

Growth of Edtech Market in India: A Study on Pre-pandemic and Ongoing Pandemic situation

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Abstract

Background and Aim: The Covid-19 outbreak struck India's economy at an inopportune time when the country's GDP was slowing. Technology allows individuals connect and even work remotely without the need for face-to-face interaction during times of crisis, providing inventive and resilient solutions to prevent disruption. As firms adopt new technologies for communicating and working, this results in a slew of system adjustments. Since different Ed-tech platforms such as Byjus, Unacademy, Vedantu, White Jr, and government platforms such as Diksha, Swayam, Swayam Prabha, Nistha, and others are growing before and after pandemics. It has far-reaching implications for traditional classroom teaching-learning methods and has transferred the apparatus to a digital platform. An honest endeavor has been made to examine the two leading digital learning platforms (Apps), namely Byju's and Unacademy, over three time periods, namely before the outbreak, during the outbreak, and in the future. An economic overview of a segment of the education sector, namely digital learning, has been investigated to anticipate future development potential and profit production by using forecasting methods.

Methods: The research is based on secondary sources and covers the years 2018 to 2020. The research is purely descriptive. The future performance of these companies will be covered in this future performance span, where we will anticipate the rise of digital learning apps in the future, such as for the years 2022 and 2023, using various forecasting methodologies. The moving average approach, basic linear regression, and straight-line methods are among the various forecasting methods.

Results: The coefficient of determination (R^2) for Unacademy is found significant with the value of 0.896 and that for Byju's is found significant with $R^2 = 0.977$.

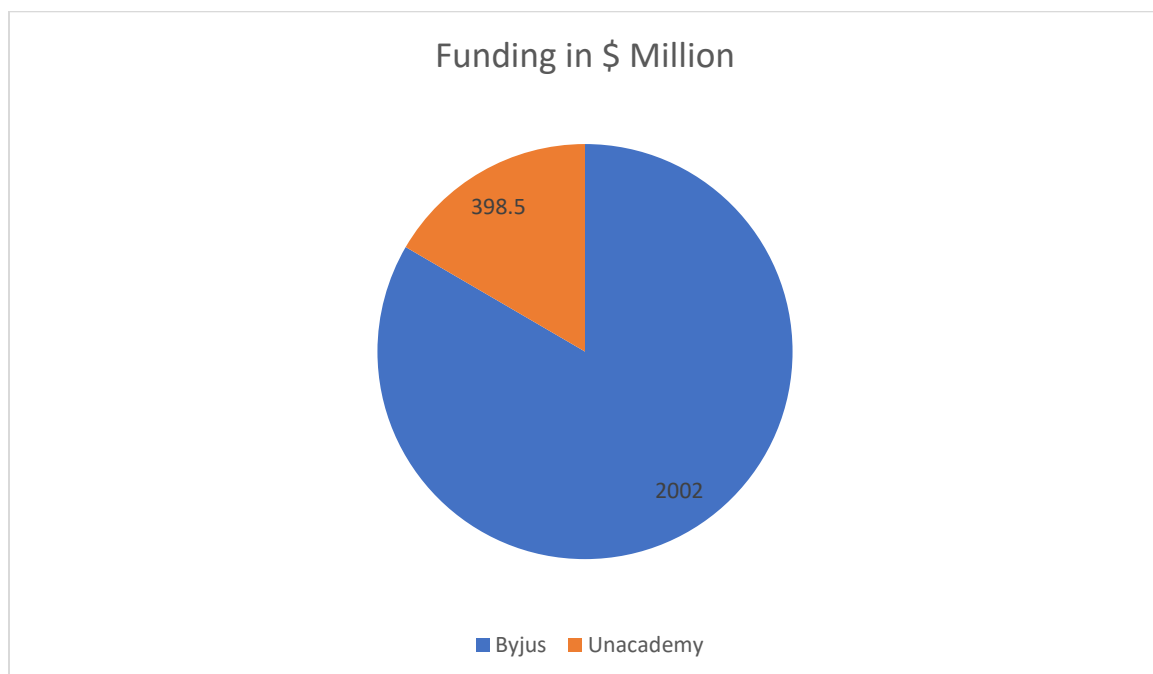
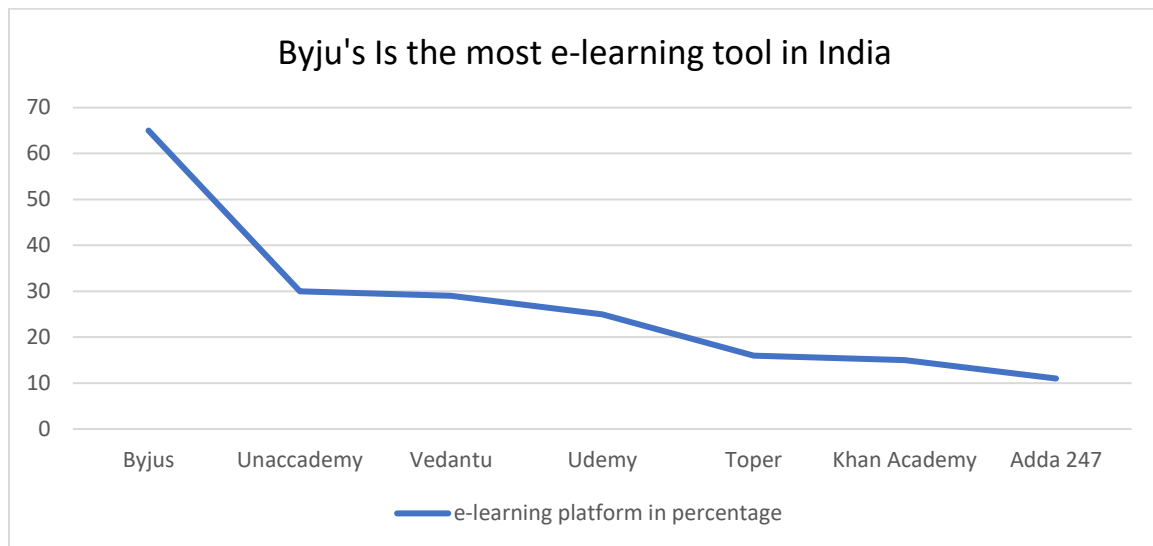
Conclusion: In the conclusionary paragraph, it has been finding out that the performance of the Unacademy and Byju's has increased during the epidemic season and expected to increase in the future as well.

