

UNDERSTANDING THE ROLE OF EDTECH IN EDUCATION SECTOR DURING AND POST COVID19 PANDEMIC

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ABSTRACT

We currently live in a dynamic world a world in which changes are the evidence of growth. Over the last few years, technology has grown by leaps and bounds. Approximately three years back the entire humanity was exposed to covid-19. The adaptability and dynamic instinct that we humans carry helped us to sail through the new challenges that came ahead of us.

The entire world went into a state of lockdown. Various commercial activities stood shut and the entire world economy was in a state of panic. The education sector was not spared either. Schools, colleges, and universities across the world were shut but education had to be continued. Teaching fraternity across the world geared up and accepted that online teaching was the new normal. Students and parents on the other side accepted this fact and supported the mission. Many business applications which were used for day-to-day meetings were now used by teachers and students to connect digitally. New technologies lighter versions of software appeared in the market.

Covid-19 conspired development of a variety of software that made possible online education and helped the teachers as well as the students in the process of learning and getting educated. Many start-ups surfaced in the Indian as well as global markets. Budding EdTech companies saw multifold growth. Between April and December 2020, 'edtech' searches gained 60 percent on the Indian internet, according to Google Trends. Searches for individual companies such as BYJU'S, Vedantu, Toppr, and others that cater to India's 265 million school-going students — the highest in the world — gained even further.

A joint report by BARC India and Nielsen revealed that there was a 30 percent increase in the time spent on education apps in the first three months of lockdown

This paper is dedicated to understanding the impact of various EdTech companies on the lives of teachers, students, and parents.

INTRODUCTION

What is EdTech.

Investopedia Defines EdTech as “EdTech (a combination of "education" and "technology") refers to hardware and software designed to enhance teacher-led learning in classrooms and improve students' education outcomes”

EdTech is a term used to describe two words **E**ducation and **T**echnology. The merger of these sectors generated a plethora of Apps and Services. It paved way for a sector where technology made education accessible for all and anywhere. Many entrepreneurs were able to make their mark and execute their futuristic ideas. Covid19 laid emphasis on contactless world and virtual interaction became a necessity.

Technologically advanced companies got a chance to test their applications on various sectors and education was one of them. The merger of EdTech made it possible for many teachers and students to continue learning and facilitated exchange of knowledge.

International Universities also opted the online medium and connected with student's world- wide. Many tech giants started to focus on EdTech and new ways of connecting the teacher to student were researched upon. Business applications such Zoom, Google Meet, Microsoft Teams and many others

opened their doors for education institutes. Many companies even started giving free licences as it helped the corporates study user needs and develop their products in a better way.

REVIEW OF LITERATURE

Selwyn, N (2015) in his book *Critical Perspectives on Technology and Education* Reiterated a point made earlier, books such as *Critical Perspectives on Technology and Education* do not mark a resurgence of critical perspectives into the mainstream academic study of technology and education. All reasons outlined by him, he states that critical studies of technology and education may always swim against the tide of popular opinion especially those who are comfortable with what they have been using since ages. He has also argued that sustained critique is required if technology and education is to become a genuinely significant area of academic endeavour. He states that one of the obvious strengths of the critical approach is the ability to work with (and work around) the uncertain and often contradictory realities of technology and education.

Weller, Martin (2018). *Twenty Years of Edtech. Educause Review Online*, 53(4) presents an opinion which is often cited among educational technology (edtech) professionals that they live in a fast-changing field. This statement is sometimes used as a motivation (or veiled threat) to many senior managers to embrace edtech because if they miss out now, it will be too late for them to catch up. However, amid their breathless attempt to keep abreast of new developments, the edtech itself field is remarkably poor at recording its own history or reflecting critically on its development. He states that Edtech is also an area to which people come from other disciplines, so there are no shared set of concepts or history. This can be liberating but also infuriating.

Daniel Rodriguez-Segura (2021) *EdTech in Developing Countries: A Review of the Evidence* discuss the emergence of educational technology (“EdTech”) in developing countries has been received as a promising avenue to address some of the most challenging policy questions within educational systems. In his paper, he has reviewed and synthesized all existing studies with credible causal identification frameworks of EdTech interventions in developing countries. He mentions while other studies review the evidence for EdTech interventions in developed countries, there is currently no equivalent study for developing contexts, despite the rising number of studies being produced. He has classified studies into four thematic categories based on the type of EdTech intervention analysed: Access to technology; technology-enabled behavioral interventions; improvements to instruction; and self-led learning. He found that EdTech interventions centred around self-led learning and improvements to instruction are the most effective forms of EdTech at raising learning outcomes. Similarly, technology-enabled behavioral interventions are less promising for generating large effects but highly cost-effective given their typically low marginal costs.

