022 from https://timesofindia.indiatimes.com/home/education/news/ugc-aicte-warn-against-franchise-arrangement-between-colleges-ed-tech-companies/articleshow/88952410.cms.

Box: Learning from the case of Educomp

Educomp was founded and run by Shantanu Prakash, an alumnus of IIM-Ahmedabad and Delhi's Shri Ram College of Commerce. It was set up to sell online lessons / digital content as well as provide IT hardware installations to schools. Over the years, it also entered the business of setting up schools. It was the pioneer of the 'Smart class model' – providing hardware and software (and computer faculty as required) for digitally equipping classrooms, which was meant to transform the way teachers teach and students learn in schools.

In 2006, the company was listed at Rs 125 per share. The stock also touched an all-time high of Rs 1,130 in January 2008.[56] By 2012, the revenue through this model touched Rs 1,000 crore, and Educomp set up more than 25 offices across the globe. A series of acquisitions and joint ventures in the education space followed. Educomp spent over $100 million buying stakes in companies that run schools, tutorials and on.[57] In July 2012, IFC invested US$55 million in Educomp, of which US$40 million was by loan, and US$15 million was via equity. At around the same time, Educomp also raised money from French development finance entity Proparco, private investment firm Mount Kellett[58] and company promoters, taking its total financing received to USD 155 million in total. [59] Of this, two-thirds would go to pay back a five-year-old foreign currency loan it couldn't repay on its own, given the debt and liabilities on its stressed balance sheet.[60]

In August 2012, Boston Consulting Group (BCG) was engaged to do a strategic review of Educomp. Post this, three core areas of digital content (SmartClass), K-12 school business and higher education segment were identified[61,] and a decision was taken to exit the non-core business. The IFC sold its stake in the company in 2015.

In a report accompanying its accounts for FY2017, Educomp's auditor Haribhakti & Co stated it was unable to form a "true and fair" view of its financials due to insufficient evidence to justify certain accounting practices used by the company while compiling its balance sheet. It mentions 21 points in the report on financial statements that confirm an 'adverse audit opinion'.[62] In May 2017, the flagship entity ESL (Educomp Solutions Limited) went to the National Company Law Tribunal (NCLT) for insolvency.

In Feb 2020, the Central Bureau of Investigation (CBI) registered a bank fraud case against Educomp Solutions Ltd (the borrower company), Shantanu Prakash (Managing Director and Guarantor), and Jagdish Prakash (a Guarantor). It was reported to have said - "The borrowing company and its directors, guarantors and unknown others conspired and committed the acts of forgery, used forged documents as genuine, diverted and siphoned off the banks' funds and cheated the lending banks to the tune of ₹1955.36 crores."[63]

While the IFC has no current exposure regarding this investment, it does raise some concerns around EdTech sector more broadly. EdTech is part of the Technology sector, where due to the 'network effect', monopolies or oligopolies are more probable (we can see such monopolies/oligopolies as Google in search, Android operating system on the

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[56]M, S. (2020).*A look at the rise and downfall of ed-tech messiah Shantanu Prakash*. Moneycontrol. Retrieved 18 May 2022 from https://www.moneycontrol.com/news/business/companies/a-look-at-the-rise-and-downfall-of-ed-tech-messiah-shantanu-prakash-4936861.html.

[57]Bhalla, M., Basu, S., & Khosla, V. (2022).*Educomp: Cautionary tale of a sudden fall from a star business to a bankrupt firm*. The Economic Times. Retrieved 18 May 2022 from https://economictimes.indiatimes.com/industry/services/education/educomp-cautionary-tale-of-a-sudden-fall-from-a-star-business-to-a-bankrupt-firm/articleshow/64008950.cms?from=mdr.

[58] https://www.penews.com/articles/fortress-comes-to-the-aid-of-mount-kellett-20150526

[59]Educomp raises $155 m to repay debt. The Financial Express. (2012). Retrieved 18 May 2022 from https://www.financialexpress.com/archive/educomp-raises-155-m-to-repay-debt/980529/.

[60]Dharmakumar, R. (2013).The Rise And Fall Of Educomp. Forbes India. Retrieved 18 May 2022 from https://www.forbesindia.com/article/real-issue/the-rise-and-fall-of-educomp/34993/1.

[61] M, S. (2020).*A look at the rise and downfall of ed-tech messiah Shantanu Prakash*. Moneycontrol. Retrieved 18 May 2022 from https://www.moneycontrol.com/news/business/companies/a-look-at-the-rise-and-downfall-of-ed-tech-messiah-shantanu-prakash-4936861.html

[62] Gairola, M. (2018).*How Educomp May Have Subverted the Spirit of India's Insolvency and Bankruptcy Process*. The Wire. Retrieved 18 May 2022 from https://thewire.in/business/how-educomp-may-have-subverted-the-spirit-of-indias-insolvency-and-bankruptcy-process.

[63]Mishra, T. (2020).*CBI books Educomp, officials in ₹1,955-crore bank fraud case*. Thehindubusinessline.com. Retrieved 18 May 2022 from https://www.thehindubusinessline.com/info-tech/cbi-books-educomp-solutions-directors-for-1955-crbank-fraud/article30793252.ece.

phone, Google Maps, Meta's social media[64] etc.). The network effect is the process by which, the more the people on a platform, the more will join it. This leads to a situation where those with bigger market shares become bigger, and others face a decline in their market shares and eventually exit.

