E-LEARNING MARKET FOR EDTECH STARTUPS AFTER COVID-19 IN INDIA

Dr. Monika Bansal[*] & Dr. Yogieta S Mehra[†]

Abstract

Classroom teaching at every level viz., schools, higher education, coaching, and certifications saw a major setback due to pandemic COVID-19. Complete shutdown of classrooms was need of the hour to stop the spread of coronavirus. The current paper is an attempt to understand the various opportunities posed by pandemic for Edtech startups.

This paper attempts to understand the growth trends and growth drivers of Edtech industry in India. Current and popular Indian Edtech startups were reviewed to understand the market for Edtech companies. A survey was conducted to understand the perception of people towards Edtech startups with reference to their awareness level, satisfaction, customer database and market growth. Results have shown that digital learning has substantial potential to grow post- pandemic as well. The results here confirm the worth of EdTech startups in the current pandemic situation, and even after.

Keywords: *COVID-19, E-learning, EdTech start-ups, online teaching*

I. Introduction

In the year 2019, all of a sudden the whole world is hit by COVID-19. It is a major setback for everyone worldwide. Top most priority is to discourage physical contact and stop the transmission of corona virus in order to

[*] *Department of Management Studies, Deen Dayal Upadhyaya College, University of Delhi, (Corresponding Author) email: monikabansal30@gmail.com*
[†] *Department of Management Studies, Deen Dayal Upadhyaya College, University of Delhi, email: yogieta@gmail.com*

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reduce the impact of it. Lockdown, i.e., closure of every physical activity was one immediate solution as it could result in social distancing and breakdown of chain of contact. However, lockdowns posed many challenges for every stakeholder of the society across the globe. To keep the economy stable with shutting down of businesses to protect the people from infection is the toughest challenge for governments. For all the industries, it is the time to convert massive challenges posed by pandemic into a meaningful change and leverage out the opportunities. Businesses are required to address the new normal needs of their customers/consumers along with the financial and operational challenges of coronavirus.

In such unprecedented times, where every industry is impacted, education is no exception. No doubt, closure of educational institutes is on increasing side worldwide to stop the transmission of corona virus. The whole world is witnessing a drastic change in the functioning of educational institutes.

COVID - 19 pandemic has transformed the teaching learning process and several measures have been taken by governments to ensure the continuity of education.(Nicola et al., 2020) found online learning as a measure to cater to the needs of students in lockdowns and measured its effectiveness in India. With technology revolution round the corner, students are getting alternatives for interactive learning in real time. Courses offered are interactive, engaging and live. Learning beyond classroom is gaining popularity at an exponential speed. Covid-19 pandemic has fuelled this transformation. E-learning market has all the positives to share in the most unprecedented times. It proved to be a blessing in disguise for Edtech players.

1.1 Growth Trends in Ed Tech Industry In India

As compared to a funding of $1.8 Bn raised by Edtech sector in the last six years, 2020 alone witnessed a fund raising of $1.4 Bn (Figure 1). Before

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the pandemic Ed-tech startups were building their market gradually with limited acceptance among the consumers. However, because of lockdown and closure of educational institutions, it became mandatory to adopt e-learning ways and methods. Widespread availability of smartphones and other digital devices with internet made the road easier for these companies.

Edtech industry has appealed substantial flows of private investment since last five years (WEF, New Vision for Education, 2016).

Presently, 4500 plus edtech startups are operative in India. It is an industry which is projected to grow to $30 bn. As per a report of KPMG-2017 “Reskilling and certification is the most promising category and is expected to grow to USD 463M by 2021 which is currently growing at a CAGR of 38% since the year 2016.”

According to (Bansal, Bingemann & Oppenheimer 2020), it is relatively easier for MNCs to transit to new normal i.e, work from home. However, it is challenging for the education system to embrace new normal i.e distant learning. Online learning will be enjoyable by learners and it will pose a threat to traditional education (Selwyn, 2014).

Kishore & Shah (2019), studies that parents who are the decision makers for their children are already looking forward to alternative learning platforms for their children along with school.

As stakeholders across the country are experiencing online learning as an alternative learning resource in these difficult times, parents and students are realizing the power of online learning as compared to offline coaching class (Burch & Miglani, 2018).

