

**A STUDY OF INNOVATIVE EDTECH START UPS &
BUSINESSES IN THE EMERGING MARKETS DUE TO COVID-19 PANDEMIC
WITH PARTICULAR REFERENCE TO ERNAKULAM DISTRICT**

Dissertation submitted to St. Teresa's College (Autonomous) Ernakulam,
Affiliated to Mahatma Gandhi University in partial completion of
PGDM - BUSINESS ANALYTICS

Submitted by

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**ST. TERESA'S COLLEGE (AUTONOMOUS), ERNAKULAM
COLLEGE WITH POTENTIAL FOR EXCELLENCE**

Nationally Re-Accredited At 'A++' Level (Fourth Cycle)

Affiliated to Mahatma Gandhi University Kottayam-686560

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**ST.TERESA'S COLLEGE (AUTONOMOUS),
ERNAKULAM**



CERTIFICATE

This is to certify that the dissertation entitled **“A study of innovative Edtech start ups & businesses in the emerging markets due COVID-19 pandemic with particular reference to Ernakulam district”** is a bonafide record of the project work carried out by **Ms. BENCY ELSA MATHEW (Reg No: SM20PGDM009)** final year student of **PGDM - Business Analytics** under my supervision and guidance during the academic year 2020-2022. The project report represents the work of the candidate and is hereby approved for submission.

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DECLARATION

I hereby declare that the project work entitled “**A STUDY OF INNOVATIVE EDTECH START UPS & BUSINESSES IN THE EMERGING MARKETS DUE COVID-19 PANDEMIC WITH PARTICULAR REFERENCE TO ERNAKULAM DISTRICT**” submitted to the St. Teresa’s College (Autonomous), Ernakulam, is a record of an original work done by me under the guidance of **Dr. Asha P. S, Asst.Professor, St. Teresa’s College, Ernakulam**, and this project work is submitted in the partial fulfillment of the requirement for the award of the degree of **PGDM -Business Analytics**. The results embodied in this project report have not been submitted to any other University or Institute for the award of any degree or diploma.

BENCY ELSA MATHEW

Place: Ernakulam

Date:

ACKNOWLEDGEMENT

An undertaking of work life - this is never an outcome of a single person; rather it bears the imprints of a number of people who directly or indirectly helped me in completing the present study. I would be failing in my duties if I don't say a word of thanks to all those who made my training period educative and pleasurable one.

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EXECUTIVE SUMMARY

One of the most important aspects of technology in education is its ability to level the field of opportunity for students. Technology can be a powerful tool for transforming learning. An increased number of educational institutes had been shut down worldwide due to the COVID-19 pandemic to avoid the spread of the Corona Virus. The main concepts that had been taken into account in this research paper are to identify the market leaders, to identify the needs and expectations of customers, and how COVID-19 had been explored as an opportunity by Ed-tech start-ups in India. The study was conducted during the period from August to November. The perception of 125 people is taken as a strategic tool for collecting the primary data through online questionnaires. The result here confirms the significance of Ed-Tech startups in this pandemic situation. Ed-Tech startups have developed as an alternative to educational delivery with E-learning as the way forward, these Ed-Tech apps were adopted to ensure the consistency of the classes and also to build a powerful system of education. COVID19 and lockdown have offered a big opportunity to the learning market. We have gone through different kinds of Ed-Tech startups and studied their popularity for concluding that Byju's is the most popular Ed-Tech startup followed by Unacademy, Vendathu, Toppr, etc. Also, Ed-tech companies are en-cashing this opportunity provided by COVID 19 and capitalizing over the E-learning market. Low internet bandwidth and patchy connections are the biggest challenges to online teaching. Educators may need to rethink their teaching methods and learning style to suit the modern learning environment. One of the resonating demands of the educators was the need for more exciting and collaborative Ed-Tech solutions for teachers themselves to enable better student learning outcomes. The demand for tools that would allow people to map student engagement levels, perhaps even tools that could read the faces of the people to see how well they comprehended anything or not. The study discloses that the probability of replacing traditional teaching with modern online E-learning tools has been increased and this provides a huge market for the Ed-tech startups in India.

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CHAPTER -1

INTRODUCTION

1.1 OVERVIEW

“Engaging and Empowering Learning through Technology”. To be successful in our daily lives and in a global workforce, Students need pathways to acquire expertise and form meaningful connections to peers and mentors. This journey begins with a base of knowledge and abilities that can be augmented and enhanced throughout our lives. Fortunately, advances in learning sciences have provided new insights into how people learn. Technology can be a powerful tool to re imagine learning experiences on the basis of those insights. Historically, a learner’s educational opportunities have been limited by the resources found within the walls of a school. Technology-enabled learning allows learners to tap resources and expertise anywhere in the world, starting with their own communities. For example

- Learners struggling with planning for college and careers can access high-quality online mentoring and advising programs where resources or geography present challenges to obtaining sufficient face-to-face mentoring.
- Technology-enabled learning environments allow less experienced learners to access and participate in specialized communities of practice, graduating to more complex activities and deeper participation as they gain the experience needed to become expert members of the community.

These opportunities expand growth possibilities for all students while affording historically disadvantaged students’ greater equity of access to high-quality learning materials, expertise, personalized learning, and tools for planning for future education. Such opportunities also can support increased capacity for educators to create blended learning opportunities for their students, rethinking when, where, and how students completely different components of a learning experience. Innovation and educational technology are primarily concerned with making use of modern and scientific teaching-learning methods and instructional strategies in the system of education. In the present existence, the use of technologies has acquired prominence. The instructors and students are making use of internet on a comprehensive scale to generate information in terms of various aspects and augment their understanding. In addition, they are making of computers to prepare their assignments and projects. The individuals are able to become well-equipped with technologies with thorough practice. Apart from technologies the other innovative methods used in the teaching-learning processes are, charts, maps, models, textbooks, and other reading materials. Through making use of these technologies and materials, instructors are putting into operation various kinds of instructional strategies that are necessary

to augment student learning. The different kinds of instructional strategies include, giving Power Point presentations, reading and providing explanations, providing explanations through making use of charts, models and maps and so forth. Innovation and educational technology can help in bringing about transformations in instructional strategies.

1.1 STATEMENT OF PROBLEM

This study aimed at examining the attitude of Indian consumers especially students towards online education. The study mainly focused on knowing whether consumers prefer online education better than offline education. This study also comes in a wake of time when the whole world is battling with COVID-19 pandemic situation. In this research, a theoretical and simple framework is used to analyse consumer behaviour towards online and offline education, concerning their willingness to recommend it to others.

1.2 LITERATURE REVIEW

Burch,P. and Miglani,N. (2018) in their paper seeks to draw attention to the value and importance of understanding the relationships between organizational fields and institutional sense-making, in order to better understand the evolution of the EdTech market in India.

Ruiz-Iniesta,A. Melgar,L. et al. (2018) Smile and Learn is an EdTech digital publisher that creates and distributes educational mobile apps for children aged 2 to 10 and their families. A major limitation in the children's educational technology space, for the patterns of attention and interaction with the apps are quite different from those of adults. The RS has a positive impact regardless of whether the users were among the most or the least active ones. This experimental results suggest that this recommendation model is suitable to suggest apps to children and increase their engagement in terms of usage time and number of games played.

McStay,A. (2019) Focusing on face-based approaches that employ Basic Emotions methodology, the goal of this paper has been to consider benefit and risks of emotional AI-based EdTech.It finds numerous methodological, legal and normative problems with emotional AI-based EdTech, especially applications based on facial coding. In the case of emotional AI and facial coding in the classroom, these technologies are incommensurable with current and near future social values.

Fairlie,R. and Loyalka,P. (2020) The wide-scale global movement of school education to remote instruction due to COVID-19 is unprecedented. The studies examine performance of students in online courses and generally find that they do not perform as well as in traditional courses. A balanced approach to learning in which schoolchildren intermingle work on electronic devices and work with traditional materials might be optimal. Activities such as reading books, running at-home experiments, and art projects can also be used to break up extensive use of technology in remote instruction.

Dr. Anurodh Godha and Dr. Anukrati Sharma (2021) analysis, it is apparent that stringent measures such as national lockdowns and social distancing resulted in the adoption of E-learning apps by several educational institutions in India to prevent the transmission of the Coronavirus. EdTech startups have developed as an alternative to educational delivery, with E-learning as the way forward, these EdTech apps were adopted to ensure the consistency of the classes and also to build a powerful system of education. COVID19 and lockdown have offered a big opportunity to the learning market.

1.2 SIGNIFICANCE OF STUDY

Online learning offers an opportunity for educators to meet students who may not be able to participate in a typical classroom curriculum and help students who choose to work on their own time and at their speed. Teachers play a crucial role in educational environments, and their understanding of e-learning affects the attitude of students towards e-learning. There are variations in approach between teachers familiar with computers and technology as compared to technologically inexperienced teachers consumers usage decision is based on 3 key aspects i.e. the knowledge gained by the customer through it, challenges faced by the customer during the usage and attitude towards online and offline education. One of the main factors which influence the decision is to gain knowledge and usage about the online and offline education, their features as well as benefits. The customer's willingness towards online studying also depends upon the benefits the mode of education provides. People's knowledge is influenced by the type and quality of information made available to them.

1.3 SCOPE OF STUDY

The study mainly focused on knowing whether consumers prefer online education better than offline education. This study also comes in a wake of time when the whole world is battling with COVID-19 pandemic situation. A self-structured questionnaire was designed for data collection from a sample of 125 respondents in Ernakulam district, which consists of age group between 15 and 35. This questionnaire consists of 20 sets of questions which were aimed to get inputs such as demographic information of respondents, awareness towards online education and its related platforms, preference of respondents regarding online education, challenges and benefits of online classes, cost factors etc. The study was conducted during the period from August to November.

1.4 OBJECTIVES

- To identify the market leaders.
- To identify customer need and expectations
- How COVID-19 can be explored as an opportunity by EdTech start-ups in India.

1.5 RESEARCH METHODOLOGY

The study made use of the primary data collection method for collecting data from online surveys. Questionnaires were designed and disseminated to respondents over their emails to be filled in by them. The source of secondary data is journals, articles, research papers, online sites and websites of online and offline education website. The sample size for this research is one hundred and twenty five users who were selected purely based on convenience and support the purpose of the study. The sample area is selected as Ernakulam district and data is collected through the close-ended questionnaire through the mail. For the analysis of data, chi-square test is used to compare the dependency in various hypothesis framed for achieving the objectives of the study and used descriptive statistics. SPSS and Excel research tools have been used to analyse the data. People love to spend the time on online website enhancing their skills and knowledge they still think that only online education is not enough to gain all the knowledge you still need human supervision that is through offline education and that's why most of the respondents think that both are a good platform to learn. COVID-19 has improved the perception and attitude of Indian consumers towards online education.