Promoters know that if they do not grab the maximum market share to become the leader or the sole player, they may be pushed out of the market. The desire for grabbing maximum market share encourages predatory pricing and sales practices that can threaten an organization's survival. Venture capital funding provides the thrust for predatory pricing and other hard-sell strategies. The venture capitalists' desire for super normal profit[65] (venture capital funding is high risk – high return funding), can usually be extracted through a monopolies or oligopolies.
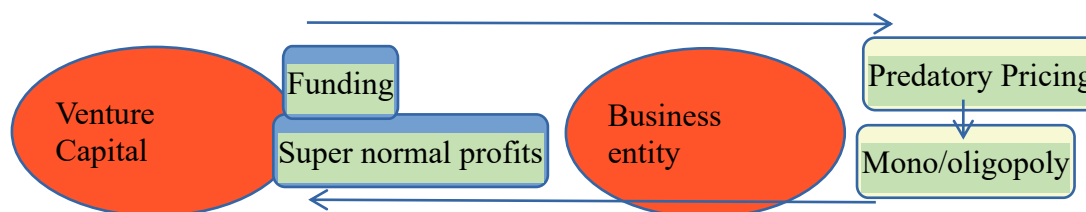
Educomp tried to grab market share for the 'smart school' model, but its hard-sell strategies did not pay off, leading to working capital problems, which put pressure on the management to take recourse to unethical/illegal steps, like transferring the assets of Educomp to another company to ease working capital constraints, and also to defeat the intent of bankruptcy law (Gairola, M. 2018).

The lesson from this model is that public interest may be particularly harmed by venture capital-funded tech in the face of inadequate regulation and oversight. If the company becomes a monopoly with the venture capital funding, it will price the product to realize super normal profits (for both as a return on investment to the financiers, as well as to invest in related products and services where it will try to use/extend its monopoly status), which is harmful to consumers. If it fails in this process, it creates a loss of wealth and employment (as in the case of Educomp).

Another challenge in the Tech sector arises from the fact that there is often a 'visionary leader' associated with the most successful companies. Retaining enormous power in the hands of a single individual poses governance challenges. The economic power of 'tech barons', in turn, also creates larger socio-political risks[66] (including being able to impact elections and policymaking to suit their private interests[67]). Entities like the IFC, which claim to be funding for the larger public good must consider these challenges in tech funding very carefully. For instance, one of IFC's aims in funding 'disruptive technologies' is to promote competitive markets, however, tech platforms often work to become monopolies[68].

Questionable quality of teaching

A part of the popular EdTech narrative is that it provides a form of education that is creative, agile, hyper-personalized and workforce relevant, positing it in opposition to the "slow learning" that happens in traditional brick and mortar settings. Such a narrative is primarily underpinned by savvy content strategies where technologies such as animation, sound, music, etc., are used to make learning an engaging experience. For some parents who vouch for the quality of learning of platforms such as BYJU's, this form of learning is a welcome change, particularly in a country like India where rote learning is the norm. However, evidence is

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[64]Meta owns Facebook, WhatsApp and Instagram, the most popular social media platforms. WhatsApp and Instagram were acquired by Meta. As discussed elsewhere, acquisition is a strategy used by BigTech to retain mono/oligopoly status in the market

[65] Supernormal profit is a situation where the seller can earn profits above the normal profits. This is the level of profit that a firm can enjoy after meeting the main production costs. A monopoly firm can earn a supernormal profit in the long run as well as the short run because the seller has control over the prices to be fixed of the product and the entry new firm is also restricted.

[66]Copeland, C. (2018).*Robber Barons 2.0: Tech Companies and the New Threat of Corporate Oligarchy*. Mind this Magazine. Retrieved 18 May 2022 from https://www.mindthismagazine.com/robber-barons-2-0-tech-companies-and-the-new-threat-of-corporate-oligarchy/.

[67]*How to take back control from the Big Tech barons*. Financial Times. (2021). Retrieved 18 May 2022 from https://www.ft.com/content/979e094a-1831-11ea-9ee4-11f260415385.

[68] https://www.bbc.com/news/business-54443188

lacking on whether such content strategies alone can contribute to education more broadly, which is understood as the holistic development of children[69].

IFC acknowledges that EdTech should never be seen as a replacement for a robust national education system. EdTech platforms cannot replace schools; social constructivism, where learners interact with one another, with adult mediation, is essential to education. EdTech leaders admit that values like empathy, teamwork, and other life skills can be learnt only in a school, and not by being tethered to a digital device[70]. Education practitioners advise that when it comes to using technology in education, the focus must, be around 'support for cognition' which implies active manipulation of the learning object by the learner, rather than on 'presentation of content', which could merely be an improvised tool to deliver rote learning and may not lead to an improvement in the quality of learning[71].

In EdTech models, the presentation of content is given prime importance - teachers often follow a pre-recorded script while they are filmed, the aim being to ensure quality through "uniform" content and pedagogy across lectures. EdTech companies place great emphasis on educators' physical appearance and soft skills like tone, voice and rapport building capabilities, de-emphasizing qualifications, experience and pedagogy[72], thereby facilitating a systematic deskilling of labour. This is in contrast to the provisions of the Right of Children to Free and Compulsory Education Act which prescribes teacher qualifications. In contrast, no minimum qualifications are being enforced in EdTech services. At the same time, the WBG Country partnership framework for India (2017-22)[73] include a focus on strengthening teacher performance. Teacher professionalization is undermined in settings when technology platforms bypass existing mechanisms to ensure that all teachers and educators are empowered, adequately recruited, well-trained, professionally qualified, motivated and supported within well-resourced, efficient and effectively governed systems[74].

IFC informed the researchers that it works with companies to gather evidence of learning outcomes through third-party and internal company assessments and learner surveys. For example, it said that for BYJU's, 80 percent of customers surveyed reported improvement in academic outcomes; for upGrad 85 percent of learners surveyed reported meaningful career benefits. However, none of this data is in the public domain. BYJUS must subject their services to a critical review by educators, which needs to include not only the micro (individual learning of content) aspects but also larger aims of education. The pedagogical approaches with respect to the context in which it is being deployed should be reviewed and approved by independent education experts. The assumptions and learning models underlying the programming of algorithms should be available for review. The validity of the tests and of the value of data generated should be assessed by party independent third-education experts. [75]

EdTech is much more than giving computers to students. The pedagogical design of the EdTech, the purpose of the application, and teacher-learner relationships are critical factors. The school inputs, management, and governance must benefit the learner-teacher relationship if they are to improve learning—but many do not[76]. The NIIT Hole in the Wall Project made a simplistic assumption that children can effectively self-learn and train

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[69]See for instance, the "Aims of Education" position paper, part of the National Curricular Framework 2005

[70]Mathur, N. (2022).*We want to define the future of learning: BYJU Raveendran*. Mint. Retrieved 18 May 2022 from https://www.livemint.com/news/india/we-want-to-define-the-future-of-learning-BYJU-raveendran-11611846479742.html.