Keywords: Covid-19; digital learning; profit generation; forecasting; growth potentialities.

Introduction

In this study, we will discuss the performance of the leading digital learning apps such as the digital learning app of Byju's and the digital learning app of unacademy. The performance of these learning app will be discussed in three spans. In the first span, the past performance of the digital learning apps will be discussed which belongs to the before COVID-19 impact. In the second span of the digital learning apps, the past performance of the digital learning apps will be

discussed which belongs to the after COVID-19 impact and in the third span of the digital learning apps, the prediction of these companies in the future will be discussed. In this future performance span, we will forecast the growth of the digital learning apps in the future such as for the years 2022 and 2023 by using the different forecasting methods. These different forecasting methods includes the moving average method, simple linear regression method and straight-line method.



Unacademy Vs Byju's: Ed-tech battle for market share in 2021

Objective of the study: This paper tries to fulfill the following objectives:

1. To analyze the performance of Byju's and Unacademy in pre pandemic and post pandemic period
2. To examine the nature of profitability of the two leading digital learning platforms in three different time periods, that is, Pre-Pandemic, Ongoing pandemic and Future.
3. To examine the future potentialities of both to grow.

Methodology: The research is based on secondary data. It covers the year 2018 to 2020. It also tries to find out the future potentialities considering the years 2022 and 2023. The research is descriptive, analytical and somewhere quantitative in nature. Various forecasting methods are used to examine the future potentialities of Byju's and Unacademy. The Moving Average Method, Basic Linear Regression and Straight-Line Method are among the various forecasting methods.

Before COVID-19 Performance of Unacademy Digital Learning App

As unacademy enter a new decade, one of the outcomes of this year will be the transformation of the Indian education system, especially learning outside the classroom. The use of technology at all levels from the automation of school enrollment to technology-supported classrooms, has witnessed an initial spark of educational change in this decade (Sharma, 2018). By the year 2021, the market size of the educational technology industry is estimated to reach \$ 1.96 billion. In the 2019 Internet Trend Report, Mary Meeker said there has been a huge boom and growth in online education in recent years. The application of technology in education has also become a priority area of governance.