Eric Bettinger, Robert W. Fairlie, Anastasia Kapuza, Elena Kardanova, Prashant Loyalka & Andrey Zakharov (2020) *Does EdTech Substitute for Traditional Learning? Experimental Estimates of the Educational Production Function*, state that experimental studies rarely consider the shape and nature of the education production function, which is useful for deriving optimal levels of input substitution in increasingly resource constrained environments. Because of the rapid expansion of EdTech as a substitute for traditional learning around the world and against the backdrop of full-scale temporary substitution due to the coronavirus pandemic, they explored the educational production function by using a large randomized controlled trial that varies dosage of computer-assisted learning (CAL) as a substitute for traditional learning. Results accumulated by them show production is concave in CAL. Moving from zero to a low level of CAL, the marginal rate of technical substitution (MRTS) of CAL for traditional learning is greater than one. Moving from a lower to a higher level of CAL, production remains on the same or a lower isoquant and the MRTS is equal to or less than one. Their findings show a direct implication for rapidly expanding use of educational technology worldwide and its continued substitution for traditional learning.

The Impact of Education Technology on Student Achievement: What the Most Current Research Has To Say, Schacter, John

This document analyzes the following five large-scale studies of education technology: (1) "Meta-Analytic Studies of Findings on Computer-Based Instruction" (J.A. Kulik) employed a statistical technique called meta-analysis to aggregate the results of over 500 individual studies to draw a single conclusion; (2) "Report on the Effectiveness of Technology in Schools, 1990-1997" (J. Sivin-Kachala) reviewed hundreds of individual studies whereby the authors shed light on consistent patterns that emerged across studies; (3) "Evaluating the Apple Classrooms of Tomorrow" (E.L. Baker, M. Gearhart, & J.L. Herman) reviewed a partnership between Apple and five schools across the nation; (4) "West Virginia's Basic Skills/Computer Education Program: An Analysis of Student Achievement" (D. Mann, et al.) reported the results of West Virginia's 10-year statewide education technology initiative; and (5) "Does It Compute? The Relationship between Educational Technology and Student Achievement in Mathematics" (H. Wenglinsky) assessed a national sample of fourth- and eighth-grade students using newer simulation and higher order thinking technologies. An evaluation of two smaller-scale studies that point to the promise that newer technologies currently afford is also included: "Computer Support for Knowledge-Building Communities" (M. Scardamalia & C. Bereiter) and "Software Design as a Learning Environment" (I. Harel & S. Papert). Conclusions are summarized related to impact and effectiveness. (AEF)

SCOPE OF STUDY

The study aims at understanding the awareness of EdTech amongst users, namely teacher, students, or parents. It checks the subject's awareness about various online platforms. The study checks their proficiency with regards to technology and its usage.

With the help of this paper, it was checked which are the most common used app and their familiarization among general users. It focuses on which apps are the easiest to use and vice versa. The study also highlights the connection of Covid with the growth of EdTech and the satisfaction of various users.

An attempt is made to understand the effect on EdTech on the student teacher engagement and lastly to check if they will prefer Online mode even if things to back to normal.

NATURE OF STUDY

The nature of this study is analytical. The data was collected using survey and analysed to understand the various apps that are being used by many. Formal markets have been developed for EdTech. Before the Covid Pandemic EdTech was considered an under-developed sector.

The demand and growth of this universal industry attracted many new companies as well as the existing ones. The study establishes the fact that the pandemic played a catalyst in recent growth in EdTech

AREA OF STUDY

The research was conducted with the target population from the Navi Mumbai area of Maharashtra, India.

NEED OF STUDY

EdTech as an industry / field has been advocated for more than a decade. It was only during the Covid Pandemic it got a giant boost. Many national and international companies have been trying their best to launch a successful product since decades. Educational institutions were also not ready to completely adopt a remote education system. However, the Covid pandemic came as boon in disguise where everyone just wanted to stay connected, be it for business or for learning.

The study allows us to understand the awareness and readiness of various users. It will also help us to get an insight on preferred app based on ease of use.