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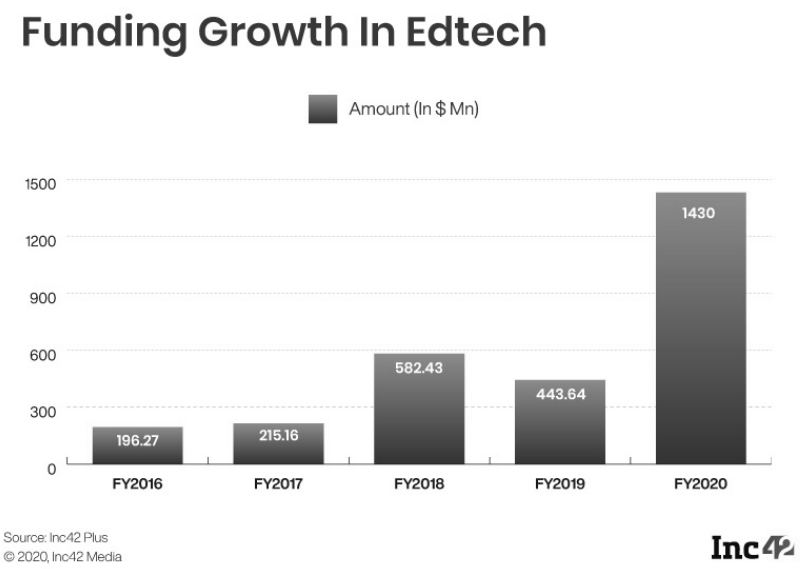
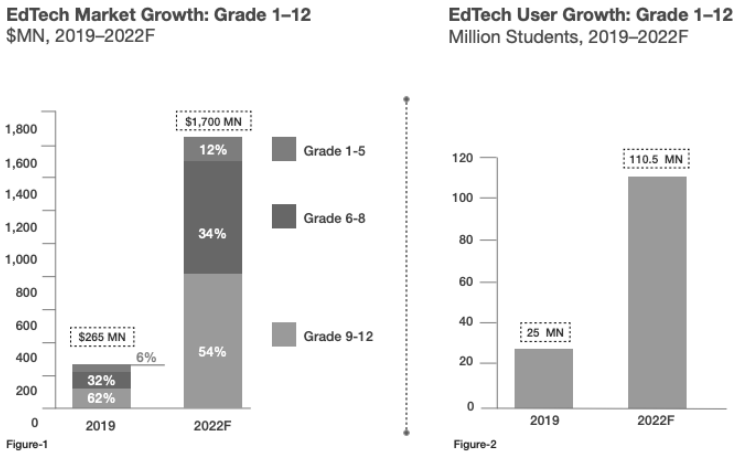
Figure 1: Funding Growth in Edtech



*Source*Inc42 Plus@2020, Inc42 Media*

According to Red Seer (2020) online education industry for K-12 will grow to 1.7 billion USD i.e, an increase of 6.3 times and for post-K12 market, it will expand by 3.7 times to reach a market size of USD1.8 billion.

Figure 2: EdTech Market Growth and User Growth



Source: RedSeer Report 2019-20

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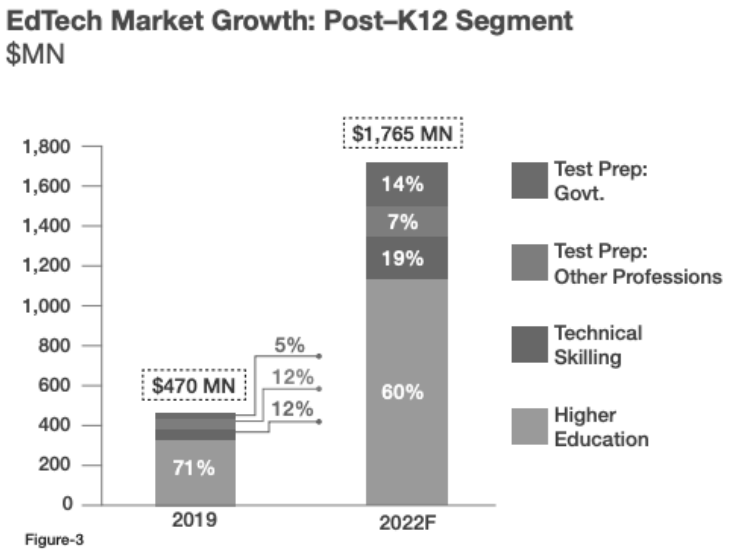
Figure 3: EdTech Market Growth Post K-12



Source: RedSeer Report 2019-20

1.2 Growth Drivers of Edtech Startups In India

Digitisation is fundamentally transforming industries and challenging established industry logics (Badhani, Shreeti & Mut, Julia 2017). Hsu et al.(2013) Edtech companies are creating different online and digital products to enable and equip educators to revolutionise teaching learning process. Business environment for any industry has a vital role to play. Positive environment for the industry makes the path to success smooth. The growth of Edtech industry will be driven by following factors:

Government Initiative - Indian government has realized the importance of Educational Technology (EdTech) for India. Government of India is putting special efforts to promote digital/online learning in India. Also, as pandemic has put restrictions on educational institutions, it becomes imperative to encourage shifting of traditional teaching to online teaching so that

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academic sessions are not interrupted. Several initiatives by government are as following:

1. DIKSHA (Digital Infrastructure for Knowledge Sharing)
2. SWAYAM (Study Webs of Active-Learning for Young Aspiring Minds)
3. SANKALP (Skill Acquisition and Knowledge Awareness for Livelihood Promotion)
4. STRIVE (Skill Strengthening for Industrial Value Enhancement)
5. National Digital Library

New Education Policy (NEP) 2020 with special emphasis on digital and online education also paved the way for Edtech organizations.

As per a statement by Byju Raveendran, founder of BYJU'S covered by Business Standard “The new policy’s focus on providing students flexibility and furthering digital education is timely and much needed. We believe that tech-enabled learning is the best way to achieve scale as well as maintain uniform quality irrespective of geography or physical infrastructure availability.”