1.6 STATISTICAL PACKAGES

SPSS SOFTWARE

SPSS is a widely used program for statistical analysis in social science. It is also used by market researchers, health researchers, survey companies, government, education researchers, marketing organizations, data miners, and others. In addition to statistical analysis, data management (case selection, file reshaping, creating derived data) and data documentation (a metadata dictionary is stored in the datafile) are features of the base software. SPSS datasets have a two-dimensional table structure, where the rows typically represent cases (such as individuals or households) and the columns represent measurements (such as age, sex, or household income). The graphical user interface has two views which can be toggled by clicking on one of the two tabs in the bottom left of the SPSS Statistics window. The 'Data View' shows a spreadsheet view of the cases (rows) and variables (columns). The 'Variable View' displays the metadata dictionary where each row represents a variable and shows the variable name, variable label, value label(s), print width, measurement type, and a variety of other characteristics. Cells in both views can be manually edited, defining the file structure and allowing data entry without using command syntax. This may be sufficient for small datasets. Larger datasets such as statistical surveys are more often created in data entry software, or entered during computer-assisted personal interviewing, by scanning and using optical character recognition and optical mark recognition software, or by direct capture from online questionnaires. These datasets are then read into SPSS.

M S EXCEL

In Excel, charts are used to make a graphical representation of any set of data. A chart is a visual representation of the data, in which the data is represented by symbols such as bars in a bar chart or lines in a line chart. Excel provides you with many chart types and you can choose one that suits your data or you can use the excel recommended charts option to view charts customized to your data and select one of those. However, if your data analysis results can be visualized as charts that highlight the notable points in the data, the audience can quickly grasp. It also leaves a good impact on your presentation style.

1.7LIMITATIONS

The study is subjected to some limitations. The study has been done only in the Ernakulam district. Findings of the survey are based on the assumption that the respondents have given correct information. Some of the respondents were reluctant to answer. Time was another constraint. As the sample size is small, statistical tests would not be able to identify significant relationships within data set.

CHAPTER - 2
INDUSTRY AND COMPANY
PROFILE

2.1 INDUSTRY PROFILE

Increasing penetration of internet in many regions across the globe is a major factor driving the market growth. Growing adoption of cloud-based solutions coupled with huge investments by major market players towards enhancing the security and reliability of cloud-based education platforms, is further increasing its adoption among the end-users. Presence of a large number of service and content providers in the market is bringing huge volumes of educational content online.

The global online education market is projected to witness a CAGR of 9.23% during the forecast period to reach a total market size of US\$319.167 billion in 2025, increasing from US\$187.877 billion in 2019. Increasing penetration of internet in many regions across the globe is a major factor driving the market growth.

Declining hosting cost and growing need for accessing educational content is further fueling the adoption of this technology, thus augmenting the market growth. Advancements in the field of artificial intelligence and rapid growth of Internet of Things (IoT) will continue to enhance the user experience on these online education platforms, which is anticipated to spur the market growth throughout the forecast period. Increased effectiveness of animated learning along with flexibility in learning are some other factors contributing to the growth of online education by academic institutions. Lack of competent staff in various schools and colleges across the developing nations is also resulting in the adoption of online education by the students. Support and funds from the governments is another major driver for the growth of the industry. By type, the global online education market is segmented as online education by academic institutions and by corporate sector. With the increasing number of students in academic institutions and regular need to up skill and provide industry relevant training to the staff, the academic institutions as well as corporate need to come up with the options that allow individuals to learn anytime from anywhere. With the increasing number of the students and the cost effectiveness of online education many educational institutes are integrating face-to-face learning with online learning at all levels of education. For instance, Berkeley University of California recently partnered with edX to offer Data 8 course online for no cost which was earlier limited to the few who got admissions in the institute.

Colleges and universities across the globe are frequently providing new MOOCs as well as distance learning courses. An upsurge in tuition fees and high interest on education loans in both developed and developing countries has raised the cost of getting campus education

which is continuously shifting the trend towards online learning solutions, thus, positively impacting the demand for LMS across this universities and colleges. Online education industry will be a \$1.96 billion industry by 2021 according to a research conducted by KPMG, along with insights from Google search. The report finds that the paid user base will grow 6X from 1.6 million users in 2016 to 9.6 million users in 2021. There are five major categories of education with potential for significant online adoption. Reskilling and online certification courses currently accounts for a significant part of the online education market in India with a share of 38%. This is largely driven by a healthy adoption rate amongst the significant population of IT professionals in India. However, with an estimated ~280 million students expected to be enrolled in schools by 2021 and increasing adoption amongst this target audience, online primary and secondary supplemental education is expected to be the dominant category of courses with a 39% market share in 2021. At the same time, online test preparation is expected to be the fastest growing category of online education, estimated to grow at an impressive CAGR of 64% in the next five years.

2.2 COMPANY PROFILE

Major Players in India

India suffers from skewed pupil-to-teacher ratio, which is rising and it compromises a complete learning experience for students in schools. And hence, these technology-driven learning apps are using gaming elements, such as point-scoring and interaction with others, personalization, and data-driven insights to help boost the learning process for students and sharpen their basics in various subjects. They are revolutionizing the learning process and helping students in many ways to perform better in classrooms. EdTech start-ups are emerging as a major business industry in India. The education sector in India is estimated at US\$ 91.7 billion in FY18 and is expected to reach \$101.1 Billion in FY19. Let's see some of the start-ups in Education sector in India which are gradually emerging and changing the world regarding education scene in India. Below is the list of best EdTech start-ups in India.

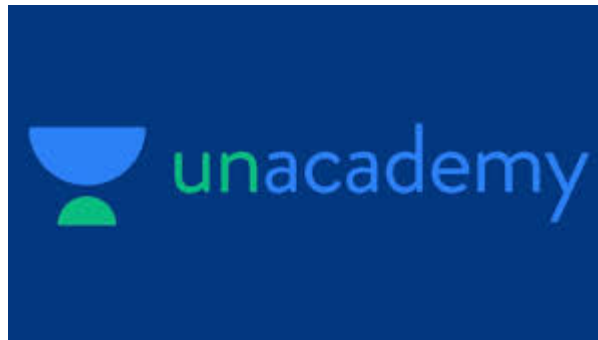
Brief Introduction about some EdTech Companies in India

BYJU'S – Think & Learn Private Limited



BYJU'S is a EdTech start-ups in Bangalore, which was founded by Byju Raveendran in 2011. Its current total equity is \$5.4 billion. BYJU'S has also won many awards like CRISIL Emerging India Award and is available on Android and iOS platform. BYJU'S Classes is a learning app that provides coaching for competitive entrance exams like IIT-JEE, CAT, UPSC, GMAT, GRE, Engineering & Medical, and supplement courses of grades 6th to 12th. BYJU'S offers online courses and tablet classes with multi-test and assignment solutions, personal feedback and in-depth analysis. After the use of BYJU'S app, 93% of parents reported a marked improvement in their children's performance in grades, according to the company. BYJU'S has 15 million registered users with 9 lakh taking annual paid subscriptions and an 85% renewal rate. The average app engagement rate, as reported by the company, is 53 minutes per day. In 2012, the firm entered both Deloitte Technology Fast 50 India and Deloitte Technology Fast 500 Asia Pacific ratings and has been present there ever since. In July 2019, Byju's won the sponsorship rights for the Indian cricket team jersey, replacing its former sponsor Oppo. In July 2021, Byju's acquired US-based kids learning platform Epic! in a US\$500-million cash-and-stock deal. The Epic acquisition was part of Byju's foray into the overseas market, from where it expects annual revenue of US\$300 million per financial year. Their aim is to become one of the most preferred education technology platforms across the globe.

Unacademy - Sorting Hat Technologies Private Limited



Unacademy is an EdTech companies in Bangalore which has online learning marketplace for courses which was founded by Heemash Singh, Sachin Gupta and Gaurav Munjal. The YouTube channel was shifted to an online learning platform in 2015. Although you will still find many learning videos on their YouTube Channel. Started as a YouTube channel by Hemaash Singh in 2010, Unacademy is now a famous name in the education technologies market of India. Unacademy is one of e learning start-ups in India. Unacademy has provided lessons to more than 30,00,000 (3 million) students. They have tied up with some of the most famous and experienced teachers to teach the students. Most of the courses are free on this platform, however, you might have to pay for certification. Unacademy has a goal of providing all the education in the world for free and it has ventured into numerous fields like Banking, CA, CAPF, UPSC, CLAT, CAT, JEE, Pre-Medical and more. The video tutorials are available in various languages and the students can follow tutors and get courses from them directly on their homepage. Their majority of the business model runs on the Plus Subscription feature on their platform. The name Unacademy states that this learning platform differs from the conventional methods of education. “India’s largest learning platform” is the tagline of the company.

Unacademy’s vision is to build numerous courses in multiple languages for students all over the world. Expanding its educators along with their students, Unacademy aims to collaborate with the brightest minds and empower India’s youth population that accounts for 19% of the world’s youth, to bring oneself in this contemporary world. 70% of its learners come from tier 3 cities, where there is a lack of top educators, thus the startup focuses in enlarging its teachers, languages, and adding more exams into the existing mixture.

Coursera



Coursera Inc. is an American massive open online course provider founded in 2012 by Stanford University computer science professors Andrew Ng and Daphne Koller. Coursera works with universities and other organizations to offer online courses, certifications, and degrees in a variety of subjects. Princeton, Stanford, the University of Michigan and the University of Pennsylvania were the first universities to offer content on the platform. Offerings have since expanded to include Specializations – collections of courses that build skills in a specific subject – as well as degrees and a workforce development product for businesses and government organizations. It primarily provides services to students from Grades 4 to 12 of Indian Certificate of Secondary Education (ICSE) & Central Board of Secondary Education. Currently the company's primary business is live online tutoring in STEM, Hindi, English, Sanskrit, German, French, Environmental Science and Social Science. It uses a White Board Audio Video Environment (WAVE) method for their 1-1 student teacher live sessions. It provides test preparation courses for Indian Institute of Technology Joint Entrance Examination (JEE) Foundation, National Talent Search Examination (NTSE), National Eligibility cum Entrance Test (NEET) and Problem Solving Assessment (PSA).

In 2014 Coursera received Webby Winner (Websites and Mobile Sites Education 2014) People's Voice Winner (Websites and Mobile Sites Education) .In 2021 it was estimated that about 150 universities offered more than 4,000 courses through Coursera.

