JSW SCHOOL OF PUBLIC POLICY

POLICY BRIEF

June 2020

No. 2020.1

EdTech: Impact Assessment & Trends of New Normal

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Context & Scope of the Study

With the nationwide lockdown and the number of Covid-19 cases increasing day by day, all major official activities have come to a halt. Many individuals have shifted to work from the home model and anticipate it to continue for the remainder of the year. The academic activities have also taken a back seat and schools and colleges have had to reschedule their ongoing classes and examinations.

With all this happening, the education sector is facing many challenges, the answers to which are still undecided. There is no clear timeline for school and college reopening. Prolonged school closure can lead to disruptions in their overall education. This situation can further aggravate the gap between advantaged and disadvantaged students, causing disadvantaged students to have a higher dropout rate and decreased attendance. Families under financial stress might be unable to pay school fees and other expenses. Furthermore, once the schools reopen, maintaining social distancing among the students and the teachers presents a logistical challenge. One of the solutions that is being followed across the world is that of moving to digital channels. However, the issue with this solution is its accessibility in tier 2 and tier 3 geographies.

Moreover, with the experimentation of online classes in the majority of schools and colleges for the first time, they are having a tough time deciding the capabilities they need to develop to ensure that the students follow what they have to offer. In this report, we analyze key aspects and suggest recommendations for the smooth adoption of EdTech resources and technology in the country's Education sector.

Executive Summary

With the Covid-19 crisis, the education sector will see more adoption of Edtech content for conducting engaging online classes and assessment.

Current Government policies and initiatives in place provide the following: training for teachers, providing infrastructure support and developing a single repository of open-source digital resources. In the present scenario, there is a need to ramp up the funding and implementation of above initiatives

Within the current situation, there are several gaps in the policy framework. There is limited inclusion of external EdTech content providers in the Education framework. With the new normal, just moving online does not suffice. It is required to provide a safe blended learning environment for students with content developed for desired educational outcomes and approved by regulatory bodies like AICTE, NCERT, etc.

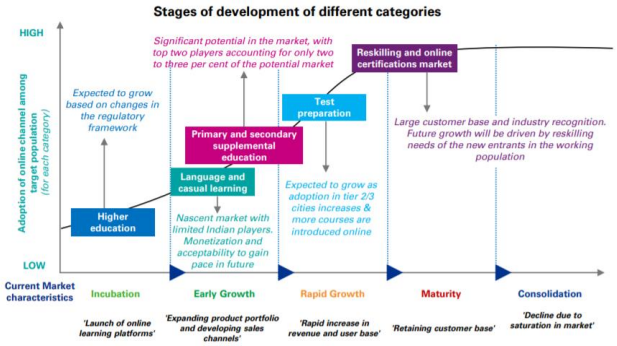
Recommendations

- ➔ Develop a public platform for purchase of EdTech resources at scale
- ➔ Establish data interoperability standards
- ➔ Authentication and job search support
- ➔ Fiscal support
- ➔ Early-stage venture capital support
- ➔ Teaching staff and faculty training
- ➔ Alignment of school education with technical skills
- ➔ Ramping up digital resources (leveraging Radio, TV, etc.)

Research and Analysis Section

Key market categories and characteristics

FIGURE 1. Online Education - Market categories



Source: KPMG report: Online education in India

1. Primary and Secondary Education

Around 30 crore students are enrolled in primary and secondary education,[i] constituting more than 20% of the population of India. With the schools closed due to the pandemic situation, many of the activities have become negligible especially for

students in public schools due to resource constraint. While for the private schools with appropriate infrastructure available, the adoption of the EdTech platform can maintain continuity in students' education. It is being thought that any gap in a child's school education can have a negative impact on the child's socio-emotional and mental health, as well as on the child's overall learning outcomes. With the adoption of alternate channels of delivery like digital technology, the socio-economic gaps are expected to widen.

As far as teachers are concerned, teachers in the private sector have started adopting different platforms for teaching. But they are also in a fix of how to cover the entire syllabus in a shortened academic year. This is especially true for public schools and low-fee private schools with limited facilities to adopt digitization of education.

In this situation, parents need to ensure that the kids have the right resources to access EdTech platforms, like smartphones, tablets or laptops. With kids increasingly using these, it becomes important for the parents to monitor their child's online usage so that they do not fall into any online trap or dangerous online games.

2. Higher Education

In India, there are more than 800 universities and 50,000 colleges with roughly 3.8 crore students studying in them[1]. Just like primary and secondary education, higher education has also come to a halt in the lockdown. The colleges have been closed, the students have been asked to go back to their homes and efforts are being made to move the classes online. Many colleges that couldn't transition online immediately had closed completely. This situation is expected to have varying degrees of impact on the students enrolled and 14 lakh faculty members[ii] employed by the system.