[71]Position Paper on Education Technology, Karnataka 2022. https://dsert.kar.nic.in/nep/17_Educational_Technology_for_School_Education.pdf

[72]Surie, A. and Akhil, K., 2021.*Will EdTech go the way of the gig economy?*. [online] Fem Lab. Available at: https://femlab.co/2021/10/26/will-EdTech-go-the-way-of-the-gig-economy [Accessed 18 May 2022].

[73]https://documents.worldbank.org/en/publication/documents-reports/documentdetail/277621537673420666/india-country-partnership-framework-for-the-period-fy18-fy22

[74] https://apa.sdg4education2030.org/sites/apa.sdg4education2030.org/files/2021-05/FFA_Complet_Web-ENG.pdf

[75]https://educationemergency.net/2022/08/ncee-urges-due-diligence-by-government-of-andhra-pradesh-before-implementing-mou-with-byjus/

[76]World Bank group Report, 2018, Learning to Realise Education's Promise, https://openknowledge.worldbank.org/bitstream/handle/10986/28340/9781464810961.pdf

themselves through an ICT device, and teachers can be made redundant altogether[77]. Computers were set up in public spaces for underprivileged children to access freely and learn on their own, without the presence of any mediator, implementing the principle of Minimally Invasive Education (MIE)[78][79]. In this context, it should be noted that the rich and middle class in the country do not abandon their children to digital devices and apps, but ensure they are enrolled in schools where they get high levels of attention and care from teachers. While these children may also be accessing digital technologies, technology is one of the many inputs used to support learning. As Toyoma explains, this approach of pushing EdTech in less-resourced environments, actively promotes inequity[80], a 'teachers for the rich, technology for the poor' model.

For many EdTech companies, "disruption" of the sector is a key priority. As pointed out earlier, even IFC's Sector Classification frameworks that assess EdTech investments in companies such as BYJU's and upGrad run the risk of normalizing outcomes such as displacement of teachers or other actors in education under the garb of "negative externalities that may be expected on account of disruptions". Education is accepted as a universal right and a public good that must be available to all, of equitable quality, whereas such disruptions often aggravate commercialization and consequently, inequity and exclusion in education.

To sum up, given the evidence of an optimism bias – unrealistic expectations of technological progress without any evidence for the same, IFC must base its funding decisions on a deeper understanding of educational processes and outcomes.

Ensuring the 'Ed' in EdTech

The thinking that somehow technology resources and tools can be used directly by students for self-learning without teacher mediation dominates the EdTech discourse, and usually results in programmatic failures, in terms of achieving educational aims. Bypassing the teacher can have several reasons – teachers are not interested, it is too expensive to train/teach them and students love digital technologies. But any process that bypasses teachers is fraught with risk and prone to cause harm. Working through and with the teachers is indispensable for the sustainable and scalable integration of digital technologies in education[81].

Educators are clear that "Learnification", the process of breaking down the social activity of learning into quantifiable cognitive and pedagogical units, such as instruction, short quizzes, assignments, deliberation with other students, and tests, is not education[82]. Technology programs in education need to be seen as 'education programs', and like all education programs, need to be mediated by the teacher in a 'classroom' (meaning a collaborative learning space) setting. This means the primary focus of technology appropriation must be teacher professional development, not supporting the use of applications (teacher as mere 'user'). More support is needed to enable the teacher to see technology from a critical perspective and become co-participants in design and implementation. Huge investments are required to build teachers' abilities to understand and use digital technologies meaningfully for their self-development, for peer learning (through professional learning communities) and for material making and teaching-learning. However, this activity may

[77]Wilby, P., 2016.*Sugata Mitra – the professor with his head in the cloud*. [online] the Guardian. Available at: https://www.theguardian.com/education/2016/jun/07/sugata-mitra-professor-school-in-cloud [Accessed 18 May 2022].

[78] Minimally invasive education (MIE) is a form of learning in which children operate in unsupervised environments. The methodology arose from an experiment done by Sugata Mitra while at NIIT in 1999, often called The Hole in the Wall.

[79]HIWEL. n.d. *Hole-in-the-Wall - Beginnings*. [online] Available at: http://www.hole-in-the-wall.com/Beginnings.html [Accessed 18 May 2022].

[80]See Toyma, K., 2011.*There Are No Technology Shortcuts to Good Education « Educational Technology Debate*. [online] Educational Technology Debate. Available at: http://edutechdebate.org/ict-in-schools/there-are-no-technology-shortcuts-to-good-education/ [Accessed 18 May 2022].

[81]Kasinathan, 2018. Exploring Teacher Agency - ICT Program Design in School Education. In the Voices of Teachers and Teacher Educators, NCERT. Available at http://ncert.nic.in/publication/journals/pdf_files/vtte_aug_2018.pdf

[82]Van Dijck, J. & T. Poell (2018). Social media platforms and education. In The SAGE Handbook of Social Media, 579-591, edited by Jean Burgess, Alice Marwick & Thomas Poell. London: Sage

not easily be 'commercially profitable' and hence usually ignored by private players (and by Indian governments).

The actual use of digital technology (like any other resource) has to be highly contextualized, however, this would not be in the nature of the individual 'personalized learning' that is being heavily promoted, but rather, a contextual communal engagement by teachers and students in the learning space. This can allow for the benefits of technology to be available for student learning as well. Students' abilities to engage with digital technologies and make sense of the digital world could be a part of this process, at the appropriate age. Also, it is known that digital technologies are addictive (and even designed to be addictive[83]), and addictions acquired at a younger age are more difficult to eliminate or reduce.

Adherence to labor, environment and child protection standards

While the literature on compliance with environmental and labour standards of the EdTech companies is not easily available in the public domain, media articles allege toxic cultures at places like BYJU's, where the sales culture has been reported to affect the mental health of employees.[84,] BYJU's has denied using aggressive sales tactics adding that their "employee culture does not permit any misbehavior or bad behaviour towards parents" and that "all rigorous checks and balances are in place to prevent misuse and abuse.[85]" The IFC requires all clients to have internal grievance mechanisms and has reported that as part of the E&S action plan, BYJU's enhanced its system to allow anonymous grievances; however, this information cannot be independently verified.