The government has stated in its draft for the national education policy that technology will play an important role in improving the education system. The draft directive indicates that the relationship between technology and

education is two-way at all levels. So, in terms of growth, ed-tech participants will get bigger and better under the scanner and have access to the user base. At the same time, educational technology startups raised \$ 365.2 million this year through 44,000 transactions, attracting the interest of many investors. But as a start-up, one of the main challenges is making a profit.

For example, Byju's, India's first educational technology unicorn, did not meet its forecast for fiscal year 2018 but managed to reduce the annual loss suffered by the Indian rupee 29 crore (Gaharwar, 2020). The company aims to acquire Indian rupee 1,400 crore in fiscal year 2019, but the company financial data have not yet been published.

Although Byju's and Unacademy operate at different levels, investor interest in these two companies is huge. To date, Unacademy has raised a total of \$ 88.6 million from investors including Steadview Capital, Sequoia India, Nexus Venture Partners and Blume Ventures. Unacademy's journey began with free YouTube tutorials to teach students, but in the year 2015, the company began offering free courses in all possible subjects in multiple languages. Today, the company has more than 10,000 registered teachers and 13 million students. The company claims to show 100 million pageviews per month on multiple platforms, including Unacademy, Unacademy Plus, Wifistudy, Chamomile Tea Stuffing, Unacademy Studios and The Solutionists.

Interestingly, the company's documents show that the Unacademy Plus portal began to generate revenue through its subscriber model (Anand, 2020). The company said in its documents that it earns revenue from the provision of technologies and platforms for online courses, which is considered to be the full consideration received from students, minus the proportion of revenue related to the faculty. The participation of educators depends on the terms of the contract with the appropriate instructor. In addition to this, subscription plan revenue is based on the total number of courses offered. Interestingly, in fiscal year 2019, much of the company's operating revenue came from subscriptions. In the financial year 2019, the

company's operating profit increased 5.6 times to INR 11.66 crore, from INR 1.76 crore in the fiscal year 2018. The document states that management is very confident that the services provided by the company will receive a lot of business.

Before COVID-19 Performance of Byju's Digital Learning App

BYJU's is an Indian multinational scientific and technical organization based in Bangalore. It was founded in the year 2011 by Byju's Raveendran and Divya Gokulnath. In August 2015, after four years of development, the company launched the BYJU's learning application. In the year 2018, there were 1.5 million users and 900,000 paying users. In July 2019, BYJU won the support of the Indian cricket team jersey.

BYJU's slogan: "Fall in love with learning"

Services

BUJY's is a freemium version of an educational tutorial application. Free access to the content is limited to 15 days after registration. It started in August 2015 to provide scientific content for 4 to 12 class of students. And in the year 2019, the early learning program started from the first level to the third level. It also trains students for Indian exams including IIT-JEE, NEET, CAT, IAS and global exams including GRE and GMAT.

Educational topics and concepts are defined in a 12 to 20 minutes digital animated film. BUJY's analytics typically has 40 million (400 lac) customers, 30 lac (3 million) paying subscribers per year, and an annual retention rate of approximately 85 percent. In the year 2019, the company announced that it will launch the app in the languages of the Indian region. It also plans to launch a global version of the app for students in different international regions.

Growth

BYJU's is a very modern start-up company with great results in the market. It follows strict advertising techniques. Shahrukh Khan is one of Bollywood's hottest actors and an ambassador for the BYJU's brand. This company has already occupied the Indian market and established its

own company in the Middle East (Chandran, 2018). BYJU's plans to expand into international markets such as the United States, the United Kingdom and South Africa. In January 2019, BYJU's acquired US Osmo, a US education platform to expand its presence in the United States. The company, in partnership with Disney, launched the learning for 1 to 3 grade students to provide the guidelines for early learning application. These are the products that can help students to learn more effectively. In the year 2018, BYJU's won several awards.