They envision a world where anyone, anywhere can transform their life by accessing the world's best learning experience. They empower our learners to advance their careers, further their studies, improve their communities, and change the world. They believe education can unlock your potential and help you become your best self. Coursera was founded in 2012 by two Stanford computer science professors with a vision to provide anyone, anywhere with access to the world's best education.

Vedantu – Vedantu Innovation Private Limited



Vedantu is India's leading Online tutoring company which enables students to learn LIVE with some of India's best-curated teachers. Vedantu's USP is its quality of teachers. It has some 500+ teachers who have taught more than 1 Million hours to 40,000+ students spread across 1000+ cities from 30+ countries. Vedantu is founded by IITian friends who have been teachers themselves with over 13 years of teaching experience and having taught over 10,000 students. Vedantu's founders VMSI Krishna, Anand Prakash, and Pulkit Jian did their first venture in education, Lakshya, in 2006 which later got acquired by a listed company called MT Educare (Mahesh Tutorials) in 2012. As part of Lakshya, the founders taught and mentored more than 10,000 students and trained more than 200 teachers between them. Vedantu hosted the second edition of International Student League (ISL) in November 2017. On August 29, 2019, Vedantu announced that it has raised \$42 million in a Series C financing round for expansion in India. In February 2021, Vedantu made its first acquisition by acquiring Instasolv in an undisclosed deal. In July 2021, it invested in AI-enabled learning platform Pedagogy. With highly trained teachers and a technology-driven academic setup, Vedantu ensures a great learning experience for each of its students. Vedantu focuses on providing quality education and a comprehensive analysis of student's interaction and engagement in the class through online assessment and tests; hence, the progress of students is closely monitored. Through its instinctive, next-generation platform WAVE (Whiteboard Audio Video Environment), Vedantu fulfills its objective of fostering online education in an unparalleled manner. Vedantu's vision is to transform the teaching and learning experience through the synergy of superior technology with worthy content and proficient

Toppr – Haygot Education Private Limited



Toppr is a Mumbai-based company founded by Zishaan Hayath in 2013. The Toppr app includes goal-based learning, adaptive question practice, performance report, concept sheets and previous year question papers. It also offers courses for medical and engineering examinations, board examinations, and Olympiads. Toppr is an online exam preparation platform for K-5 to K-12 students focused on school curriculum syllabus and entrance examinations like JEE, UPSC, NEET, SAT, etc. It offers structured courses that feature interactive video lectures, practice question sets, doubt clearing by professionals and all India test series.

Toppr is an after-school learning app on a mission to make learning personalized. Toppr helps students prepare for various school, board and competitive exams. Able to use artificial intelligence, machine and big data, study student behaviour create adaptive learning paths with infinite combinations. Student needs and problems form the centre of all innovations. Like with live classes, they wanted to bring a classroom to the students which is free of judgement, allowing students to interact freely in case of doubts. Similarly, with all future innovations, aim is to solve for various student needs.

CHAPTER -3
DATA ANALYSIS AND INTERPRETATION

3.1 DESCRIPTIVE ANALYSIS

3.1.1 ANALYSING GENDER V/S BETTER WAY OF STUDYING

The table 3.1 shows gender based analysis based on the better way of studying by the respondents

CROSS TABULATION				
GENDER	Better Way of studying			
	Online	Offline	Both	Total
Male	19	8	27	54
Female	13	19	39	71
Total	32	27	66	125

Table 3.1

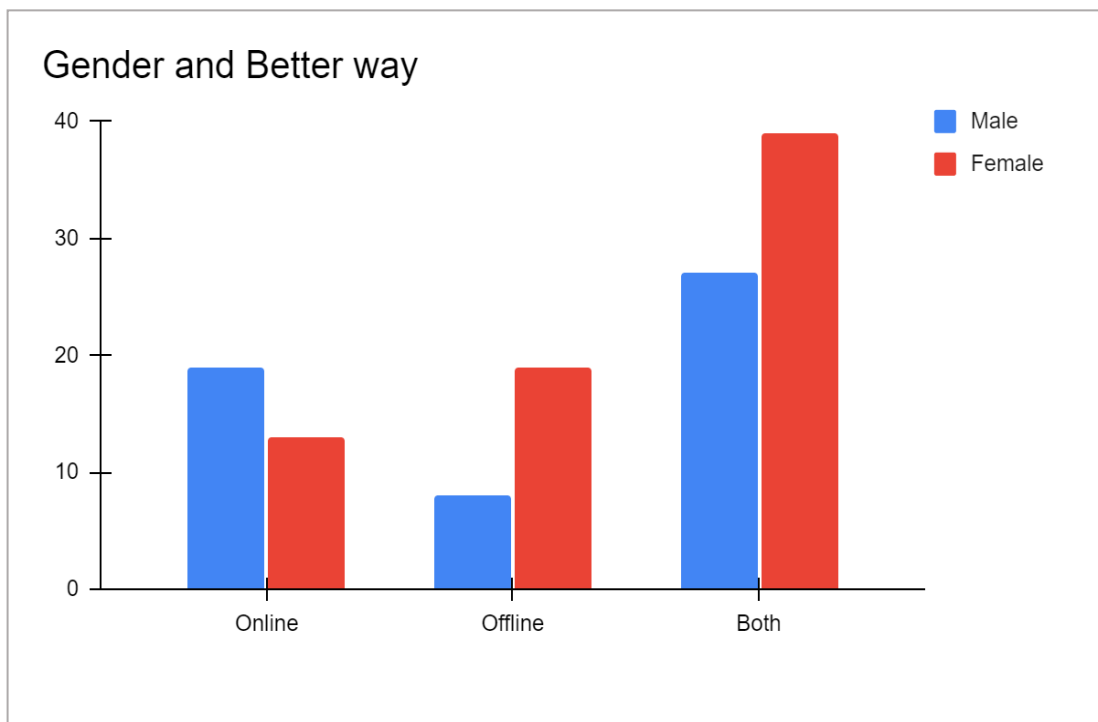


Fig 3.1

INTERPRETATION

The fig 3.1 shows that better way of studying among the respondents majority go with both online and offline studying. 27% male and 39% female choose both online and offline.

3.1.2 USE ANY ONLINE EDUCATIONAL APPLICATION

The table 3.2 shows the use of online educational application by the respondents

PARTICULARS	RESPONDENTS	PERCENTAGE
Yes	109	87.2
No	6	4.8
Maybe	10	8

Table 3.2

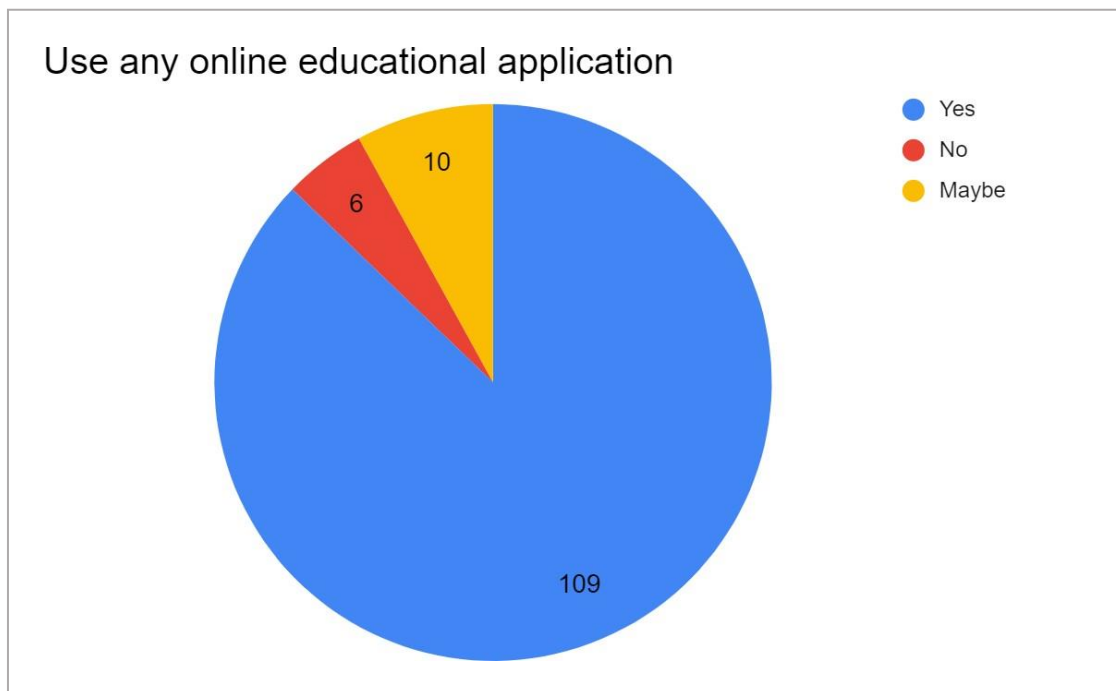


Fig 3.2

INTERPRETATION

From fig 3.2 it is clear that 87.2% of respondents use online educational application and 4.8% doesn't not use any offline educational application. 8% maybe used online educational application.

3.1.3 APPLICATION USED BY THE RESPONDENTS

The table 3.3 shows the application used by the respondents

PARTICULARS	RESPONDENTS	PERCENTAGE
Byju's	74	59.2
Unacademy	23	18.4
Coursera	5	4.0
Vedantu	10	8.0
Toppr	6	4.8
Udemy	3	2.4
Others	4	3.2

Table 3.3

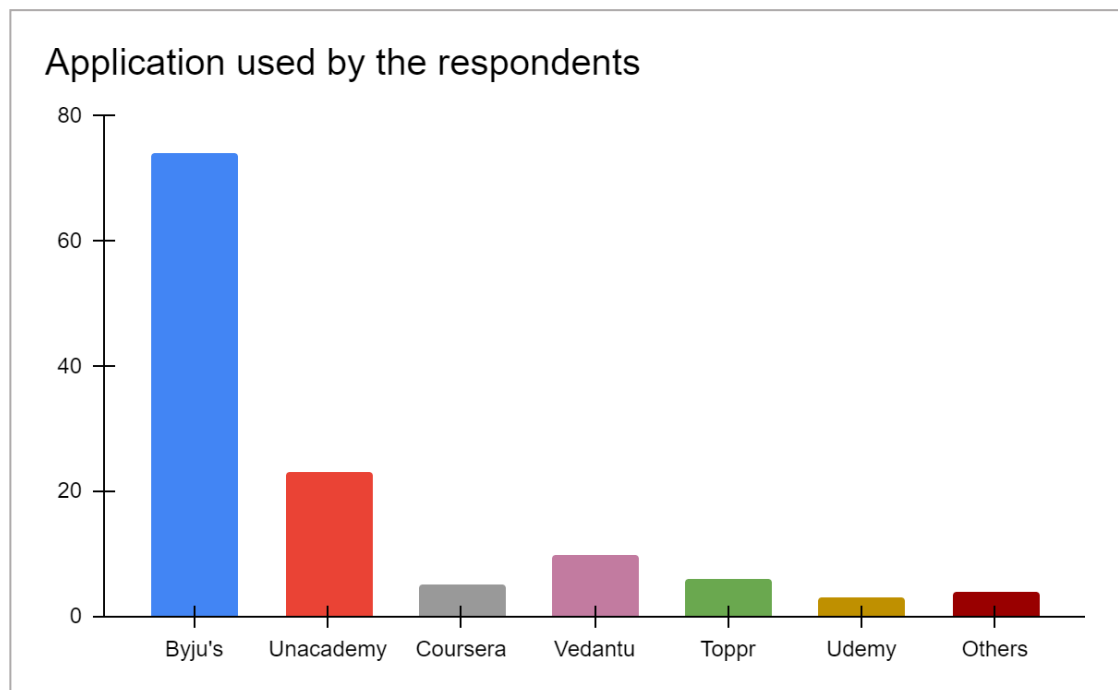


Fig 3.3

INTERPRETATION

The shows that 59.2% respondents use Byju's App. Comparing to other App respondents Byju's have a good customer base.