Though, BYJU's has in the past made claims which have proved to be false or misleading. In October 2021, BYJU's released a full-page advertisement claiming that 36 of the 100 UPSC toppers were coached by them, except that a subsequent investigation carried out revealed that none of the candidates who spoke on record were explicitly trained by BYJU'S to clear either the UPSC Preliminary or the Mains examinations; neither were they paid customers of BYJU'S IAS[86]. All they had done was utilize the free "mock interview" offering that was available on its website. (The Ministry of Education's recent advisory[87] explicitly bans such a practice).

In October 2020, based on 15 complaints received against seven of its advertisements, the Advertising Standard Council of India (ASCI) has asked White Hat Jr, a kid's coding start-up bought by BYJU's, to pull down its advertisements which made dubious and unsubstantiated claims, for example, about a child touted to have built the world's first eye testing app[88]. "It's taking him to Silicon Valley, where he will meet top scientists, engineers," proclaimed the promotional messaging. BYJU's has also been in the news for silencing its critics on social media platforms[89]. Media reports have pointed to possible predatory data practices employed by BYJU's to secure new clients.[90]

The IFC has said it is aware of challenges in the sector and has advocated for solutions with its investee companies.

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[83]Raian Ali, Digital addiction: how technology keeps us hooked, retrieved May 18, 2022 from https://theconversation.com/digital-addiction-how-technology-keeps-us-hooked-97499

[84]Singh, A. (2022).*Hard sells and 'toxic' targets: How Indian EdTech giant BYJU's fuels its meteoric rise*. Rest of World. Retrieved 18 May 2022 from https://restofworld.org/2021/inside-india-EdTech-BYJU'S/.

[85]Inamdar, N. (2021).*BYJU's and the other side of an EdTech giant's dizzying rise*. BBC News. Retrieved 18 May 2022 from https://www.bbc.com/news/world-asia-india-58951449.

[86]https://news.careers360.com/upsc-toppers-name-list-marks-BYJU's-app-ias-civil-services-coaching-mock-interview-questions-advertisement

[87] https://pib.gov.in/PressReleasePage.aspx?PRID=1784582

[88]Singh, R. (2020).*Advertising Body Asks WhiteHat Jr To Pull Down Ads*. Forbes India. Retrieved 18 May 2022 from https://www.forbesindia.com/article/special/exclusive-advertising-body-asks-whitehat-jr-to-pull-down-ads/63767/1.

[89]Vardhan, J. (2020).*Posts criticizing BYJU's leads to permanent restriction of Aniruddha Malpani's LinkedIn account*. Entrackr. Retrieved 18 May 2022 from https://entrackr.com/2020/07/linkedin-posts-criticizing-BYJU'S-leads-to-permanent-restriction-of-aniruddha-malpanis-account.

[90]Singh, A. (2022). Hard sells and 'toxic' targets: How Indian EdTech giant BYJU's fuels its meteoric rise. Rest of World. Retrieved 18 May 2022 from https://restofworld.org/2021/inside-india-EdTech-BYJU'S/.

In the absence of regulation on the collection, storage, sharing and harvesting of user data, there is no awareness of how EdTech platforms are using the data they collect on their users. Privacy breaches by EdTech firms, including IFC investees, have been reported[91]. The possibility of misuse of data of individuals (in the case of EdTech, it is about students, who are even more vulnerable, as they are not adults), is a high risk that EdTech companies face. While IFC states that it examines data security in its appraisals (including gaining a full understanding of companies' technology platforms to ensure that they have data protection and cybersecurity solutions to safeguard user data, particularly that of minors), IFC should consider these risks much more critically, as failures can at some point in time seriously compromise the business. We earlier discussed the case of upGrad. The recent directive of UGC/AICTE, prohibiting the outsourcing of online courses by higher education institutions to EdTech companies is expected to directly affect upGrad's business model[92]. Likewise, data regulation, anti-competition regulation, and a ban on selling educational services for a profit, all of which are required and possible, can seriously affect the fortunes of the EdTech companies.

It is not clear how IFCs E&S Reporting responds to the concerns raised in the public domain by various civil society actors regarding its investee companies and accounts for addressing them in their annual monitoring process. While complaints of stressful work cultures, consumer grievances on services offered, etc., may not be limited to BYJU'S or even to the EdTech sector overall, our larger concern here pertains to an inadequate process for monitoring social risks and lack of disclosure on the part of IFC, concerning its E&S findings.

Impact on the public education system

One aim of IFC funding is to support investee entities to constructively engage with the larger ecosystem, in the case of EdTech, it would include collaborative efforts to strengthen the public education system.

It is not clear who is served best by a "partnership" such as that of BYJU's with Niti Aayog to deliver "high-quality coaching" to 3,000 students of Classes 11 and 12 who aspire to appear for the coveted medical and engineering common entrance examinations, in the most underdeveloped districts across the country[93]. One could question whether the government should thus promote the coaching culture for competitive exams or focus on strengthening the education system as a whole[94,95]. However, a more pervasive risk is that once schools/school systems become dependent on tech giants' systems for teaching in class, homework management and communications, and once a certain threshold is reached in the number of schools they operate in, then the state delivery of education becomes dependent on private companies[96], which can be detrimental to public education. Secondly, the private entity seeming to be doing good is giving away a near freebie (education content has low marginal costs) to collect valuable data that the public sector partner has, or can access owing to credibility.

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[91] Deo, S., & Jash, S. (2020).*Unacademy, BYJU's help clear your doubts, but have few answers on data privacy*. The Print. Retrieved 18 May 2022 from https://theprint.in/opinion/unacademy-BYJU's-help-clear-your-doubts-but-have-few-answers-on-data-privacy/424961/.