Young Population and Willingness to Pay - India has the largest young population, representing half of the entire population under the age of 25. This generation is employable and looking forward to skill development through various training and certifications. Consequently, demand is surging for constant leaning of new skills as per the market requirements, which in turn is dynamic in nature. According to Economic survey of India (2017-18) income elasticity with respect to PFCE (private final consumption expenditure) for healthcare services and educational services is 1.95 & 0.93 respectively. It indicates that Indian consumers would prefer to spend more on educational facilities rather than healthcare.

Internet Penetration and access to Smartphones – A phenomenal change is witnessed with the accessibility of smart phones to everyone and

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everywhere. People are empowered in terms of availability of information. Smartphone itself is a complete world. The flexibility and affordability in EdTech will definitely have an impact on the prospects of a child. However, Smartphones will prove to be an asset only with affordable internet connectivity. Technology revolution has changed the internet consumption pattern of Indian consumers and proved to have immense potential in the field of education as one of the pillars of sustainable development.

As per UNESCO 2015 “Mobile phones, tablets and e-readers with broadband connectivity could prove to be the long-sought answer in the global effort to bring high-quality, multidisciplinary education to people everywhere, especially the world’s poorest or most isolated communities, according to the UN Broadband Commission for Digital Development.”

Internal Factors - Various growing digital platforms are offering certain strengths to the industry. These strengths prove to be an accelerator in their growth. Along with the external factors, internal environmental factors play equally important role in getting leverage and exploiting the potential of market. (Figure 4)

1. Bringing e-learning at par with physical classrooms learning : Pedagogy adopted by Edtech companies offers customized, multilingual, interactive and engaging study material in the form of videos and live sessions along with one to one instructors. Consequently, the need for physical classroom learning gets reduced.
2. Eradicating physical infrastructure need : As the platform for teaching learning environment is digital and online, brick and mortar infrastructure gets eradicated. Challenges like identification of physical facility, interiors, space, and limited student enrolment can be overcome by digital learning conveniently.
3. Empowering scale and reach : For any business to succeed, it should be scalable and reachable. With the advancements in

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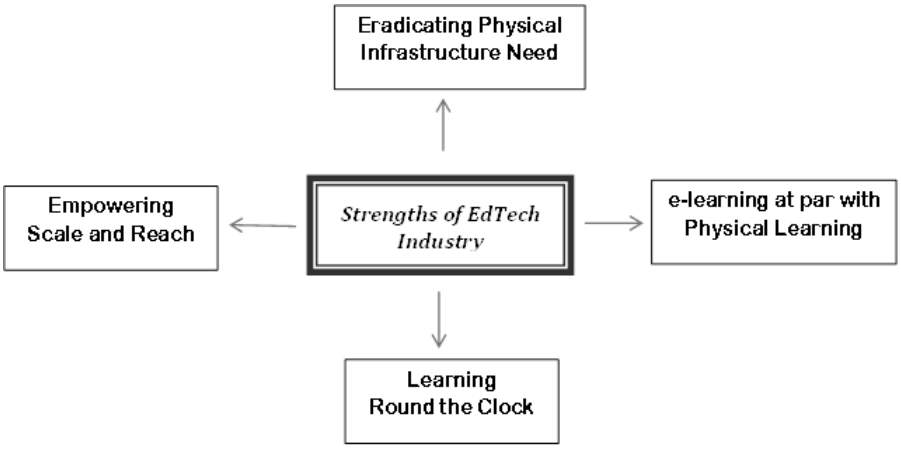
technology digital education has shown huge potential to scalability and reach to all segments everywhere. Gradually this industry is opening its wings to various sections of the market to cater the requirements.

4. Learning round the clock : Learning at the convenience of learner in terms of time makes online learning in demand. Flexibility given to learn anywhere anytime and even in phases is lucrative.

Figure 4: Strengths of EdTech Industry



Few of the popular startups in India are BYJUS, Unacademy, Upgrad, and Vedantu. They are growing at a rapid pace.

BYJU'S - founded by Byju Raveendran in 2011 is an e-learning platform with 15 million registered users. It provides online coaching for various competitive entrance exams and courses of classes 6 to 12.

Unacademy - started as a YouTube channel by Hemaash Singh in 2010, has now converted into an edtech company which has already provided learning lessons to 3million plus students.

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UpGrad - founded by Ronnie Screwvala and team is an online edtech platform providing higher education programs.

Toppr - founded by Zishaan Hayath in 2013is an online exam preparation platform for school students. Its focus is on school syllabus and entrance examinations like JEE, UPSC, NEET etc. and olympiads.

Cue Math - Founded in 2013, Cuemath is an excellence programme created for math for school children between KG and Class 10, and is available through blended approach i.e., both home-based and online portal.

Figure 5 shows companies like Udemy, Byjus, Courseera, Toppr and Unacademy have seen a substantial increase in traffic share in post lockdown period as compared to the pre-lockdown share. Many small startup have also geared up and got an increase in traffic share.