Funds and Finances

BYJU's received start-up funding in the year 2013 from Aarin Capital. In the year 2019, BYJU's received nearly \$ 785 million in support from resellers, including Sequoia Capital India, Chan Zuckerberg Initiative (CZI), Tencent, Sofina, Lightspeed Ventures, Verlinvest- from a Brussels-based home-based workplace, IFC Development Finance, Napsters Ventures, CPPIB and the popular Atlantic region. BYJU's became the first Asian institution to receive support from the Chan-Zuckerberg Initiative (co-funded by Facebook founders Mark Zuckerberg and Priscilla Chan).

According to employer documents submitted to the Department of Corporate Affairs, BYJU became a unicorn, estimated in March 2018 at \$ 6,505 billion (\$ 1 billion).

Revenues

BYJU's reported revenue of INR 4.9 billion in the financial year 2017 to 2018 and increased to INR 14.3 billion in the financial year 2018 to 2019, approximately 2800 crore INR for the fiscal year 2020. BYJU is focusing on doubling the company's 12-month income by March 2021.

After COVID-19 Performance of Byju's Digital Learning App

To meet a lot of calls, many online learning stages offer free contact facilities, together with platforms like BYJU's which is a Bangalore-built online education and training business founded in the year 2011 and the world's most popular education technology company (Sinha, 2019). The company's chief operating officer, Mrinal Mohit said that BYJU has increased new

students' exploitation by 200% since the announcement of free live lessons in the Deliberate and Study app.

The Covid-19 epidemic helped the education technology company Byju's to run and grow fast which helped to raised fewer than \$ 100 million from Silicon Valley stakeholders and expert which exceeded the capital from \$ 10 billion (Tripathy, 2020). Byju's quickly bridges the gap and becomes the country's most valuable startup after Paytm, a \$ 16 billion digital payment company. It was ahead of the cheap hotel Oyo, which had a final valuation of \$ 10 billion. Before that, he replaced Ola Company as the 3rd biggest unicorn in January. Afterward securing capital for Tiger Global Organization, its value exceeded \$8 billion.

Industry experts said that the Bangalore-built company has reached a new deal after showing that US investors, raised the quantity of the new student's connection with the online Stages. Online study based at home is the limitation caused by a Covid-19 epidemic. Apart from that, Byju became a unicorn in the year 2018 (the company worth over a billion dollars) and became a decacorn (the company respected at over \$ 10 billion) in the era of two years.

Salman Waris, the Working Partner of Tech Legis Advocates & Solicitors, said that Byju's ten-coin status is due to the recent strong growth in the e-learning area and the restrictions imposed by the recent Covid-19 epidemic (Chavan, 2019). It is known that the schools and universities are closed for months which is a benefit for Byju's like many other players in educational technology, has benefited from the lockdown.

In response to school closures due to Covid-19, Byju's is offering free content to all students through its learning application. It also offers life lessons to further increase student participation. Analysts say this could allow Byju's to launch a new wave of users, allowing an additional 13.5 million customers to be added in March and April.

Byju's Raveendran, originator, and CEO of Byju's said that this disaster has carried e-learning to the front and facilitated parents,

instructors, and undergraduates to know its worth. He further said that the classroom after the lockdown will be based on technology which is the essential that allows scholars to move from inert education to active learning (Krishnan, 2020). The outcome will be the best grouping of online and offline educational products.

Byju's last year saw phenomenal growth, with more than 57 million enrolled scholars, additional than 3.5 million paying users, and a yearly renewal rate of 85 percent in the year 2019 to 2020. In fiscal year 2019 to 2020, Byju's revenue doubled from 14 billion INR to 28 billion INR. Experts say as India fights the coronavirus epidemic, much of the \$ 180 billion in the education sector will be online to adjust to the new truth, which offers an opportunity for educational technology companies, plus Byju's. Many informative organizations are generating virtual knowledge infrastructures and fundamentally changing the way teaching is delivered over millennia.

After COVID-19 Performance of Unacademy Digital Learning App

It is an online learning business founded by Gaurav Munjal, co-creators, Hemesh Singh and Roman Saini. Recently, Unacademy raised \$ 50 million to fund Series D. By the expert opinion, this will make the company the largest Indian unicorn after the Byju educational reception (Kumari, 2020). It may be too early to judge Unacademy's financial success, but it is safe to say that he has already established himself among his peers and that its success is commendable.