[92] https://www.news9live.com/education-career/ugc-aicte-issue-notice-against-franchise-arrangement-between-colleges-and-edtech-companies-147638

[93] *NITI Aayog, BYJU's team up to provide learning resources in underdeveloped districts*. Business Today. (2021). Retrieved 18 May 2022 from https://www.businesstoday.in/education/story/niti-aayog-BYJU'S-team-up-to-provide-learning-resources-in-underdeveloped-districts-308198-2021-10-01.

[94] https://www.newindianexpress.com/nation/2018/dec/27/kota-toll-rising-each-year-1916935.html

[95] https://www.thehindubusinessline.com/blink/know/doorstep-coaching-for-competitive-exams/article32521526.ece

[96]Fleming, N. (2022).*After Covid, will digital learning be the new normal?*. The Guardian. Retrieved 18 May 2022 from https://www.theguardian.com/education/2021/jan/23/after-covid-will-digital-learning-be-the-new-normal.

BYJU's has also teamed up with Google to offer gratis education services to schools, and this partnership can pose a threat to public education, and the values embodied in education, by increasing privatization and platformization of education[97]. Platformization has two inherent dangers:-

(1) Data Extractivism – The business model of ed-tech, much like other digital platforms relies on harvesting vast amounts of learner data to continually train algorithms to produce what is called "personalized learning". In the Indian context, the lack of a data protection regime poses a huge risk to data security and privacy, which gets amplified when the data subjects are children, incapable of offering consent, and more vulnerable to exploitation.

(2) Algorithmic Decision Making – AI-based scoring models, which typically use past performance to predict future consequences can have particularly harmful consequences for children's educational outcomes. Often trained on non-diverse data sets, such algorithms can increase marginalization and exclusion based on gender, class, socio-economic status, caste98, etc., and perpetuate already existing inequities in accessing quality education.

The motives of EdTech companies, to collect and harvest data, to acquire market share through anti-competitive practices, to commercialize and stratify education, are directly at odds with the aims of public education.

[97]Kasinathan, 2022. The EdTech Leviathan, Economic and Political Weekly, Retrieved from
   https://www.epw.in/journal/2022/1/perspectives/EdTech-leviathan.html
[98]Kasinathan, G. (2020). Making AI work in Indian education. Artificial Intelligence in India, 6. Retrieved from http://library.fes.de/pdf-files/bueros/indien/15953.pdf

SHAPING OF EDUCATION AGENDA

One of the most concerning trends emerging from EdTech is the reliance on technology players to shape the education agenda, often in conjunction with the state, which can be considered a form of privatization. In May 2020, after signing deals with both Google and Microsoft for a "smarter education system", the then New York governor Andrew Cuomo announced that Eric Schmidt and Bill Gates would help rethink education in the state[99]. In the UK, the government entered into a partnership with Microsoft and Google for thousands of schools to gain access to the education platforms of these two companies.

Traditionally Indian governments have procured EdTech services through PPP (Public Private Partnership) models. The smart class and computer education in school programs were launched by many state governments in the first two decades of this century, with Educomp being a major agency to whom, these were outsourced using a BOOT (Build Own Operate and Transfer model). The BOOT model has universally been a failure in India due to inherent reasons – the program is not owned by the teachers as the program does not integrate into their teaching practice and the fixed price for the contract dissuades the vendor from any required expenditures like software or connectivity upgrades, computer literacy is seen as less important subject etc.[100].

Yet, there are governments who still spend huge sums on such models – in 2018, the Chhattisgarh government floated a tender for a PPP for a computer program in schools and the bid was won by Bennett and Coleman (a media business not known for any experience in EdTech). The PPP did not get implemented but sources in the department allege that 450 of the 750 crore rupees have been paid to the vendor. While Bennett and Coleman provided computer systems to some of the identified 1200 schools, in no school was the program implemented as envisaged in the proposal. A scrubbed challan for the delivery of the system to one such school is included as Annexure C. These systems would be quite obsolete by now. It would be critical to understand the educational rationale for the contract, as well as the specific causes of failure[101].

Haryana has recently announced the provision of 2.5 lakh tabs with 'personalized and adaptive learning (PAL)' software, which would be preloaded in the tablets that would be provided to students in Classes 9 to 12[102]. Assuming a per tablet cost of even 10,000, this procurement would be around 250 crores. This may not be something of the highest pedagogic priority in a situation of very high resource scarcity, in which education budgets are being even cut or just maintained[103], teacher development budgets are being scrapped, and school infrastructure needs repair and renewal.

Uttar Pradesh is ranked among the bottom five of the Niti Aayog index on school education and is arguably even more resource-starved,[104] However, it distributed phones and tablets to students in January 2022[105]. The mere distribution of devices, without a clear, well thought out program for using these for education has not empirically proven to be of much value. A World Bank article on EdTech says "*The first, exciting stage, involves buying lots of cool new equipment. The second stage is figuring out what to do with it - and how. Many people find this to be a rather unfortunate, and backward, approach to planning for the use of technology in education*

[99]Fleming, N. (2022).*After COVID, will digital learning be the new normal?*. The Guardian. Retrieved 18 May 2022 from https://www.theguardian.com/education/2021/jan/23/after-covid-will-digital-learning-be-the-new-normal.

[100]Read the policy brief, explaining the inherent flaws of an outsource model, on Kasinathan, G. (2009).*ICTs in school education: outsourced versus integrated approach*. IT for Change. Retrieved 18 May 2022, from https://itforchange.net/sites/default/files/357/Policy%20Brief%20on%20ICTs%20in%20School%20Education%20from%20IT%20for%20Change%20August%202009.pdf.

[101] https://www.thehitavada.com/Encyc/2019/7/22/Ajit-Jogi-alleges-multi-crore-scam-in-Digital-Education-under-ICT-scheme.html

[102] https://www.hindustantimes.com/business/haryana-becomes-first-state-to-adopt-tablet-based-personalised-learning-101651765448648.html

[103] https://www.news18.com/news/education-career/12-indian-states-reduced-their-education-budget-for-2021-22-compared-to-last-year-5048281.html

[104] http://social.niti.gov.in/edu-new-ranking

[105] https://www.thehindu.com/news/national/other-states/adityanath-distributes-smart-phones-tablets-to-students/article38173280.ece. Such distribution has become a common practice in many states.