(Yati Soni, Inc42 2020), "According to Similar Web, based on a study of 35 top online learning platforms, the edtech segment saw a 26% increase in user visits between April 2019 to March 2020, as compared to April 2018 – March 2019. Further, the first 28 days of lockdown in India edtech segment saw 128.8 Mn visits (on average, 4.6Mn daily visits) as compared to 102.2 Mn average visits between April 2019 – Feb 2020."

Figure 5: Traffic Share EdTech before and after Lockdown

Pre Lockdown		Post Lockdown	
Domain	**Traffic share**	**Domain**	**Traffic share**
Vedanta.com	9.75%	Udemy.com	17.81%
Udemy.com	9.29%	Byjus.com	11.37%
Learncbse.in	9.20%	Coursera.org	10.10%
Byjus.com	8.67%	Toppr.com	8.81%
Gradeup.co	8.25%	Unacademy.com	7.58%
Unacademy.com	6.79%	Learncbse.in	6.13%
Embibe.com	6.26%	Vedanta.com	5.90%
Toppr.com	5.98%	Doubtnut.com	3.26%

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Tiwariacademy.com	4.98%	Gradeup.co	3.05%
Maritnation.com	4.42%	Aakash.ac.in	2.96%
Study.com	4.16%	Khanacademy.org	2.83%
Khanacademy.org	2.97%	Chegg.com	2.41%
Coursera.org	2.93%	Study.com	2.40%
Chegg.com	1.98%	Maritnation.com	2.35%
Onlinetyari.com	1.71%	Embibe.com	1.65%

*Source*Inc42 Plus@2020, Inc42 Media*

2. Research Methods

2.1 Objectives of the Study

As we understand that Covid-19 has posed many opportunities and challenges across all sectors. Education has also witnessed the impact of the pandemic. This study is an attempt to identify:

1. Growth trends in Ed tech industry in Delhi
2. Growth drivers of Ed tech startups in Delhi
3. The perception of customers towards Edtech startups during and post COVID-19

Taking the reference from the literature review following null hypotheses were framed:

H1 : Awareness level of Edtech Startups is independent of gender

H2 : Family Income has a uniform relationship with the willingness to spend on digital courses

H3: Online teaching is at par with classroom teaching

H4: Online teaching can replace classroom teaching

H5: Online teaching will continue post-pandemic

2.2 Data Collection Techniques

Data collection was done through self-administered questionnaires and secondary sources like published articles in reputed journals, magazines, and blogs. The questionnaire was developed with 12 questions, where five

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questions were related to the personal profile of the respondents and seven questions focused on collecting information about the Edtech industry.

The aim of the questionnaire was to measure the perception of people towards Edtech startups in India in terms of their awareness level, customer base, satisfaction level of customers, taking leverage out of the opportunity posed by pandemic, classroom teaching vs. online teaching and continuation of online teaching post covid-19.

2.3 Sample Design and Hypotheses

For the current study an e-survey was conducted. The population targeted was the residents of Delhi A total of 200 self-administered questionnaires were distributed to the targeted population. The sampling technique used for this survey was convenience sampling as the respondents did not belong to any specific framework. Against the targeted sample of 300 questionnaires, 190 responses were recorded yielding to a 76 percent response rate.

3. Data Analysis and Discussion

3.1 Profiles of the Respondents

3.1.1 Gender Profile (N=190)

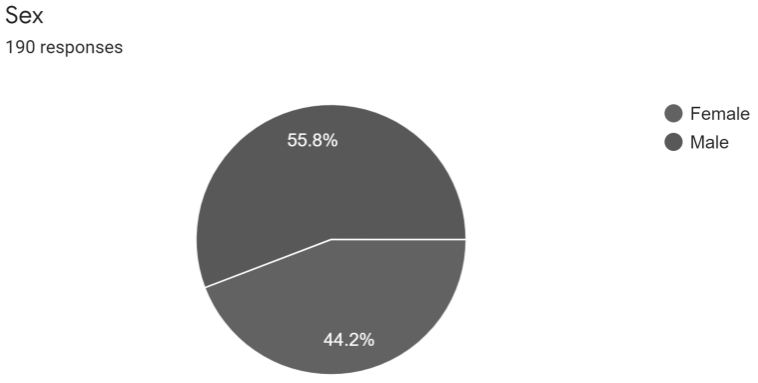

Chart 1: Gender Profile of Respondents

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Table 1: Gender Profile of Respondents

Gender	Respondents	Percentage
Male	106	55.8
Female	84	44.2
Total	190	100

As shown in Chart 1and Table 1 out of total 190 respondents 55.5 percent (106) are male and 44.2 percent (84) are female.