Unacademy has more than 3 million subscribers and more than 250 million views on its YouTube channel. In the first two rounds of funding, Unacademy successfully opened up the education market in Indonesia and Brazil (Reddy, 2020). While other educational channels may be of a similar degree and attentive to Unacademy, they cannot take advantage of a platform like Unacademy.

No educational revolution can start from ordinary education, they have to start and penetrate the parallel education system first.

Here they can create a logo for Unacademy (even BYJU's) because they are not a substitute for schools or colleges. They are currently focusing on replacing the parallel education system. The concept of cheap learning in the home makes these applications very attractive to students. These applications and websites currently have a very clear purpose: they are not intended to replace teachers, but to strengthen the teaching and learning process. Recent history shows that giant companies trying to replace traditional classroom teaching models, that teachers have proved unstable.

The culture continues to maintain the deep importance of teachers and the physical learning process. There is a need to make deep social and generational changes to substitute this knowledge development with a virtual learning environment. In the continuing Covid-19 disaster, educational technology and e-learning businesses have significantly increased many students by using these platforms and applications because many institutes and academies have been inaccessible due to the Covid-19 epidemic.

Student and parent interest in the family study plan has more than doubled last week.

Metropolitan and non-metropolitan students are increasingly accessing application courses. Students in year-end (advanced) exams modify key concepts with video lessons, while first-graders learn new concepts and prepare for next year. The additional feature is that, new scholars can visit the app all day.

Future Performance of Unacademy Digital Learning App

The future performance of the Unacademy has been assessed by using the three ways, the first way is the straight-line method, the second way is moving average method and the third way is simple linear regression method. The below mentioned table shows the future prediction of revenues for the Unacademy for the years 2021, 2022 and 2023. The all of the three options are providing the different forecast for the company, as it is knowing that the future predictions are not 100 percent accurate all the time, the average have been taken of these three predicted revenues for the year 2021, 2022 and 2023. The average for the year 2021 is 375 crore INR, for the year 2022 is 861.29 crore INR and for the year 2023 is 1,885.42 crore INR.

Unacademy Revenues In Crore	
2018	5.22
2019	21.89
2020	86

Straight Line Method	
Unacademy Revenues In Crore	
Compound Growth Rate	154.5%
2021	218.83
2022	556.82
2023	1,416.86

Moving Average Method	
Unacademy Revenues In Crore	
2021	37.70
2022	145.59

2023	269.30
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Simple Linear Regression Method	
Unacademy Revenues In Crore	
2021	118.48
2022	158.87
2023	199.26

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9470429
	0.89689025
R Square	5
Adjusted R Square	0.79378051
Standard Error	19.3672989
Observations	3

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	3262.704	3262.70	8.6984043	0.20810987
			4	39	2
Residual	1	375.0923	375.092		
			3		
Total	2	3637.796			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
	-				-	
Intercept	81509.7066		-	0.2081994	432832.446	
	7	27649.7	2.94794	35	2	269813
					-	
			2.94930	0.2081098	133.618276	
Years	40.39	13.69475	6	72	8	214.3983

Future Performance of Byju's Digital Learning App

The future performance of the Byju's has been assessed by using the three ways, the first way is the straight-line method, the second way is moving average method and the third way is simple linear regression method. The below

mentioned table shows the future prediction of revenues for the Byju's for the years 2021, 2022 and 2023. The all of the three options are providing the different forecast for the company, as it is knowing that the future predictions are not 100 percent accurate all the time, the average have been taken of these three predicted revenues for the year 2021, 2022 and 2023. The

average for the year 2021 is 125.22 billion INR,
for the year 2022 is 288.22 billion INR and for

the year 2023 is 623.22 billion INR.