3.1.4 ANALYSING COVID-19 V/S PERFORMANCE

The table 3.4 shows analysis based on COVID-19 and performance by the respondents.

CROSS TABULATION					
Impact on increase in usage of online learning due to COVID-19	Online learning improve performance				
	Strongly Agree	Agree	Neutral	Disagree	Total
Yes	30	64	13	3	110
No	1	3	0	0	4
Maybe	2	4	5	0	11
Total	33	71	18	3	125

Table 3.4

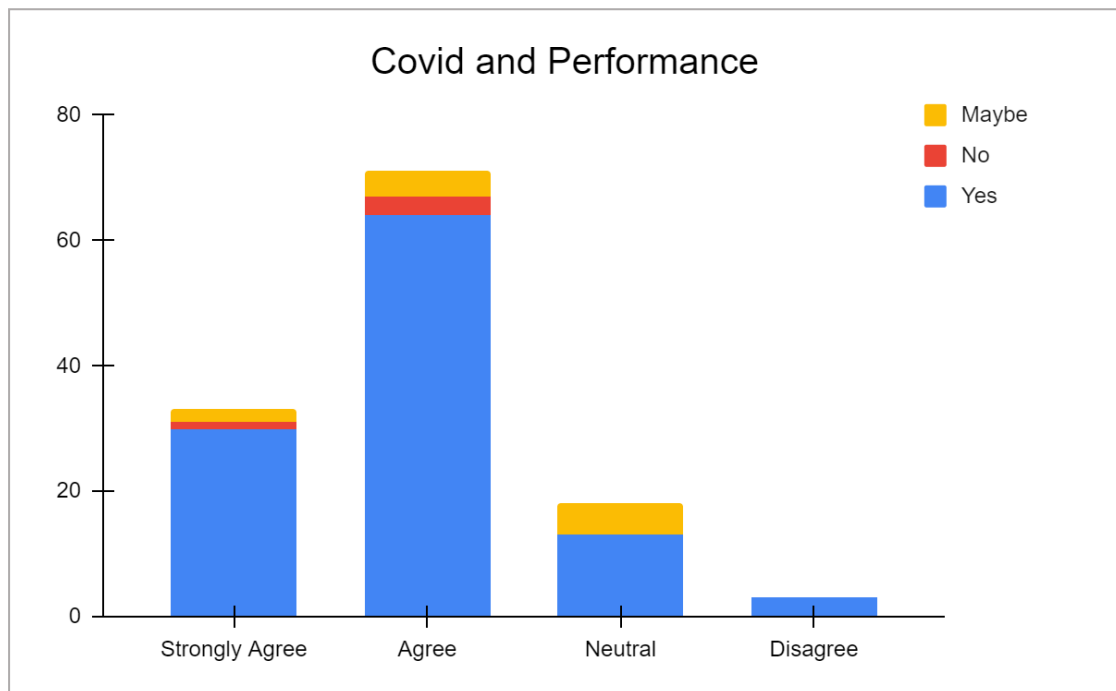


Fig 3.4

INTERPRETATION

The fig 3.4 shows that increase in the usage of online learning app due to COVID-19 pandemic does not affect the performance of the respondents. Majority of the respondents agreed that COVID-19 does not negatively influence the performance.

3.1.5 REASONS FOR USING THE APP BASED ON AGE GROUP

The table 3.5 shows the reasons for using the app based on age group by the respondents

CROSS TABULATION					
	Ease of Use	Teaching Quality	Less Expensive	Better Service	Total
15-20	10	16	4	6	36
21-25	11	23	7	11	52
26-30	7	7	2	9	25
31-35	2	3	4	1	10
36-40	1	0	0	0	1
Total	31	49	17	27	124

Table 3.5

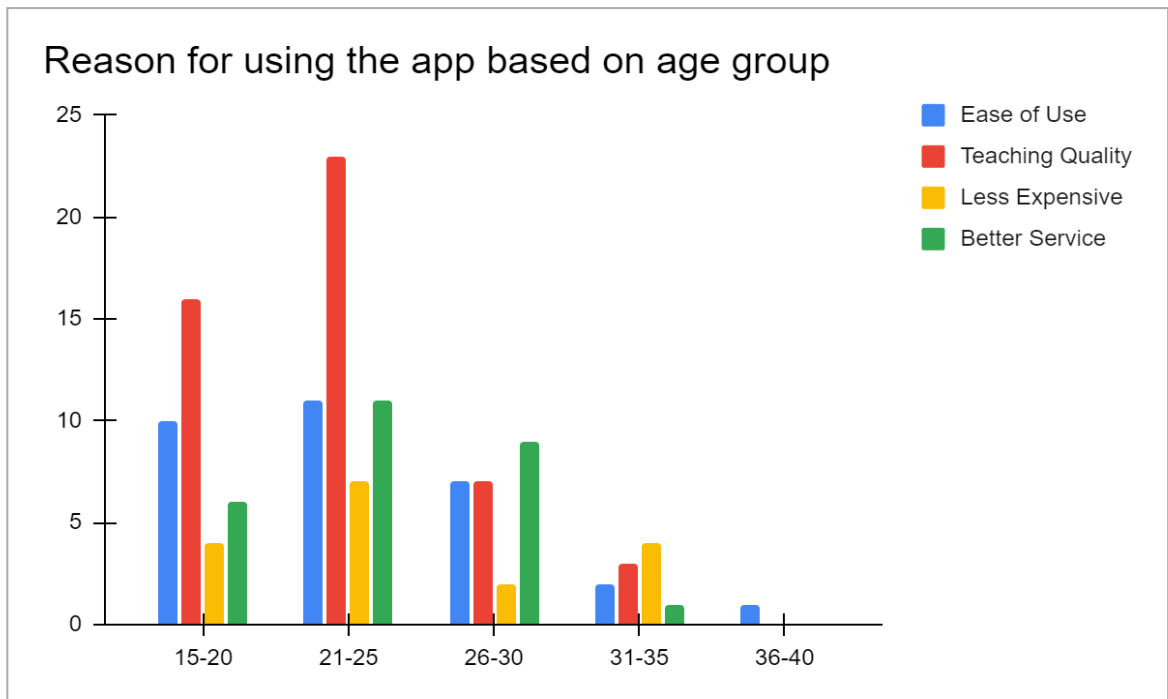


Fig 3.5

INTERPRETATION

The above bar chart shows that the age group less than 25 prefer these online application because of the teaching quality. Ease of use and the better service provided by the application is also a factor for choosing the app.

3.1.6 RATE USER FRIENDLINESS OF THE APP

The table 3.6 shows the rate user friendliness of the app by the respondents

PARTICULARS	RESPONDENTS	PERCENTAGE
Excellent	43	34.4
Good	75	60.0
Fair	6	4.8
Poor	1	.8

Table 3.6

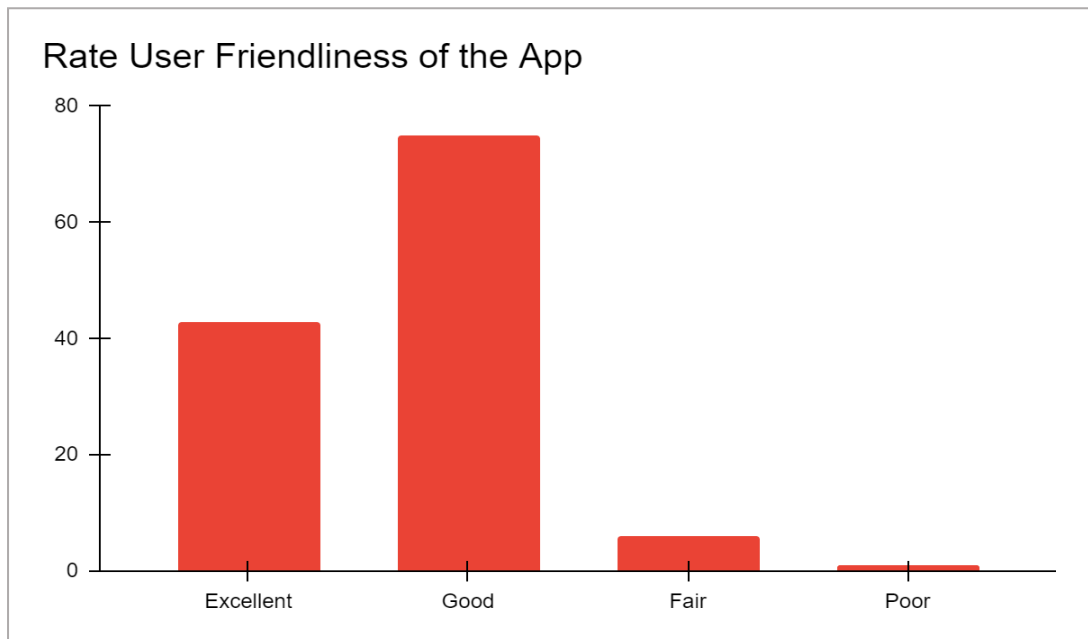


Fig 3.6

INTERPRETATION

The above figure shows the percentage of respondent's user friendliness of the E-learning app that they prefer the most. The study shows that 34.4% respondents find it excellent and 60% refer it as good.