3.1.2 Age Profile (N=190)

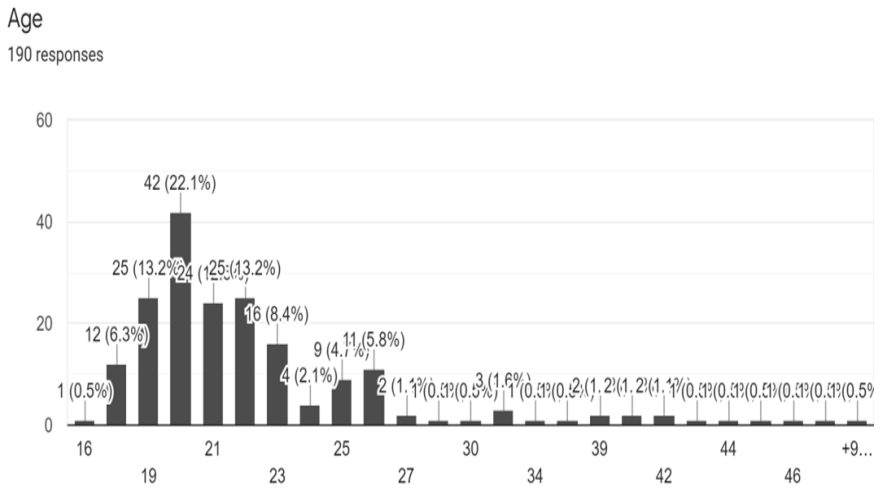

Chart 2: Age Profile of Respondents

Table 2: Age Profile of Respondents

Age Group	Respondents	Percentage
Less than 18 Years	01	0.5
Between 18 -25 Years	157	82.7
Above 25 Years	32	16.8
Total	190	100

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Table 2 depicts that most of the respondents i.e., 82.7% (157 in number) belong to the age group of 18-25 years. Rest of the 16.8 % respondents are from 26-50 years of age bracket. Only one respondent is below 18 years.

3.1.3 Family Income (N=190)

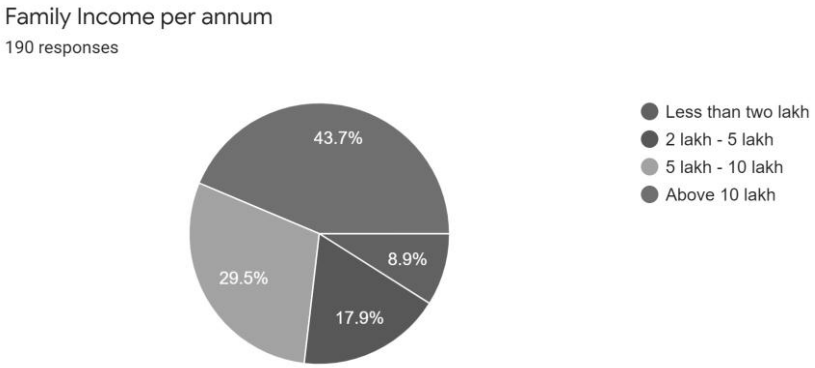

Chart 3: Family Income of Respondents

It can be observed from chart 3 that 43.7% respondents come from the family where annual family income is above 10 INR. Between 5-10 INR there are 29.5% and between 2-5 INR there are 17.9% respondents.

3.1.4 Educational Profile (N=190)

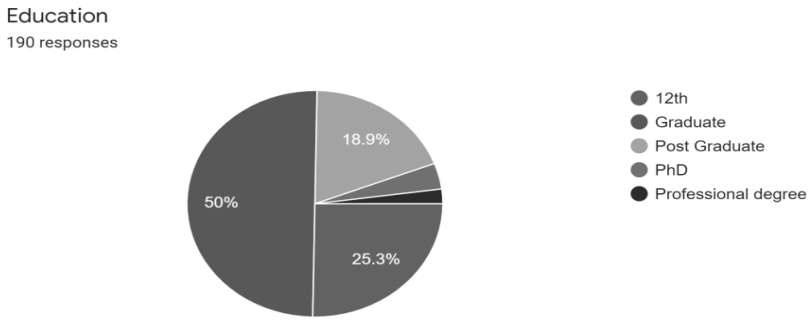

Chart 4: Educational Profile of Respondents

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50% respondents are graduate and 18.9% are post graduate. 3.7% (7 in number) are PhD holders and 2.1% (4 in number) have professional degree. Rest of the respondents are senior secondary level.

3.1.5 Residential Profile (N=190)

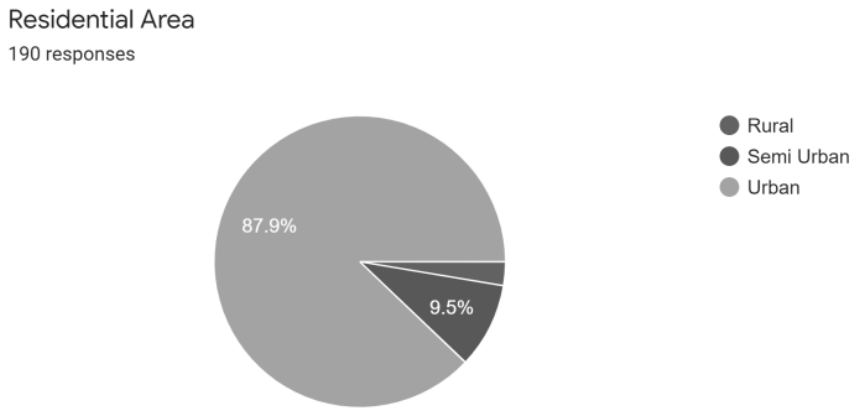

Chart 5: Residential Area of Respondents

Out of 190 responses majority of the respondents i.e., 87.9% live in urban areas whereas only 2.6% live in rural areas. 9.5% live in semi urban areas.