-- but this is a reality that one sees time and time again, in place after place[106]". Unfortunately, many more state governments are likely to follow the suit, spending crores (hardware is expensive) on the distribution of devices, with unproven 'personalized learning software'.

Prof Rajaram Sharma, Joint Director NCERT and head of CIET (retd.), says "A systematic identification of educational processes and components and integrating them into the ICT plan is essential to ensure the success of the ICT implementation.... It must be noted that in the absence of a comprehensive transformation, the initiative is likely to outsource the running of a constrained system to technology and as has been seen time and again, technology will only aggravate the faults". (ET Position Paper, Karnataka 2022). Throwing scarce resources on expensive and fragile devices, without a detailed, considered (debated) educational process appears to be a criminal waste of scarce public resources.

Bureaucrats also invite corporate leaders into policy-making bodies dealing with EdTech, ignoring the potential conflict of interest. In 2008, the Government of India announced a committee to design the National ICT Policy for School Education and invited Intel, Microsoft and NIIT employees to be members. The policy drafted by this committee focused more on hardware and software procurement than on educational processes that ICT would support. A sustained protest by educators, made the government cancel this policy outsourcing[107]. Recently the Government of Maharashtra announced the State Education Technology Forum[108], which is almost entirely filled with EdTech company employees and has hardly any educators, another instance of conflict of interest in policymaking.

In the United States of America and Europe, there is greater awareness of the anti-competitive and surveillance-related practices of Tech companies and there is an increasing demand, from both the public and policymakers to regulate Big Tech. More recently, the biggest backlash to the EdTech business model has come from recent regulation in China[109] that banned for-profit online tutoring, citing an increase in pressures on children and families and aggravation of socio-economic inequalities. In India, education is a not 'for profit' activity. Hence, IFC investments in India would adhere to the principle of not-for-profit. Globally, IFC should be far more cautious and use much stricter criteria and guardrails before making investments in the for-profit EdTech sector, for reasons similar to those which led to it freezing investments in for-profit private schools, including so that it avoids doing harm and worsening educational inequalities.

[106]Trucano, M. (2010). The Second Digital Divide. World Bank Blogs. Retrieved 18 May 2022 from https://blogs.worldbank.org/edutech/the-second-digital-divide#:~:text=One%20of%20the%20key%20findings,computer%20use%20from%20those%20without.

[107] *Advocacy - National policy on ICTs in school education - 2008-2012 | IT for Change*. IT for Change. (2008). Retrieved 18 May 2022 from https://itforchange.net/advocacy-national-policy-on-icts-school-education-2008-2012.

[108]*State forum for use of tech in school edu | Mumbai News - Times of India*. The Times of India. (2021). Retrieved 18 May 2022 from https://timesofindia.indiatimes.com/city/mumbai/maharashtra-state-forum-for-use-of-tech-in-school-edu/articleshow/87674610.cms.

[109]Koenig, Rebecca (2021): "Online Tutoring in China was booming. Then came a dramatic shift in regulations," 26 July, Ed Surge, Retrieved on May 18 2022 from https://www.edsurge.com/news/2021-07-26-online-tutoring-in-china-was-booming-then-came-a-dramatic-shift-in-regulations

RECOMMENDATIONS

IFC

More rigour in assessing proposals, and ensuring EdTech program design is robust

A robust design and clear conceptualization are essential for a technology program to succeed. This means teachers and teacher educators with expertise in the different disciplines that support education – philosophy of education, sociology of education, educational psychology, curriculum and pedagogy, history of education, education leadership and administration, need to play a key role in the design of technology programs. Unfortunately, the EdTech space is still largely driven by technology experts and vendors resulting in 'solutionism[110]'. IFC must equip itself with an understanding of digital technologies, rooted in a deep understanding of the education multi-disciplinary domain, including elements discussed in this section. Project design needs to be sensitive to the existence of educational inequalities and include concrete measures to reduce it. Project evaluation committees must have educators from the project region as members, including those with a critical perspective on EdTech.

Provide clarity on the standards to evaluate EdTech projects

As a part of its commitment to better define measure, and monitor the development impact of its funding, IFC introduced the Anticipated Measurement and Monitoring (AIMM) system in 2017, which has a specific sector framework to measure projects in the field of education. However, standards of evaluating project impact need to more consistently prioritize educational outcomes and include a focus on addressing educational inequalities based on wealth, gender, caste, disability status, tribal, ethnic or religious identity or other grounds.

Avoid funding intermediaries, funds and supplementing venture capital

Financing intermediary business entities reduces IFC's ability to monitor the use of its funds and hence should be avoided unless IFC can institutionalize more transparency and better disclosure of its financial intermediary's investments and clear mechanisms for monitoring where those investments go and measure their impact.

Venture Capital (VC) funding in the tech sector is usually associated with 'Platform Capitalism[111]' which encourages the emergence of monopolies/oligopolies, through predatory pricing, user data harvesting and other unethical practices. This directly militates against IFC's aim of funding VCs "to support competition", as indicated in the AIMM for the "Disruptive Technologies and Funds" industry. IFC funding should not be for entities that take VC funding, as malpractices and unethical practices tend to mar the push to become a monopoly/oligopoly, to get the super-normal profits that the VC would demand.

Tighten Environment and Social Risk Monitoring and enhance transparency

IFC should increase the transparency of project monitoring on the environmental and social risks to facilitate adequate disclosure. Reports of the site visits that IFC makes must be made available along with data on the

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[110]Historic UN Resolution Urges States to Regulate Education Providers and Support Public Education. Right to Education Initiative. (2016). Retrieved on 18 May 2022 from https://www.right-to-education.org/news/historic-un-resolution-urges-states-regulate-education-providers-and-support-public-education.

Morozov, E. (2013). To save everything, click here: The folly of technological solutionism. Public Affairs.

[111]See Kasinathan, G. (2022). Platform Capitalism and EdTech. Retrieved 18 May 2022 from https://www.epw.in/journal/2022/4/comment/platform-capitalism-and-EdTech.html

methods that were used to collect information. Additionally, reports submitted by clients should also be available in the public domain. We note that this suggestion has been made previously by a report by Oxfam[112] which refers to similar disclosure requirements that Asian Development Bank is already complying with. We also recommend that the initial E&S report published on the IFC disclosures site must be evaluated by either IFC or an independent third party before being published on the website.