3.1.7 RATING OF THE PREFERRED APP BY THE RESPONDENTS

The table 3.7 shows the rating of the preferred app by the respondents by the respondents

PARTICULARS	RESPONDENTS	PERCENTAGE
Excellent	53	42.4
Good	64	51.2
Fair	7	5.6
Poor	1	.8

Table 3.7

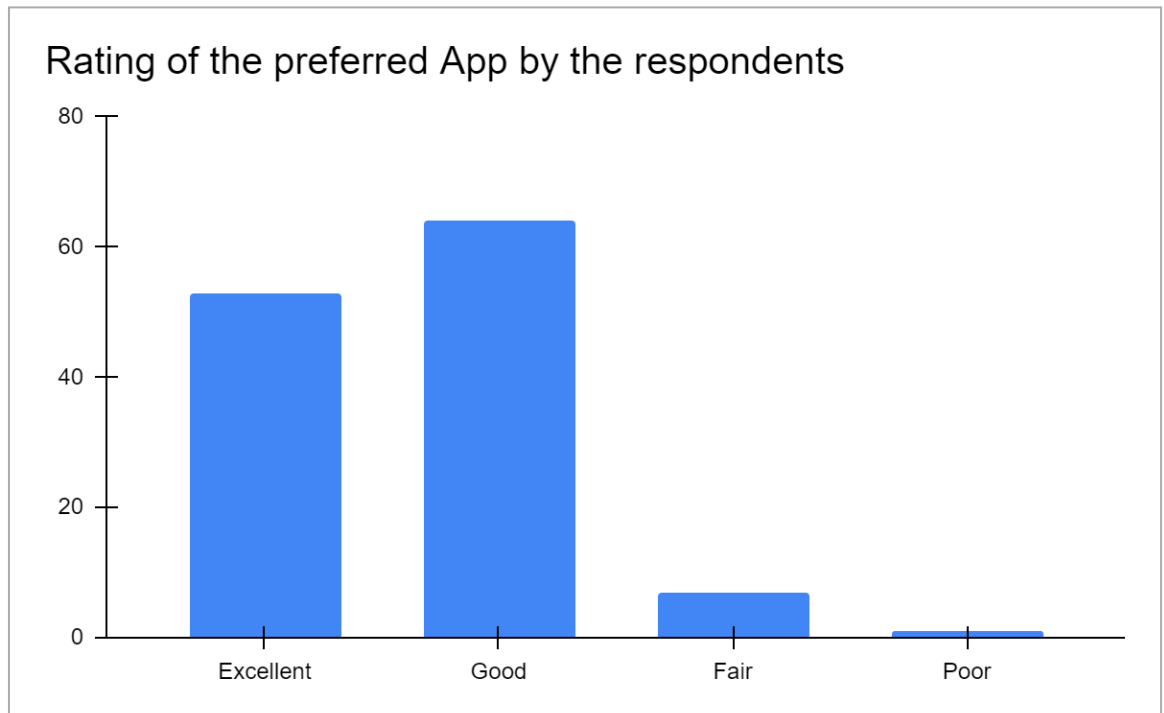


Fig 3.7

INTERPRETATION

The fig 3.7 shows the percentage of rating of respondent's preferred app. The study shows that 42.4% respondents refer it as excellent and 51.2 rate it as a good application.

3.1.8 RATING BASED ON THE INFO PROVIDED BY THE APP

The table 3.8 shows the rating based on the info provided by the app by the respondents

PARTICULARS	RESPONDENTS	PERCENTAGE
1	2	1.6
2	9	7.2
3	63	50.4
4	51	40.8

Table 3.8

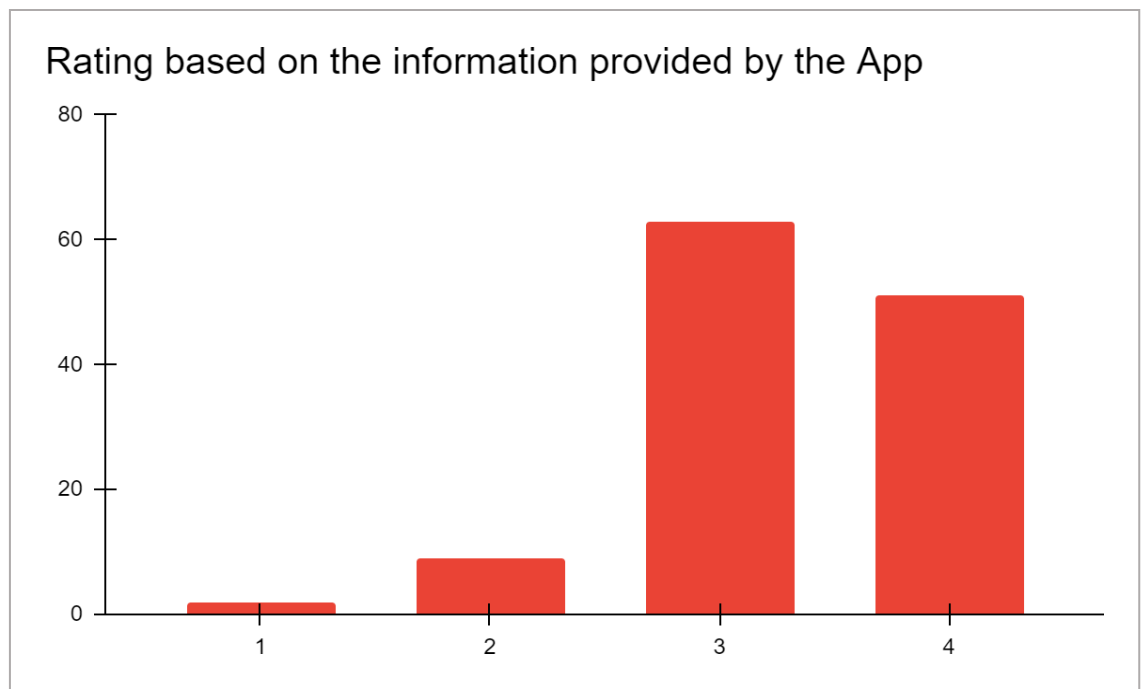


Fig 3.8

INTERPRETATION

The fig 3.8 shows the percentage of rating based on the information provided by the application. The study shows that 40.8% respondents give excellent rating and 50.2% respondents give good rating. i.e, respondents get sufficient information from online learning.

3.1.9 ONBOARDING EXPERIENCE BASED ON AGE

The table 3.9 shows the on boarding Experience based on Age by the respondents

CROSS TABULATION						
Onboarding Experience	Age Group					
	15-20	21-25	26-30	31-35	36-40	Total
Strongly Disagree	0	3	0	0	0	3
Disagree	1	3	0	1	0	5
Neutral	7	5	4	4	0	20
Agree	12	19	11	4	0	46
Strongly Agree	16	22	10	1	1	50
Total	36	52	25	10	1	124

Table 3.9

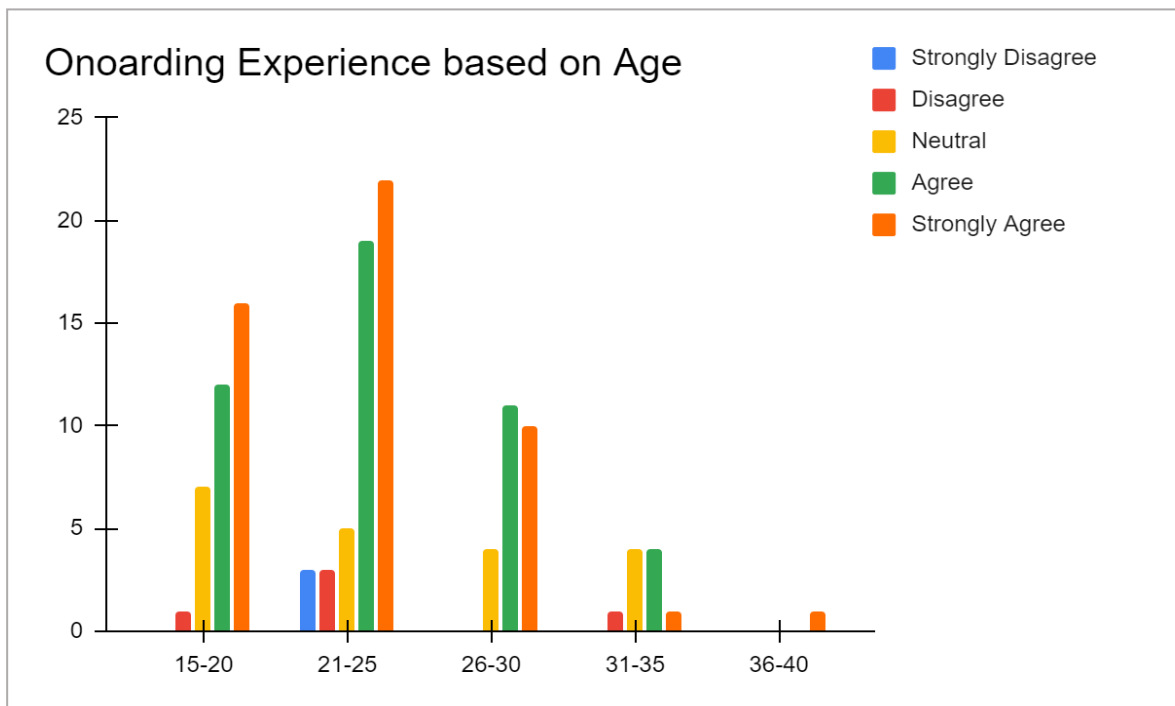


Fig 3.9

INTERPRETATION

The fig 3.9 shows that teenagers shows a high satisfaction in the on boarding experience of the online learning application.