3.2 Descriptive Statistics

3.2.1 Awareness Level for EdTech Startups (N= 190)

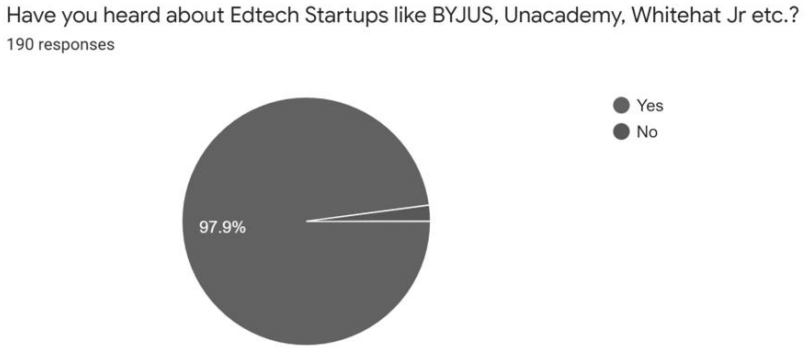

Chart 6: Awareness level for EdTech Startups

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It is evident from chart 6 that almost all the respondents (97.9%) are aware about the Edtech startups. They have heard about it. It can be attributed to the fact that majority of respondents are in urban and semi urban areas and they are aware about the various edtech companies.

3.2.2 Overall Customers of Edtech Startups (N=190)

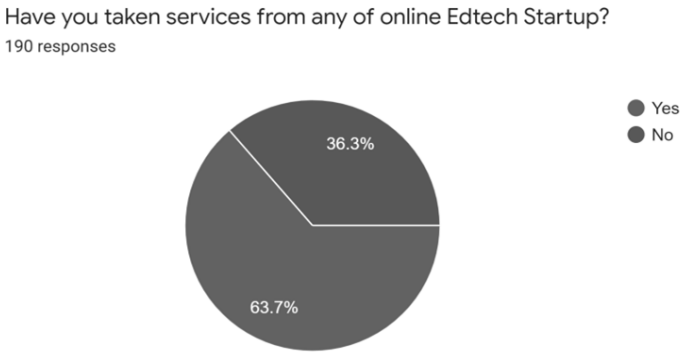

Chart 7: Overall Customers of Edtech Startups

As per chart 7, out of the 97.9% who are aware about the Edtech platforms, 63.7% have availed the services provided by them. Rest 36.3% respondents have only heard about it but not taken any course from them.

3.2.3 Customers of Individual Startups (N=124)

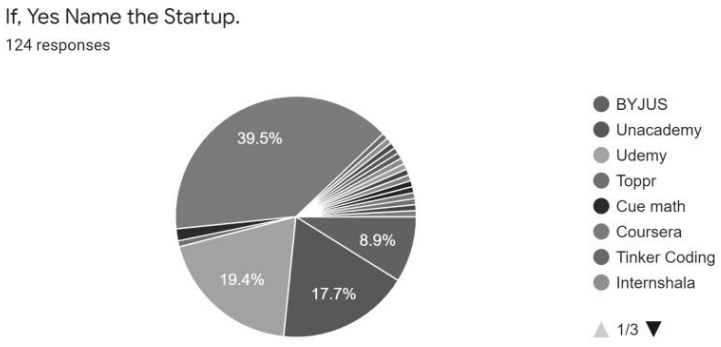

Chart 8: Customers of Individual Startups

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Chart 8 depicts that 39.5% of the population who have availed the services of Edtech companies are of BYJUS. Unacademy is providing services to 17.7% and Udemy has 19.4% customers. Coursera is at number 4 with 8.9%.

3.2.4 Satisfaction level of Edtech customers (N=132)

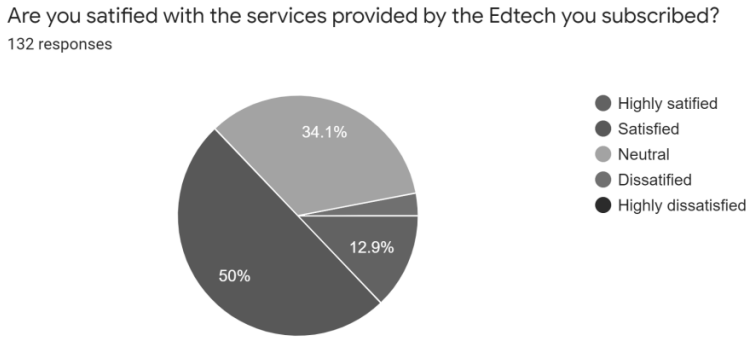

Chart 9: Satisfaction level of Edtech customers

50% service takers are satisfied with the services provided by these companies. However, 12.9 % are highly satisfied. A major percentage i.e., 34.1% is neutral about the satisfaction level. Only 3% are dissatisfied with the services of the service provider.