The IFC must introduce a robust framework for publishing both positive and negative development outcomes for each of its projects. This must certainly be done for projects tagged as "complete" with data on the achievements vis-a-vis the development outcomes expected. This is essential as there is very little information on why EdTech programs fail, and insights from failures are necessary to de-risk new investments. For ongoing projects, annual assessments on similar lines are required to be done and made available for public scrutiny.

IFC as a public finance institution needs to be more cautious in its EdTech investments so that it is not caught on the wrong side of evolving regulation. Tech companies are under probe for violations of laws and ethics in many countries including India[113]. IFC should not fund EdTech without a reasonable understanding of the 'wild west' nature of tech spaces which renders them vulnerable to fraudulent practices and should exit companies that seem embroiled in such practices.

Union and State Governments

Ban for-profit EdTech companies

Indian law requires education institutions to be not-for-profit (Unni Krishnan, J.P. vs State Of Andhra Pradesh, TMA Pai v State of Karnataka, 2002). While making a "reasonable" surplus is permitted, profiteering continues to be prohibited. As such, the existence of explicitly for-profit EdTech sector providing education services runs counter to the existing provisions and must be banned. Secondly, the "self-regulation" model, desired by EdTech companies is simply not workable. Google, Amazon and other tech behemoths are under investigation in India and other jurisdictions for anti-competitive and fraudulent market practices and the EU and countries have levied repeated fines on these companies, pointing to the failure of the 'self-regulation' model. EdTech is even more vulnerable to abusive and unethical practices for multiple reasons, as discussed earlier. Though banning for-profit EdTech may seem like a 'policy non-choice, we should consider that China, which has one of the most advanced EdTech sectors, banned for-profit EdTech in 2021.

EdTech data governance

Government must legislate a data governance regime for the collection, custody, ownership, sharing, and analysis of data on children and their families. Regulation must ban black-box algorithms and mandate algorithmic audits in education, to reduce possible harms from EdTech. Platform businesses must have no say in curriculum/ pedagogy/ assessment (core educational services) or digital intelligence services provision. Separating these layers is essential to protect the interests of schools, teachers, parents, and students (The EdTech Leviathan, 2022).

[112]Review of IFC Performance Standards and Sustainability Policy - Recommendations from Oxfam International. Retrieved 21 May 2022 from https://policy-practice.oxfam.org/resources/review-of-ifc-performance-standards-and-sustainability-policy-620769/

[113]Singh, M. (2022). India hits Google with antitrust investigation over alleged abuse in news aggregation. Retrieved 18 May 2022 from https://techcrunch.com/2022/01/07/india-hits-google-with-antitrust-investigation-over-alleged-abuse-in-news-aggregation/ and Indian agency seeks information, documents from Amazon amid probe: Source - ET Telecom. (2022). Retrieved 18 May 2022 from https://telecom.economictimes.indiatimes.com/news/indian-agency-seeks-information-documents-from-amazon-amid-probe-source/81469024

EdTech program design based on educational aims and principles

Bureaucrats float tenders for hardware devices that are to be supplied to schools or students, without adequately preparing schools and teachers. They ignore the danger that proprietary technologies will create vendor lock-ins and weaken the autonomy of the institution and system. Every EdTech program of the government must have a clear design that discusses its aims and alignment with accepted education policies and principles. It must highlight the systemic investments that are required, and planned, to enable the investment in EdTech to be effective. It must highlight the risks and potential downsides and demonstrate that the expected benefits outweigh intended and unintended harm possibilities. This program document must be widely circulated and discussed with teachers and educators and finalized with their input. Pilots would be essential for any unproven model or technology, and the temptation to start a program on the scale (since technology does support scaling of certain processes like sharing content), especially through large scale hardware procurement, must be resisted to avoid wastage of time and resources on the failure of unproven models.

Address digital divide and educational inequality

The government needs to prioritize addressing digital divides by[114] increase the scale of programs explicitly targeting disadvantaged groups by supporting ICT access, skills and use by women and girls and Dalits, Adivasis, Muslims, persons with disabilities and other marginalized communities. Efforts must be made to encourage role models of the use of technology by girls and children from marginalized communities; undertake parental sensitization on issues of technology use by students from these communities to address harmful gender norms inhibiting technology use by girls and track the extent to which marginalized communities, particularly girls, are able to access educational technology for quality, interactive education within schools and this evidence to identify and address barriers to the adoption of technology.

Program for digital devices' de-addiction

Education psychologists and scientists have long cautioned against the use of digital devices by children, pointing to their addictive nature. Young minds are more impressionable and also more vulnerable to exploitation and harm. However, due to school closure (in itself a highly problematic political decision the extent of school closure was perhaps not warranted by the potential harm from the virus to children), children were given digital devices and schools/teachers encouraged parents to procure devices for their children (exactly the opposite of what they would have said earlier).

Household Surveys conducted by the National Coalition on the Education Emergency reveal that parents are extremely anxious that their children have become addicted to digital devices (Cries of Anguish, 2022). Though they are apprehensive that children are using the devices for playing games or for surfing entertainment sites, but not for studying, due to their illiteracy parents are unable to monitor this use/misuse. Hence, recognizing that addiction among children/adolescents can lead to socio-psychological and physical health problems, restrictions on EdTech and edutainment/gaming entities must be instituted to prevent over-exposure of children; much like tobacco regulation. A national program for digital device de-addiction is required with community participation.

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[114] https://www.oxfamindia.org/edtechbrief

Civil Society

Public-*Public* Partnerships

Traditionally, non-government efforts in education have come from the not-for-profit sector (NGOs and CBOs), while in the case of EdTech, there is an overwhelming preference for commercial vendors. There is a need to encourage civil society participation in critically exploring the role of EdTech in teacher development, material development, school development, systemic strengthening as well as teaching-learning and supporting pilots to facilitate understanding in different and difficult contexts. Pilot projects that focus on not-for-profit values and approaches - collaboration, peer support, adequate investment, teacher agency and empowerment may be able to demonstrate that 'public-public partnerships' (government-community/civil society) are more likely to integrate the interests of all stakeholders, privilege interests of children from marginalized groups, and not worry about generating a surplus to pay a dividend to shareholders.