3.1.10 HOW DID YOU COME TO KNOW ABOUT THE WEBSITE

The table 3.10 shows how the respondents come to know about the website

PARTICULARS	RESPONDENTS	PERCENTAGE
Magazine	7	5.6
Internet	45	36.0
Advertisement	42	33.6
Friends	31	24.8
Magazine	7	5.6

Table 3.10

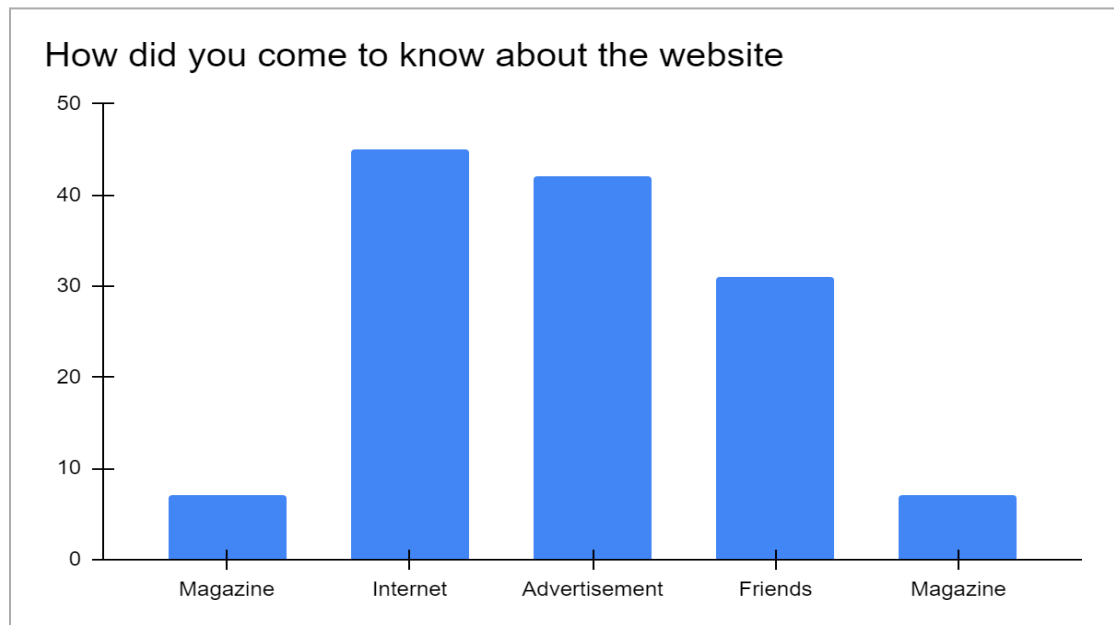


Fig 3.10

INTERPRETATION

The fig 3.10 shows the percentage of respondents from the source they know about this website. The study shows that 36% respondents knew about this learning app through internet.

3.1.11 BETTER WAY OF STUDYING

The table 3.11 shows better way of studying by the respondents

PARTICULARS	RESPONDENTS	PERCENTAGE
Online	32	25.6
Offline	27	21.6
Both	66	52.8

Table 3.11

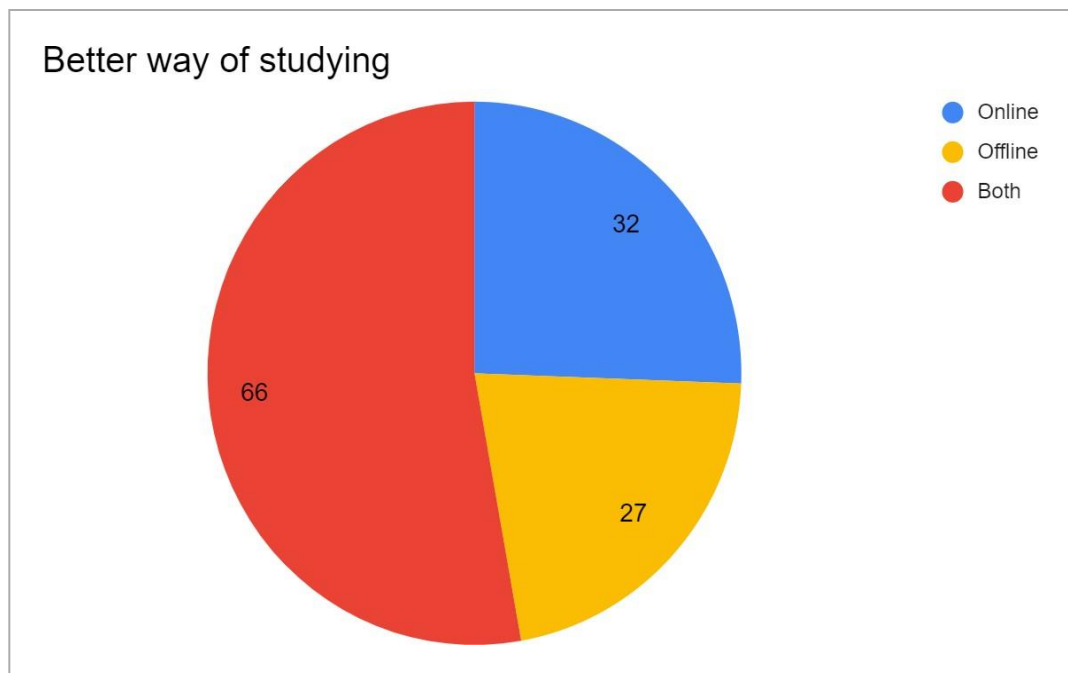


Fig 3.11

INTERPRETATION

The fig 3.11 shows the percentage of respondents whom had choose the better way of study.

The study shows that 52.8 % respondents prefer both online and offline method of study.

3.1.12 CHALLENGES

The table 3.12 shows the challenges faced by the respondents

PARTICULARS	RESPONDENTS	PERCENTAGE
Network issue	50	40.0
Lack of Supervision	60	48.0
Problem with immediate Q&A	15	12.0

Table 3.12

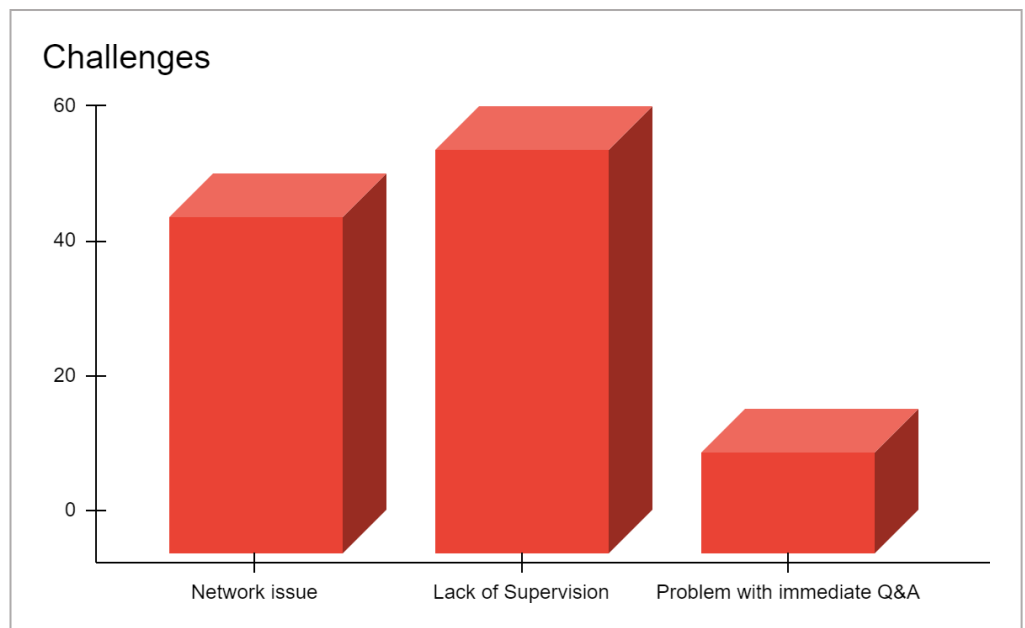


Fig 3.12

INTERPRETATION

The fig 3.12 shows the percentage of challenges faced by the respondent due to online learning. The study shows that 48 % respondents feels that lack of supervision is one of the great challenge in online learning.

3.1.13 RATING BASED ON THE CUSTOMER GRIEVANCES

The table 3.13 shows the rating based on the customer grievances by the respondents

PARTICULARS	RESPONDENTS	PERCENTAGE
Excellent	23	18.4
Good	78	62.4
Fair	24	19.2
Poor	0	Nil

Table 3.13

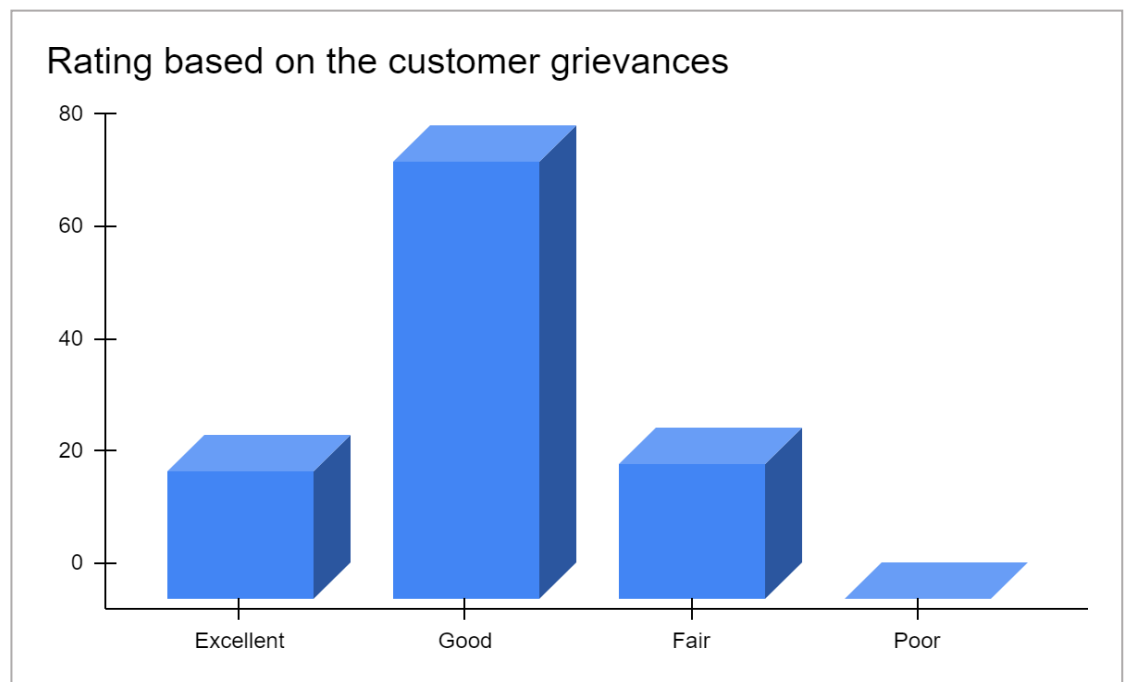


Fig 3.13

INTERPRETATION

The fig 3.13 shows the percentage of respondents rating, based on the customer grievence. The study shows that 62.4% respondents are satisfied with the customer grievance Provided by the app.