OBJECTIVES OF STUDY

1. To study the usage of EdTech Sector during the Pandemic
2. To understand the proficiency level of users (technology)

3. To study the impact of Covid19 on Usage of EdTech

LIMITATION

1. Due to Covid Pandemic entire data was collected online.
2. Geographical area has been limited to Navi Mumbai
3. The sample size is being 68 respondents is insufficient to generalise the same over the entire population.

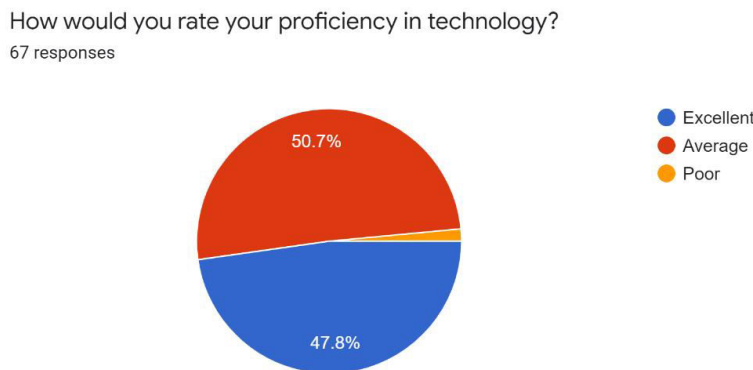
DATA ANALYSIS AND INTERPRETATION

Chart 1- Familiarity with Teaching Methods



Most of the respondents are very familiar with various online teaching methods. The term online teaching was known to many. The term or concept is not new.

Chart 2- Technology Proficiency

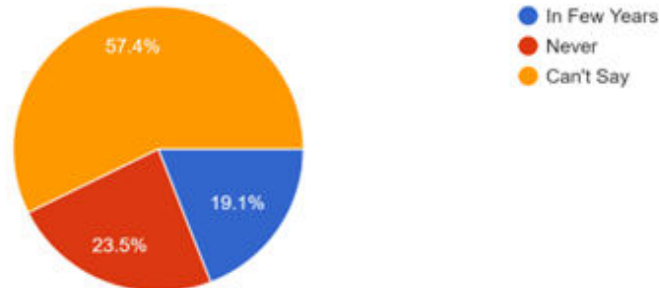


Most of the respondents reported that they are average when it comes to technology proficiency. This is indicating that there is a scope for technology awareness and user knowledge enhancement.

Chart 3- Switching To Online Teaching

If Covid19 had not happened, how likely were you to switch to Online Medium of Teaching / Learning.

68 responses

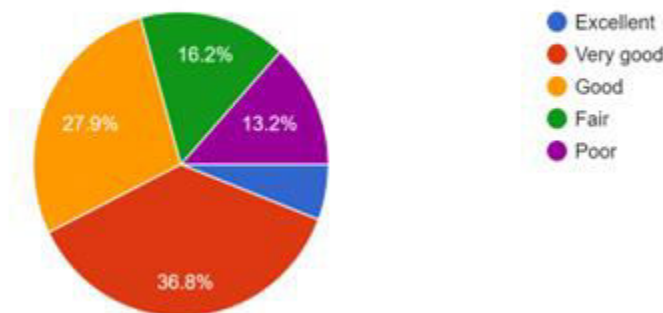


Major proportion of respondents are still unsure if they would have switched to online teaching. Covid impacted this move for many of them.

Chart 4 – Student- Teacher Interaction

How would you rate the Student- Teacher Interaction via online medium

68 responses

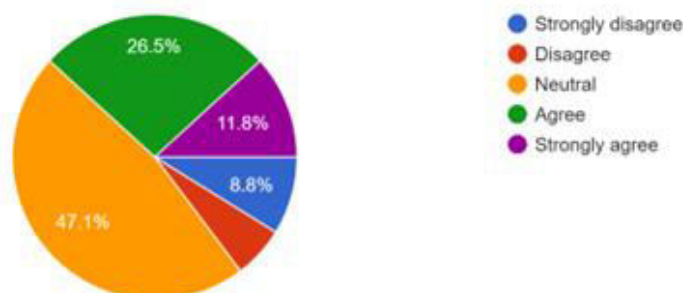


Majority of the respondents were happy with the interaction online. This indicating that the online teaching method is been accepted by many. The users are comfortable in online interaction and knowledge exchange.

Chart 5 – The New Normal

Online teaching will be the new normal. How strongly do you agree to this?