Accountability

Secondly, civil society organizations must hold government EdTech programs to account by scrutiny of project aims and how processes and how these align with accepted educational principles and policies and contribute to quality and equity of education. Evidence of benefits and costs/risks needs to be clear through pilots before programs can be upscaled since upscaling unproven and unknown models can be harmful. This is also called for in the NEP2020 (asking for a National Education Technology Forum or NETF to be established which will vet technology models before they are upscaled).

ANNEXURES

Annexure A - IFC Direct Investments (info from IFC site)

Project, Date of inv.	Amount Invested	Stated Objectives
upGrad January 2021	Equity of up to US $ 45 million	Expansion of upGrad's education services offering.
BYJU's June 2016	US$15 million in equity for a minority stake	In order to finance the expansion of the Company's education services offering, further technology development and potential inorganic growth opportunities.
Educomp 9 July 2012	Up to US$55 million (US$40 mn loan, and US$15 mn Equity)	Help the Company refinance debt to improve the capital structure and allow more of its future cash flow to be used for capital expenditures to support Educomp's growth and further domestic and international expansion.
NIIT (Hole in the Wall Project) 6 April 2001	The total project cost is estimated at US$5.7 million. IFC investment is a US$1.65 million investment for 10% of the common shares in a special purpose company	Bring a financial commitment to the development of a sustainable commercial business model. Furthermore, IFC will bring visibility to the pilot phase and the dissemination of the results. IFC will also be able to attract other researchers as well as interested grant donors to contribute to the success of this project.
E-Gurucool.com 12 June 2000	Proposed equity investment of up to US$250,000 would represent a stake of 2.4% in the Company.	Pay a pioneering role by investing and assisting in the formation of a start-up web-based education company in India focused on using the Internet to improve both the access and content of education material. IFC's presence in the project lends credibility, especially in its dealings with schools, state and national education boards.

Annexure B - Instances of court orders/consumer complaints against investee companies

July 2019, The Indian Express - The District Consumer Disputes Redressal Forum, Chennai (South) directed BYJU's, an online coaching platform, to pay Rs 52,000 to a city student, for failing to provide necessary facilities and coaching as assured at the time of joining. The complainant stated that he was working in a private company and enrolled himself for the 'classroom plus tablet' course offered by BYJU'S Classes after paying Rs 32,000 as fees[115].

March 2020, Tribune India - The District Consumer Disputes Redressal Forum, Panchkula, disposed of a consumer complaint against BYJU's Learning App after the latter paid a refund of Rs 88,500 and Rs 51,000 as compensation to the complainant. The complainant stated that they had not gotten a refund after cancelling their course despite repeated reminders[116].

September 2020, The Hindu - Education technology company BYJU's was directed to refund ₹60,000 and pay a compensation of ₹10,000 after a consumer forum found that a customer had not received an education kit and tabs despite making the payment. The complainant stated that he did not receive the tablets, student login ID and kit that had been promised to him on payment[117].

December 2021, The Hindustan Times - Pune Consumer Court directed BYJU's to refund Rs 15,000 with interest, pay Rs 50,000 as compensation and submit a No Objection Certificate (NOC) to make sure the loan amount against the complainant is paid and she does not require to pay EMIs in future. The complainant stated that she had not gotten a refund after cancelling the course despite repeated reminders and that BYJU's had already taken a Rs 1.1 lakh loan without her consent[118]. BYJU's claims to have settled all its legal cases and has a 98% grievance redressal rate, in this report by BBC[119].

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[115] https://www.thehindu.com/news/cities/Hyderabad/forum-directs-BYJU's-to-make-refund-pay-damages/article32565651.ece

[116] https://www.thehindu.com/news/cities/Hyderabad/forum-directs-BYJU's-to-make-refund-pay-damages/article32565651.ece

[117] https://www.thehindu.com/news/cities/Hyderabad/forum-directs-BYJU's-to-make-refund-pay-damages/article32565651.ece

[118] https://www.hindustantimes.com/cities/pune-news/pune-consumer-court-asks-ed-tech-company-to-pay-rs-50k-compensation-to-customer-101639587756753.html

[119] https://www.bbc.com/news/world-asia-india-58951449#:~:text=In%20at%20least%20three%20different,grievance%20redressal%20rate%20was%2098%25.

Annexure C – Delivery invoice- Chhattisgarh

Delivery Challan for ICT Lab
Under Samagra Siksha Chhattisgarh

Implementation Agency:
Bennet Coleman & Company Limited
The Times of India Building,
Dr. DN Road, Near CST Railway Station
Mumbai-400001

Client:
The Mission Director
Samagra Shiksha (SS), Composite Building
Second Floor, Pension Bada
Raipur Chhattisgarh, India

GST No.	22AAACB4373Q1ZI	Work Order No. Dated	248/SS/ICT/F-06/2019-20 10-MAY-2019
Delivery Challan No.			22130317007

School Name with Address

Block

District

Name of Principal

: of Deliverables for :(ICT + Digital Classrooms)

No	Items	Make	Model	Quantity	Delivered (Yes/No)
	Thin Clinet Terminal with Keyboard set	HP	T240	15	
	School Server	HP	Z2 G4T	1	
	TFT 18.5"	HP	V5E94A7	15	
	TFT 19.5" for server	HP	P204V	1	
	Head Phone	Zebronics	Pleasant	15	
	Laptop with Laptop Bag (Staff)	HP	245 G6	1	
	Laptop with Laptop Bag (Classroom)	HP	245 G6	4	
	Projector	View sonic	PS501X	4	
	Projection screen	Swastik	Standard	4	
	Access Point	D Link	AC-1200	1	
	Patch Cord (2 mtr)	D Link	NA	21	

eby I confirmed that we have received above material from Bennet Coleman & Company Ltd. in the ool custody.

marks If Any:

Authorized Signatory
Bennet Coleman & Company Ltd