Byju's Revenues In Billion	
2018	4.9
2019	13.41
2020	28

Straight Line Method	
Byju's Revenues In Billion	
Compound Growth Rate	78.8%
2021	71.25
2022	181.29
2023	461.30

Moving Average Method	
Byju's Revenues In Billion	
2021	15.44
2022	56.85
2023	100.28

Simple Linear Regression Method	
Byju's Revenues In Billion	
2021	38.54
2022	50.09
2023	61.64

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.98865
R Square	0.977429
Adjusted R Square	0.954858
Standard Error	2.48215
Observations	3

ANOVA					
	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	266.805	266.805	43.305	0.096007
Residual	1	6.161067	6.161067		
Total	2	272.9661			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-23304	3543.638	-6.5763	0.096069	-68330.2	21722.17
Years	11.55	1.755145	6.580654	0.096007	-10.7512	33.85123

Data Interpretation: -

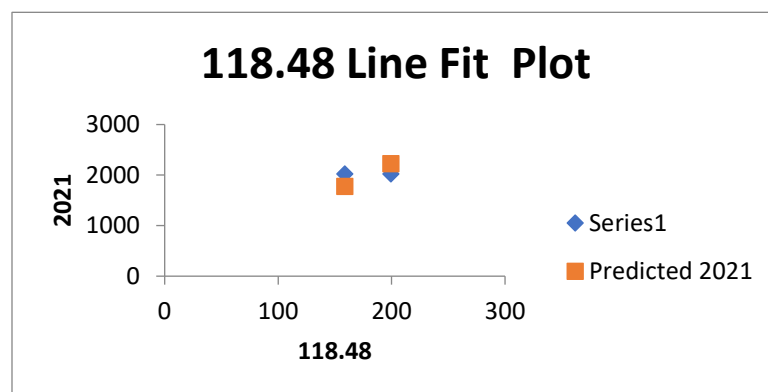
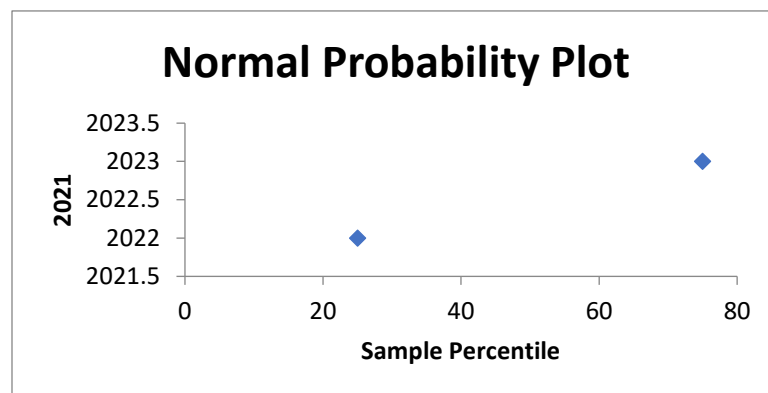
In our study, we concluded that for Byju's p-value is 0.096069, R square is 0.977429 so our study is significant.

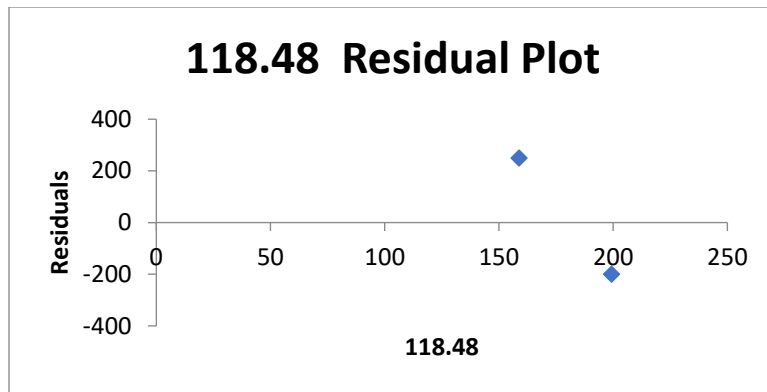
And for Unacademy, p-value is 0.208199435 and the coefficient of determination (R^2) is 0.896890255 so our study in this is significant.