3.2.5 Perception to encash the opportunity provided by COVID-19 (N=185)

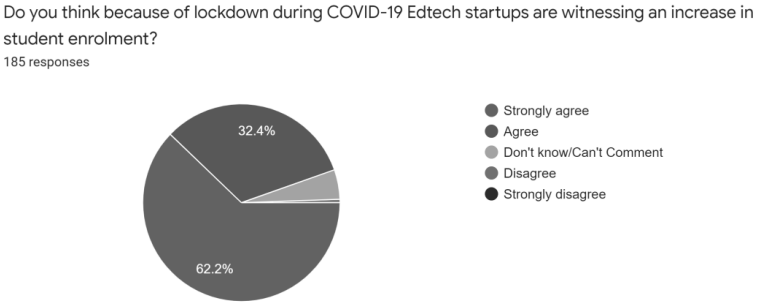

Chart 10: Increase in student enrolment during COVID-19

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Chart 10 shows that 62.2% strongly agree and 32.4 % agree in an increase in student enrolment during COVID-19 means a total 94.6 % have positive perception that EdTech companies are making their way ahead and in a position to encash the opportunity provided by pandemic.

3.2.6 Comparison of Classroom teaching and Online teaching (N=185)

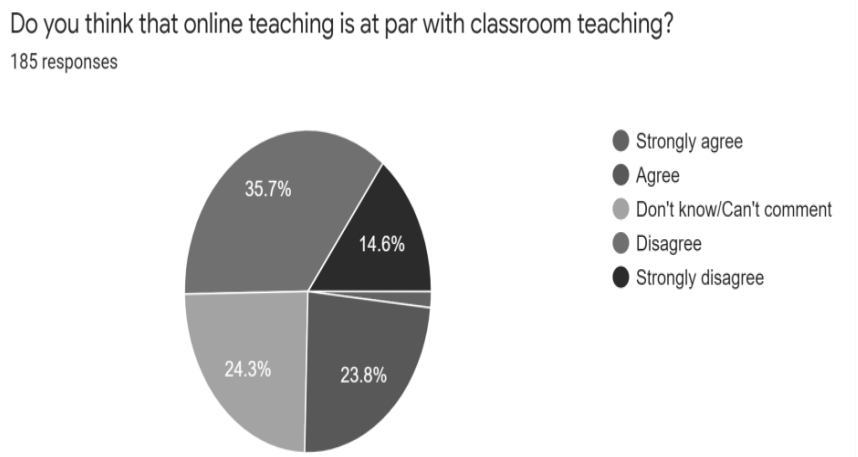

Chart 11: Comparison of Classroom teaching and Online teaching

When respondents were asked about the effectiveness of online teaching then more than 50% respondents found that online teaching is not at par with classroom teaching. Approximately 25% couldn't comment on the comparison of classroom and online teaching. Rest 25% found classroom and online teaching at par.

3.2.7 Continuation of Online teaching post COVID-19 (N=185)

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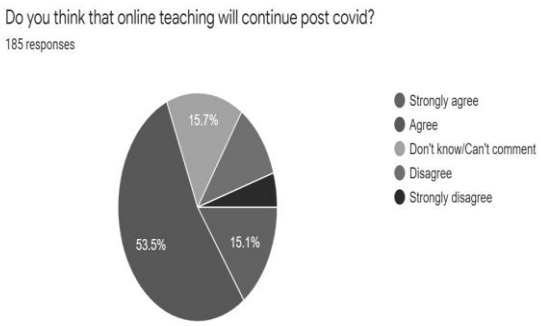

Chart 12: Continuation of Online teaching post COVID-19

Approximately 69% have agreed to the continuation of online courses and teaching post pandemic too. Only 15% showed apprehension about the online teaching continuity.

3.3 Inferential Statistics

H1 : Awareness level of Edtech Startups is independent of gender

Chi square test was applied between gender and awareness level of the respondents as shown in table 3. Confidence Interval used is 95%. Results in table 3 show that almost all respondents are aware of Edtech startups and courses offered by them. As shown Chi square value is 0.611. Significance value of 0.434 is higher than p value (0.434 > 0.05) which signifies that male and females ate equally aware about the startups. There is no significant difference between their awareness level.
Hence, null hypothesis (H1) cannot be rejected.

Table 3: Gender * Awareness level Cross tabulation

Count				
		Awareness level		Total
		No	Yes	
Gender	Female	1	83	84
	Male	3	103	106

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Total	**4**	**186**	**190**

Table 4: Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.611[a]	1	.434		
Continuity Correction[b]	.075	1	.785		
Likelihood Ratio	.648	1	.421		
Fisher's Exact Test				.631	.403
Linear-by-Linear Association	.608	1	.435		
N of Valid Cases	190				

H2 : Family Income has a uniform relationship with the willingness to spend on digital courses

Table 5 depicts that there is a uniform relationship between the family income and willingness to spend on online/digital courses. 139 respondents out of 190 i.e. 73 percent belong to families with an income of more than 5 lakh per annum and are willing to spend on these courses to strengthen their skills. Chi square value is 1.895 and the significant value of 0.929 is greater than the p value of 0.05 (0.929 > 0.05). This signifies that there is no significant difference, therefore, null hypothesis (H2) failed to reject.