Another important point that needs to be taken into consideration is that only a handful of colleges in India can provide quality education, while many others just look to fill in their seats to earn money. This leads to a large gap in what recruiters want and what colleges provide. The gap in skill requirement and skill provided can be bridged with the EdTech industry. It can be seen from the fact that distance learning and online courses such as eMBA are gaining popularity and the pandemic is expected to increase its acceptance by the relevant authorities. This paves way for students to get good quality education without leaving their place while at the same time teachers get an opportunity to address a large base of students. This, in turn, will ensure that the institutes improve their quality of education as a new competitor in the form of online degrees is emerging by leveraging the upcoming EdTech platforms. With COVID-19 in rampant, distance learning and e-education is expected to gain popularity and become the new normal.

3. Test Preparation

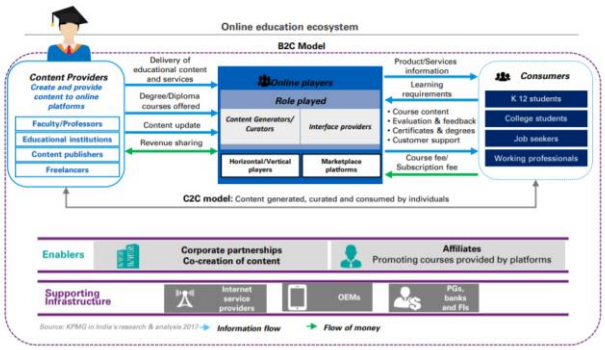
India, being a middle-income country, with everyone aspiring to have access to a better life, competitive exams seem to be the best option for entry to the job market. Every year more than 18 lakh aspirants apply for government services exams[iii], 9 lakh students apply for engineering entrance exams[iv] and 2 lakh students apply for management entrance exams[v]. For the preparation of these examinations, many cities like Kota, Hyderabad, Delhi, etc. have emerged as hubs with many coaching institutes running at a pan India level in an organized manner. Many aspirants migrate from their hometowns to these hubs in order to get better access to education and prepare for the various entrance exams. With lockdown in place, the coaching activities have temporarily come to a halt as people could not go to the institutes. With no idea when it will be safe for institutes to open, many have switched to EdTech platforms. EdTech platforms provide a medium for students to study without migrating from one place to another. They also provide teachers a platform to reach out to a larger number of students. Currently, this is the most popular segment for which EdTech platforms are used and it can be seen from the fact that the first Indian EdTech unicorn BYJU's focuses on Test Preparation.

As more teachers and students are adopting the EdTech platforms, in post-covid world, we can see more of the test preparation industry moving online which will reduce the migration and provide quality education to students.

4. Reskilling and Online Certifications

India's total workforce is more than 49 crores[vi] and is increasing at an average rate of 48 lakhs[3] every year in India. Many of the people in this workforce are those freshly out of college. As discussed earlier, the gap in skills required by recruiters and skills that India's students fresh out of college have is huge. Also, there are people who want to change their career line and need to reskill themselves. So, the reskilling and online certification comes into picture.

FIGURE 2. Online Education - Current Business model



Source: KPMG report: Online education in India

Brief policy initiatives in other countries

England

A strategy[vii] has been framed to realize the potential of Technology in Education. The key commitments include

- ➔ Clear vision and leadership: Clearly define the ambitions of the Government and Education sector for the EdTech businesses. Communicate what schools and colleges need to ensure aligned business investments.
- ➔ Supporting digital infrastructure: Work with the industry to accelerate roll-out of internet connectivity and infrastructure to schools and colleges. Promote cloud-based architecture for IT systems used by providers.
- ➔ Promoting effective procurement: Explore and build an online marketplace where educators can meet trusted providers. Facilitate good buying deals. Support online lending libraries where educators can 'try before buy'.
- ➔ Building digital capabilities and skills: Launch a network of technology enabled schools and colleges to support peer-to-peer learning. Implement adequate training resources for teachers and students for handling technology.
- ➔ Promoting digital safety: Provide governance on data security and privacy.
- ➔ Building Business environment: Ensure EdTech businesses have access to finances they need. Provide them with expert advice to align their resources with the needs of the education sector. Encourage incubators and accelerators to support businesses.

United States

They have a National Education Technology Plan (NETP)[viii] for the better use of technology in learning. The plan addresses all the relevant stakeholders in five broad areas.

- ➔ Learning: States, districts and institutions should ensure the learning ecosystem is accessible to students all the time and also check whether EdTech resources bring out the desired outcomes
- ➔ Teaching: Develop a common set of technology competency expectations for professors and anyone entering the teaching profession.
- ➔ Leadership: Put in place a strategy for the use of technology in education that is agreed upon by all stakeholders. Support funding models and purchase of

technology. Encourage openly licensed content and replace tasks and resources that have become outdated with the advent of technology.

- ➔ Assessment: Build models for continuous assessment enabled by sharing of data. Implement integrated learning dashboard, communication pathways and response systems for prompt feedback. Research on embedded assessment technologies like simulations, virtual worlds, collaboration environments, cognitive agents, etc.
- ➔ Infrastructure: Create a relationship map and database with connectivity, device and educational resources used by users across the country. Ensure every educator has access to at least one suitable internet-enabled device.