In this way, we interpret our results in 3 ways that Regression method, Straight line method and moving average method that shown in below graphs: -

Regression method for Unacademy:-

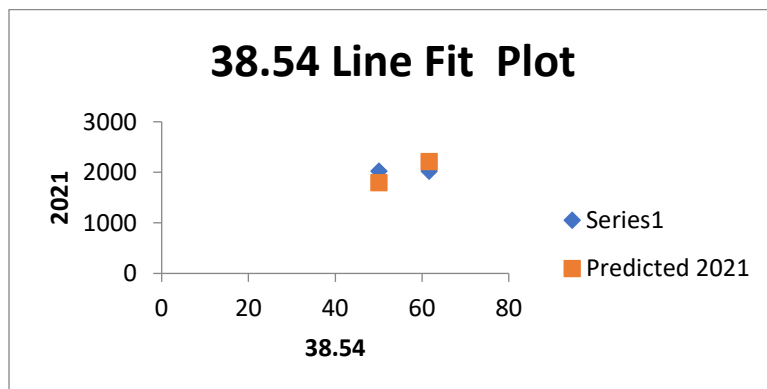
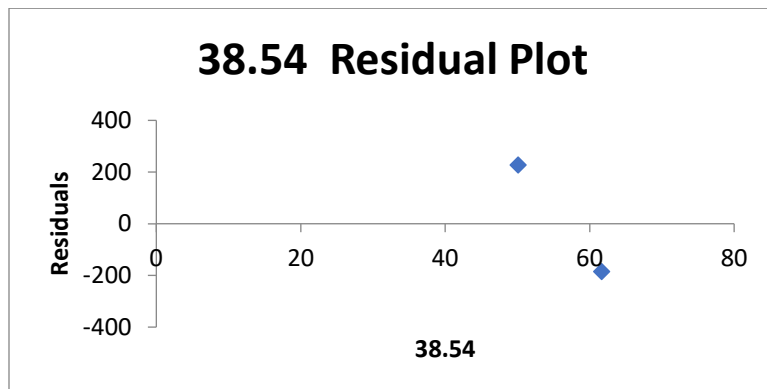
	UNACADEMY
Year	Revenue in crore
2021	118.48
2022	158.87
2023	199.26