Table 5: Family Income * Willingness to spend Cross tabulation

Count					
		Willingness to spend			
		Less than 5000 INR	5000 - 10000 INR	More than 10000	Total
Family Income	Less than 2 lakh	13	4	0	17
	2 to 5 lakh	28	6	0	34

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	5 to 10 lakh	43	12	1	56
	Above 10 lakh	67	14	2	83
Total		151	36	3	190

Table 6: Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.895[a]	6	.929
Likelihood Ratio	2.636	6	.853
Linear-by-Linear Association	.012	1	.911
N of Valid Cases	190		
.			

H3: Online teaching is at par with classroom teaching

H4: Online teaching can replace classroom teaching

H5: Online teaching will continue post-pandemic

Mann-Whitney U was applied to test the hypotheses as the responses recorded are on likert scale. (Strongly agree - 5, Agree - 4, Can't comment – 3, Disagree - 2, Strongly disagree - 1)

As shown in table 9, significance value at the confidence interval of 95% for the variable 'Online teaching at par with classroom teaching' is 0.369 which is greater than 0.05 (0.369 > 0.05). Hence we cannot reject the hypothesis 3 (H3). According to (Mishra et al., 2020) students do recognize the value of online learning as they could continue their education because digital platforms available during pandemic.

Significance value at the confidence interval of 95% for the variable 'Online teaching can replace classroom teaching' is 0.624 which is greater than 0.05 (0.624 > 0.05). Hence the hypothesis 4 (H4) got failed to reject.

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Significance value at the confidence interval of 95% for the variable 'Online teaching will continue post pandemic' is 0.427 which is greater than 0.05 (0.427 > 0.05). Hence the hypothesis 5 (H5) cannot be rejected.

Table 7: Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Online teaching at par with classroom teaching	190	2.62	1.051	1	5
Online teaching can replace classroom teaching	190	2.30	1.088	1	5
Online teaching will continue post pandemic	190	3.65	1.017	1	5
Gender	190	1.56	.498	1	2

Table 8: Ranks

	Gender	N	Mean Rank	Sum of Ranks
Online teaching at par with classroom teaching	Female	84	99.37	8347.00
	Male	106	92.43	9798.00
	Total	190		
Online teaching can replace classroom teaching	Female	84	93.42	7847.00
	Male	106	97.15	10298.00
	Total	190		
Online teaching will continue post pandemic	Female	84	92.25	7749.00
	Male	106	98.08	10396.00
	Total	190		

Table 9: Test Statistics[a]

	Online at par with classroom	Online can replace classroom	Online will continue post-pandemic
Mann-Whitney U	4127.000	4277.000	4179.000
Wilcoxon W	9798.000	7847.000	7749.000
Z	-.898	-.490	-.795
Asymp. Sig. (2-tailed)	.369	.624	.427

a. *Grouping Variable: Gender*

4. Results

Results drawn from the current study are as following:

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- Majority of the respondents are aware about the Edtech Startup. They have heard about it. They also know that these platforms provide digital/online teaching tools.
- More than 50% have joined the courses/certifications provided by these Edtech platforms.
- BYJUS, Udemy and Unacademy scored first, second and third position respectively in terms of enrolment rate.
- Majority of the enrolled learners showed their satisfaction to the performance of the platform they are using.
- Almost everyone agreed to the fact that these Edtechs can encash the opportunity posed by pandemic COVID-19.
- Half of the respondents didn't agree that online teaching is at par with class room teaching. They weighed classroom teaching more.
- Almost two-third of respondents perceived that online teaching will stay even after post COVID-19.
- All the null hypotheses framed in the study could not be rejected.

5. Conclusion

It becomes evident from the results that apprehensions for adoption of e-learning got dropped down during national lockdowns resulting in closure of educational institutes to prevent the nation from spread of corona virus. EdTech startups emerged as an alternative to classroom teaching to continue learning of the students through technology. COVID19 offered a huge benefit to e- learning industry. Ed-tech startups are taking leverage of this opportunity and capitalizing over the E-learning market. The online education industry will continue to exist even after pandemic and situation gets normal. However, online teaching cannot replace classroom teaching and blended mode of teaching will continue. "Online courses have a positive and powerful role in improving the quality of teaching (Hong, Y et al., 2020)." The study indicated towards the positive aspects of Edtech startups. It was observed that this industry has emerged as a saviour to students, teachers and universities to continue the learning process during

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COVID-19 pandemic. E-learning can emerge as a strong competitor to classroom learning in the future.

6. Managerial Implications

Findings of the present study help the edtech startups and organizations along with educational institutes to understand the perception of Indian students towards online teaching. Various decision makers can use this study in order to plan their strategies and actions accordingly. Stakeholders will tend to understand the future of online educational industry post covid-19. Experience of online classes, feedback on the quality, and comparison with offline mode of learning can provide valuable inputs to industry and educational organizations. It is useful for the practitioners while establishing an online education system.

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