3.1.14 RECOMMENDATION TO OTHERS BASED ON APP EXPERIENCE

The table 3.14 shows the recommendation to others based on App experience by the respondents

CROSS TABULATION				
Online learning Experience	Recommendation to others			
	Yes	No	Maybe	Total
Strongly Agree	12	0	2	14
Agree	65	0	14	79
Neutral	16	3	6	25
Disagree	2	3	0	5
Strongly Disagree	0	2	0	2
Total	95	8	22	125

Table 3.14

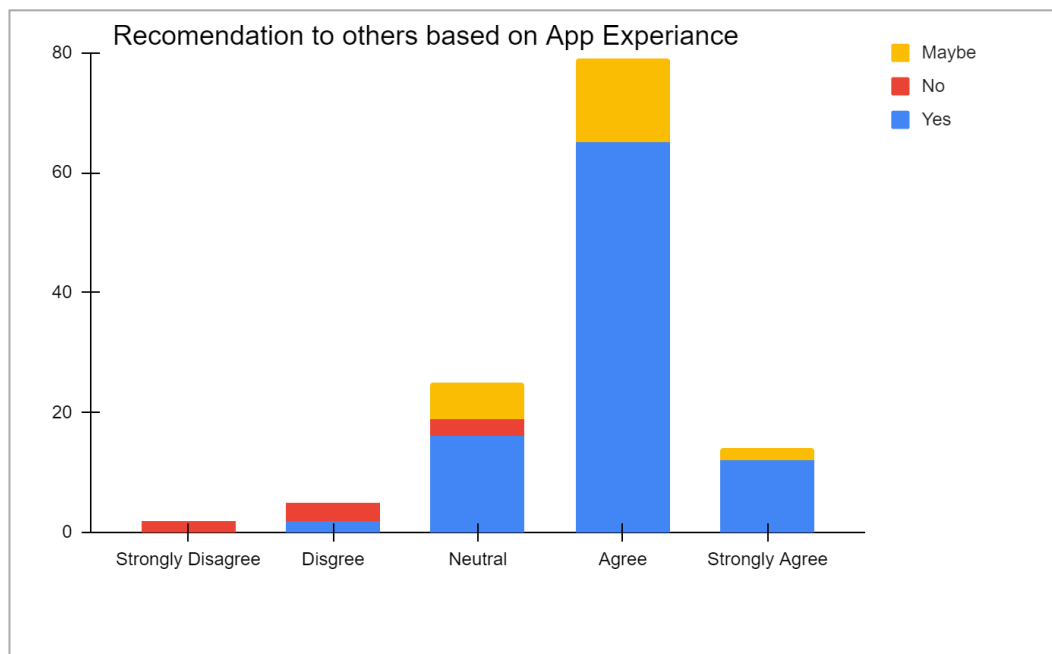


Fig 3.14

INTERPRETATION

The fig 3.14 shows the rating of recommendation to other users based on App Experience. The study shows that most of the users are satisfied with the online learning experience. So they recommend the online learning applications.

3.1.15 Cost

The table 3.15 shows the attitude of respondents towards the cost.

PARTICULARS	RESPONDENTS	PERCENTAGE
Strongly Agree	27	21.6
Agree	72	57.6
Neutral	25	20.0
Disagree	0	Nil
Strongly Disagree	1	.8

Table 3.15

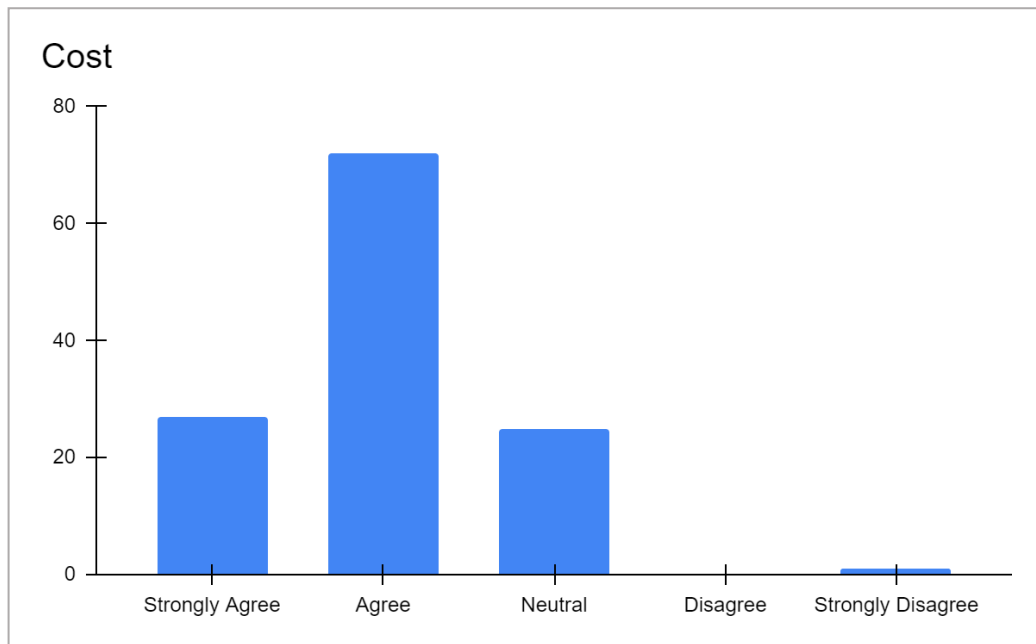


Fig 3. 15

INTERPRETATION

The fig 3.15 shows the respondents view on cost of the learning application. The study shows that 57.6 % respondents agreed that online learning is cost effective. So it shows a positive attitude on online learning.

3.1.16 PERFORMANCE

The table 3.16 shows the performance of the respondents by using online educational applications.

PARTICULARS	RESPONDENTS	PERCENTAGE
Strongly Agree	33	26.4
Agree	71	56.8
Neutral	18	14.4
Disagree	3	2.4
Strongly Disagree	0	Nil

Table 3.16

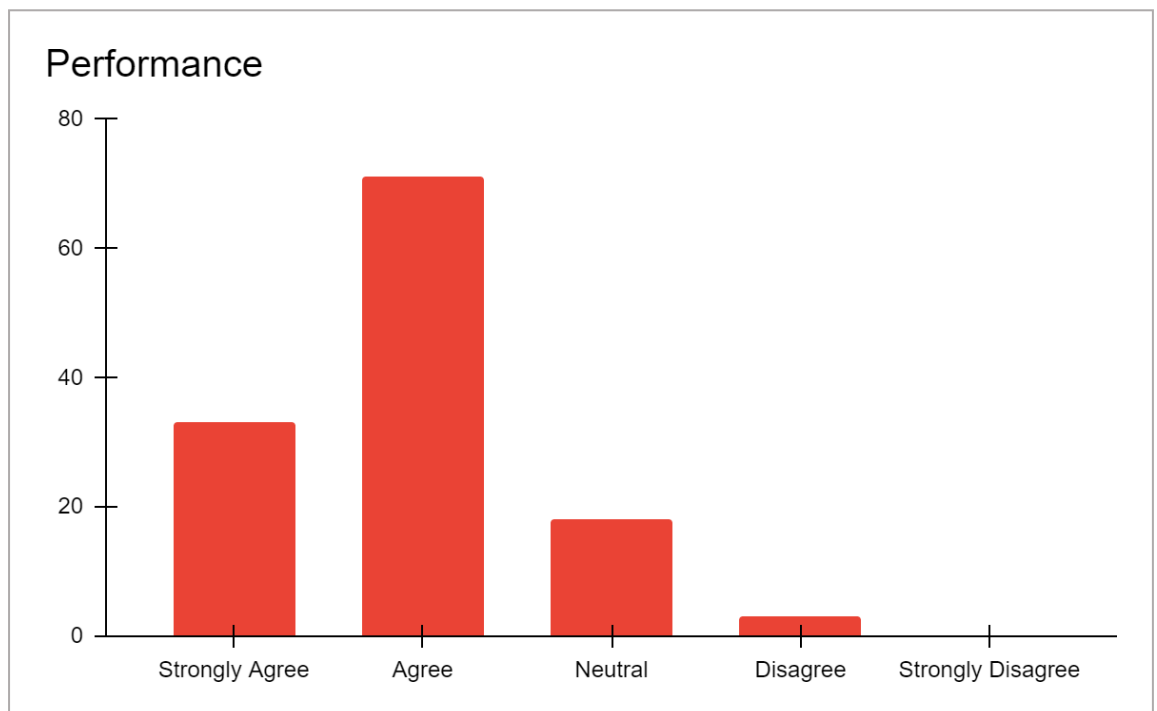


Fig 3. 16

INTERPRETATION

The fig 3.16 shows the respondents percentage of performance. The study shows that 56.8% respondents are satisfied with the performance of the online learning application.

3.1.17 COVID-19

The table 3.17 shows the usage of online learning during COVID-19 pandemic.

PARTICULARS	RESPONDENTS	PERCENTAGE
Yes	110	88.0
No	4	3.2
Maybe	11	8.8

Table 3.17

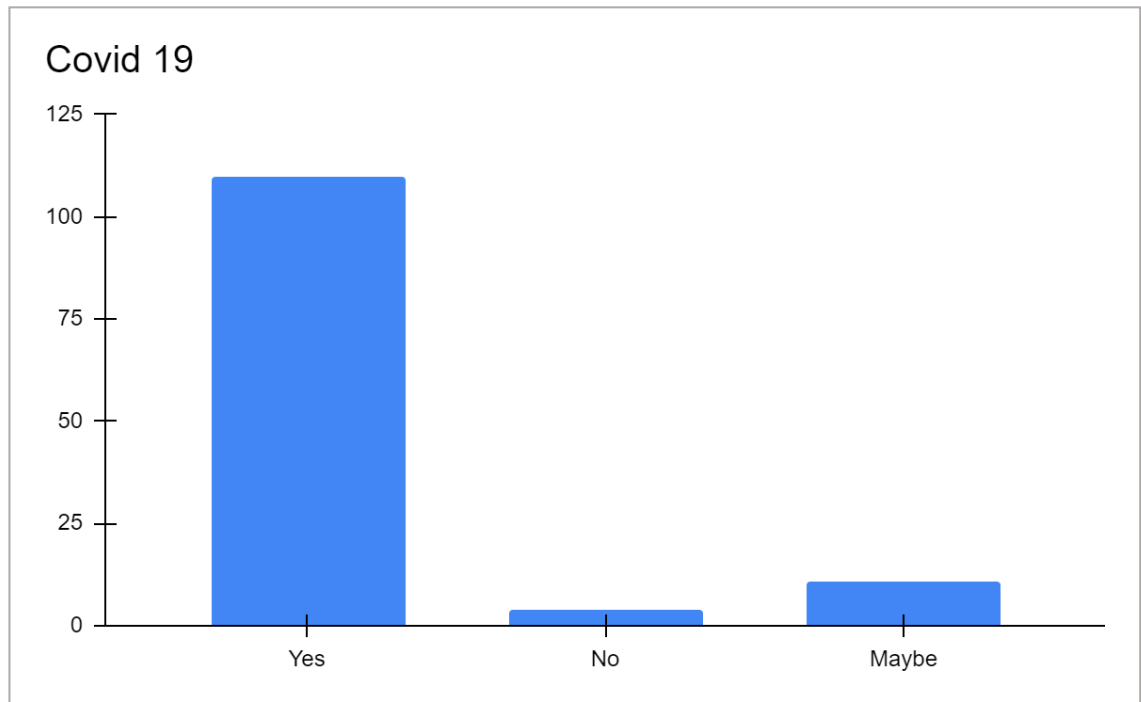


Fig 3.17

INTERPRETATION

The fig 3.17 shows the percentage of usage of online learning during COVID-19 pandemic. The study shows that 88% respondents shows a positive attitude towards online learning during COVID-19 pandemic.