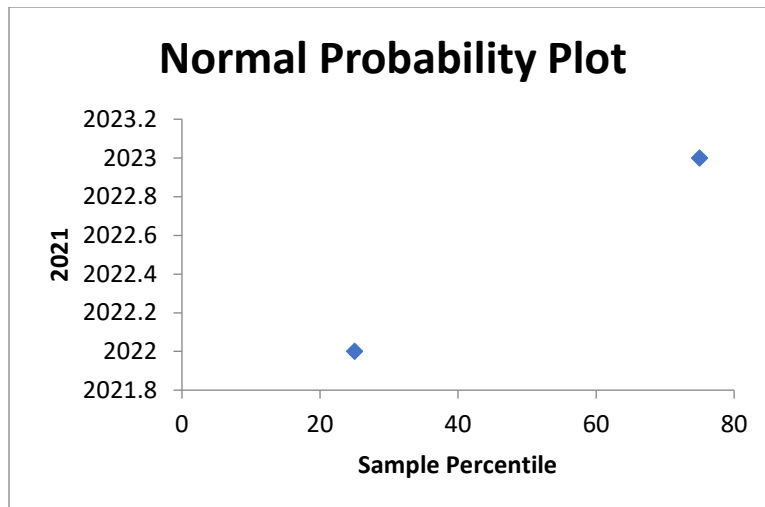




Regression method for Byju's:-

Year	Revenue in crore
2021	38.54
2022	50.09
2023	61.64





Straight Line Method: -

COST 7,13,84,000
 LIFE (YEAR) 10
 SALVAGE
 VALUE 2,000

COST 21,92,51,000
 LIFE (Year) 10
 SALVAGE
 YEAR 2000

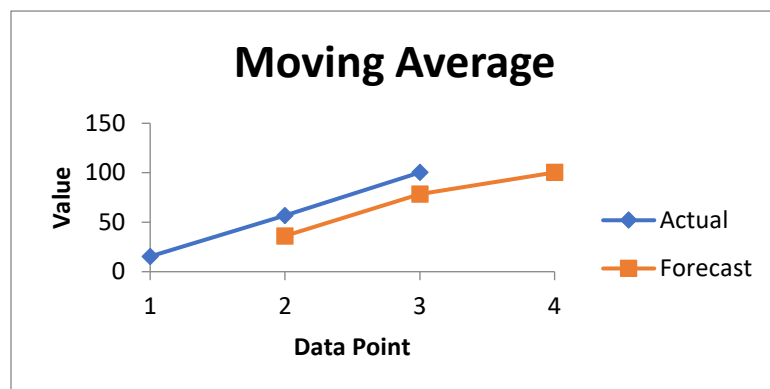
YEAR	SLN
1	₹ 71,38,200.00
2	₹ 71,38,200.00
3	₹ 71,38,200.00
	₹
TOTAL	2,14,14,600.00

YEAR	SLN
1	₹ 2,19,24,900.00
2	₹ 2,19,24,900.00
3	₹ 2,19,24,900.00
	₹
TOTAL	6,57,74,700.00

Moving Average Method: -

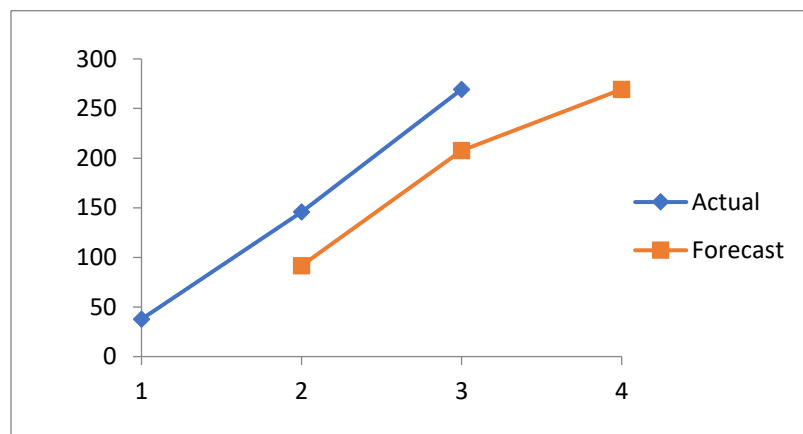
Byju's

Year	Revenue in crore		
2020	28	#N/A	#N/A
2021	15.44	36.145	#N/A
2022	56.85	78.565	21.21601
2023	100.28	100.28	15.35482



Unacademy:-

Year	Revenue in crore		
2020	86	#N/A	#N/A
2021	37.7	91.645	#N/A
2022	145.59	207.445	58.03492
2023	269.3	269.3	43.73809



Policy Recommendation: -

- "Perhaps the most important lesson for others is to embrace e-learning technologies before calamity hits!" The strategies and processes of e-learning are quite effective. We may tailor our procedures and processes to the demands of the learners using e-learning technologies. There are numerous online tools available, which are critical for creating a productive and efficient learning environment. In this time of crisis, educators can reach out to their students using a combination of audio,

- video, and text to maintain a human touch to their lectures. This can assist in the creation of a collaborative and dynamic learning environment in which students can provide rapid feedback, ask questions, and learn in an engaging manner.
- Education technology had already experienced rapid expansion and adoption before to COVID-19, with worldwide ed-tech investments reaching US\$18.66 billion in 2019 and the whole industry for online education expected to reach \$350 billion by 2025. Since COVID-19, there has been a considerable increase in the use of language apps, virtual

tutoring, video conferencing tools, and online learning software.

- There is evidence that learning online is more effective in a number of ways for individuals who have access to the appropriate technology. According to several studies, pupils who learn online remember 25-60% more information than those who learn in a classroom retain only 8-10%. This is mostly due to students' ability to learn more quickly online; e-learning takes 40-60% less time to learn than traditional classroom learning since students may learn at their own pace, going back and re-reading, skipping, or accelerating through subjects as needed.
- The necessity of disseminating knowledge across borders, companies, and all aspects of society has been highlighted as a result of this pandemic. If online learning technology can help, we must all use it to its fullest extent.

Conclusion

In the conclusionary paragraph, it has been finding out that the performance of the Unacademy and Byju's has increased during the epidemic season and expected to increase in the future as well.

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