Chile

They have one of the most sophisticated ecosystems for adoption of EdTech resources in education[ix].

- ➔ A national curriculum that prescribes how ICT will adopted in schools and colleges
- ➔ National evaluation system that puts pressure on schools and colleges to comply with technology requirements. There are also funding programs available to support adoption.
- ➔ Laws and programs that enable institutions to partner with external agencies like companies, developers, etc. for content development and support for implementation of EdTech infrastructure with cost-efficiencies
- ➔ Centralized procurement platform of EdTech resource purchases with details like course curriculum, methodology, etc.
- ➔ Government policy and funding to support equitable access of technology for students at home. E.g., distribution of laptops, etc.
- ➔ Support entrepreneurship and establishment of new business in the EdTech industry.

Central Policies Relevant for the Problem Context

National Mission on Education through Information and Communication Technology (NMEICT)

A centrally sponsored scheme to leverage the potential of ICT in higher education. Under this, the mission is to provide access, equity, and quality of education to all colleges and universities and therefore, bridge the digital divide between rural and urban teachers/learners in the higher education domain. It plans to find an appropriate pedagogy for online learning, provide a facility for performing experiments virtually, conduct online examinations and certifications, and arrange effective guidance and mentorship.

Digital India & Skill India

The Government of India launched these programs in order to improve the digital literacy of the country, also creating a knowledge-based society with equal access to educational resources. Under these programs, several initiatives like e-Basta, e-Education, Diksha, Nand Ghars and Swayam have been launched. These initiatives have been described in Table 1.

TABLE 1. E-learning initiatives by MHRD

Resource	Description
SWAYAM	Massive Open Online Courses
SWAYAMPRABHA	Digital courses on TV
National Digital Library	E-content on multiple disciplines
e-PG Pathshala	Free e-books and curriculum-based e-content
e-Yantra	Hands-on-experience on embedded systems
FOSSEE	Free/Libre and Open Source Software for Education
Spoken Tutorial	Self-training in IT Fields
Virtual Labs	Curriculum based lab experiments

Source: https://mhrd.gov.in/ict-initiatives

Open Education Resources (OERs) Policy
The Government of India has formulated the Massive Open Online Courses (MOOCs) guidelines to develop OERs. Under this, the online courses are provided for free to the learners on the national portal SWAYAM. However, a certain fee is charged for assessment, evaluation, and certification. This allows major national universities to enter into agreements to provide online courses. This policy is in line with India's Make in India and Skill India schemes.

However, there are still gaps that need to be addressed to facilitate the implementation of EdTech support in school and college curriculum and also for the recognition and quality of online education. The next section illustrates some recommendations in this direction.

Policy Implications

Develop a public platform for purchase of EdTech resources at scale
With social distancing norms being practiced, an increased use of EdTech resources will be seen. In this direction it is important to have a government-backed platform with EdTech resources approved by educational coordinators like NCERT, UGC, AICTE, etc. for purchase to schools and colleges. This will enable access to quality content to all institutions while achieving economies of scale.

Establish Data interoperability standards
With increased adoption of EdTech resources, it is suggested to have certain standardizations in place for relevant hardware and software changes. It will help education institutions relay data between applications and allow them to choose from a broader catalogue and enhance learning.

Authentication and Job search aid
With more students and others adopting online education, there is a strong need to develop policies that facilitate accreditation of online courses and degrees/diplomas. Government backed development of curriculum and learning methods to ensure practical exposure (Simulations, Projects, etc.) will provide more authentication. It is also necessary to complement the courses with job search aid just as placement support in colleges.

Fiscal Support
Subsidies can be provided to educational technology players, to encourage them to provide access to their resources to a wider audience. Public-Private partnerships with telecom providers and other infrastructure players will help scale the use of EdTech products. At the same time, low fee private schools can be provided with financial support for broadband upgradation. Big private school players can be encouraged to provide their online offering to students of less privileged schools as a part of their CSR activities.

Early-stage venture capital support to local solution development
Government support, especially with respect to funding, through seed funding, partnerships, competitions, etc, can aid EdTech solution providers to develop resources more suitable to the local environment. Development of local resources will not only be cost-effective but also help in achieving equitable access of resources.

Teaching Staff & Faculty Training
With lockdown in place, the contractual teachers' financial stress has increased. Such staff can be asked to work on building online resources for students. It is also important to give weightage to training of teachers and faculty members to develop online content along with effectively delivering online courses and conducting their online assessment.

Alignment of School Education with Technical Skills
As a part of the new normal, young people will require non-replaceable technical skills in all parts of their lives. It is important to compulsorily embed these technical skills into school curriculum and assessments.

Ramping Up Digital Resources
For rural schools with limited connectivity, the best way is to leverage radio and television in the short run. In higher education, the percentage of online courses can be increased to ensure continuity of learning and higher education institutes can start taking into consideration the credit scores of these courses in lieu of regular courses.

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