68 responses



47% of the respondents are neutral on believing that the online teaching will be new normal. 49.1% of respondents agree that the online teaching will be a normal practice, this shows that most of them have accepted the fact that online teaching will stay post pandemic.

FINDINGS

It was observed that during the pandemic many people opted for online teaching. They were already aware of online teaching as a medium, but the first preference was always off-line teaching.

Most of the respondents are average in being proficient technology users but simultaneously are very comfortable in sourcing information over the internet. Microsoft teams happened to be the most common platform followed by Zoom and Google Classrooms. Teams was rated to be the easiest application with users having no knowledge of Loom as an application. Zoom and Loom were rated as most difficult to use applications.

Covid greatly influenced the use of the online applications. More than 57% of the respondents are uncertain if they would have shifted to online teaching. If the pandemic would have not happened, 24% respondents prefer off-line teaching and would have never shifted to online teaching. 19% respondents look forward to online teaching and would have eventually opted in a coming year.

Major respondents are happy with the online teaching and find online interaction to be very good. There is a concern that online teaching limits the student engagement.

Major responses indicated are unclear that online teaching may be the new normal.

CONCLUSION & SUGGESTIONS

CONCLUSION

The pandemic came as a sudden shock to the entire world. It halted the world all together, but this paved way for new opportunities. Education sector exploited these opportunities and collaborated with many business applications to reach out and connect with students. Being left with no choice students and teachers adapted with available sources and continued the process of knowledge exchange. However, there are many who still are not keen on accepting the online mode of education as a regular one.

Edtech of today is strengthening the connection between what takes place inside and outside of the classroom. Teachers may build a sequence of "touch points" in a student's learning experience to help them feel more supported by having digital educational resources always accessible through apps and internal learning platforms. The EdTech sector has been long struggling to find a stage. Covid19 pandemic provided that stage and now the future depends on how well this sector can maintain the interest of audience – the Users.

Managerial Implications

With the advent of technology users must get trained to ensure optimum benefit. However, training comes as a cost. Companies must train their employees and also spend a huge chunk of money to educate customers.

Customers have a burden to be up to date with latest hardware so that they can enjoy the vast offerings of this sector. For instance, A variety of physical items have also proven useful Edtech tools for both teachers and students, making learning more impactful for kids. Since the beginning of the epidemic, remote gadgets in particular have experienced an extraordinary boom, and equipment like tablets and headphones are increasingly enhancing classroom activities. Since the stagnation of demand is not anticipated manufacturers struggle to manage markets and the demand, always in the fear that any moment the product may be considered as outdated.

Social Implications

Parents have to ensure availability of latest laptops, iPads and Tablets for their kids. The access to internet and media also exposes the growing children to hidden dangers of the World Wide Web. Awareness and Safety Education has become an additional responsibility for Educators and Institutions.

The EdTech boom has created a demand for hardware which can be an ecological concern in future. Governments are trying their best to come with standards that will help reduce dumping and e-waste concerns. It's estimated that urban households have about 10-14 unused chargers. This has led to manufacturers discontinuing shipping chargers and devices over the past few years, forcing consumers to splurge on them. Purchasing chargers and charging cords for every device is not practical and can be problematic for users. A single charger for all devices would make lives easier and hassle-free. If introduced, the policy could save significant money and increase convenience for users everywhere.

According to the updated Nationally Determined Contribution (NDC), India has committed to reducing the emission intensity of the GDP by 45% by 2030. With the benefits of a standard charger policy, approximately 2 million tons of e-waste generated annually in the country is expected to be significantly reduced. The country's allegiance to fight climate change and prevent its disastrous outcomes could be one step towards India's envisioned green future – one charger at a time.

For some users Edtech has so far occasionally been more of a hindrance than an aid. Too long have teachers struggled with cumbersome old IT systems. The dynamic world of IT is believed to stay on the similar update route which leaves no room of comfort for teachers and parents. Their struggle to stay abreast with Technology (EdTech) is never ending

SUGGESTIONS

Many users are still not very confident on using technology. They consider themselves to be an average user. Brands who want to excel in the field of EdTech will have to come with applications that are more user friendly and are easy to use as well. They will have to ensure that the end user is trained to use their applications.

Once the pandemic is completely eradicated, majority of users may opt to return to the traditional way – offline learning. Brands will have to strive hard to ensure they come up with solutions that entwine them with the conventional learning mechanism. This is the only way of their survival and growth.

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