3.1.18 RATING BASED ON OVERALL ONLINE STUDYING EXPERIENCE

The table 3.17 shows the rating based on overall online studying experience.

PARTICULARS	RESPONDENTS	PERCENTAGE
1	2	1.6
2	4	3.2
3	25	20.0
4	79	63.2
5	14	11.2

Table 3.18

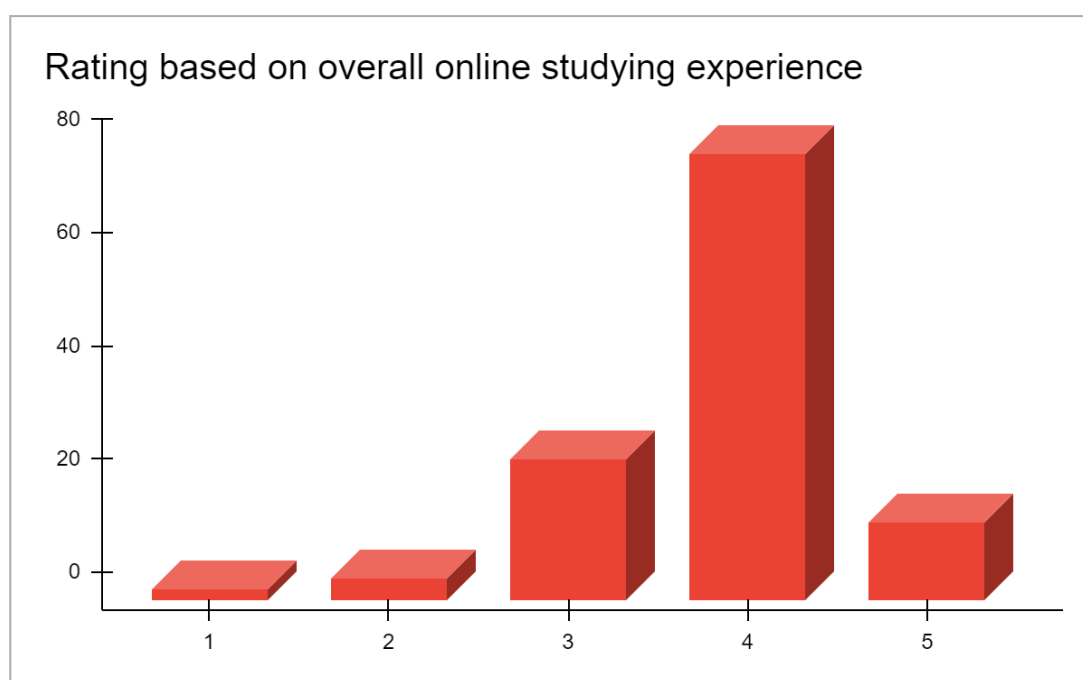


Fig 3.18

INTERPRETATION

Table 3.18 fig 3.18 shows the percentage of respondents rating based on overall online studying experience. The study shows that 63.2% respondents are satisfied with the overall online studying experience.

3.1.19 RECOMMENDATION TO OTHERS

The table 3.19 shows the respondent's recommendation to others.

PARTICULARS	RESPONDENTS	PERCENTAGE
Yes	95	76.0
No	8	6.4
Maybe	22	17.6

Table 3.19

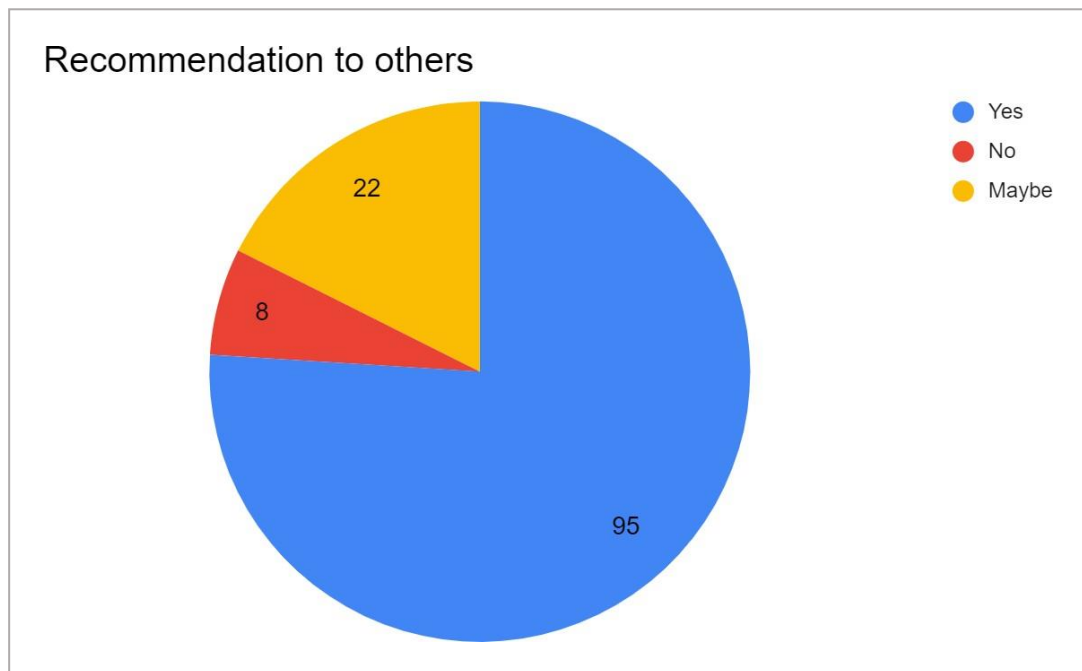


Fig 3. 19

INTERPRETATION

The fig 3.19 shows the percentage of respondent's recommendation to others. The study shows that 76% respondents recommend the learning application to others.

3.1.20 CROSS TABULATION WITH BETTER WAY OF LEARNING AND PERFORMANCE

CROSS TABULATION					
	Strongly Agree	Agree	Neutral	Disagree	Total
Online	6	22	4	0	32
Offline	5	10	10	2	27
Both	22	39	4	1	66
Total	33	71	18	3	125

Table 3.20

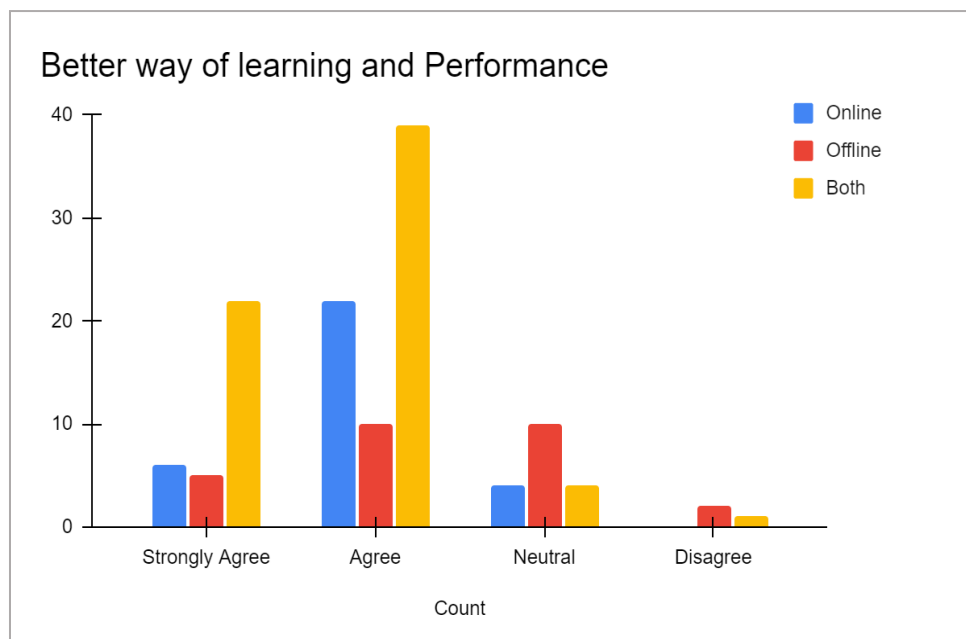


Fig 3.20

INTERPRETATION

The fig 3.20 shows the rating of better way of learning and performance. The study shows that both online and offline way of learning helps in the performance of respondents.

3.2 HYPOTHESIS TESTING

3.2.1 CHI SQUARE TEST: PERFORMANCE AND COVID-19

H₀: There is no relationship exists on the performance and COVID-19 in the population.

H₁: There is relationship exists on the performance and COVID-19 in the population.

The table 3.21 shows analysis based on COVID-19 and performance by the respondents.

Impact on increase in usage of online learning due to COVID-19		Online learning improve performance				Total
		Strongly Agree	Agree	Neutral	Disagree	
Yes	Count	30	64	13	3	110
	Expected Count	29	62.5	15.8	2.6	110
No	Count	1	3	0	0	4
	Expected Count	1.1	2.3	0.6	0.1	4
Maybe	Count	2	4	5	0	11
	Expected Count	2.9	6.2	1.6	0.3	11
Total	Count	33	71	18	3	125
	Expected Count	33	71	18	3	125

Table 3.21

CHI-SQUARE TABLE

	Value	df	P-Value
Pearson Chi-Square	10.256	6	0.114

Table 3.22

INTERPRETATION

Here the P value 0.114 is greater than Alpha Value 0.05, so there no evidence to reject the null hypothesis. So we can conclude that there is no relationship between performance and COVID-19. It means online way of studying does not affect the performance of the students.

3.2.2 CHI SQUARE TEST: AGE GROUP AND WAY OF LEARNING

H₀: There is no relationship exists on the age group and way of learning in the population

H₁: There is relationship exists on the age group and way of learning in the population

The table 3.23 shows analysis based on age group and way of learning of the respondents.

Age Group		Better way of Learning			
		Online	Offline	Both	Total
15-20	Count	4	8	24	36
	Expected Count	9.3	7.8	18.9	36
21-25	Count	7	17	28	52
	Expected Count	13.4	11.3	27.3	52
26-30	Count	15	1	9	25
	Expected Count	6.5	5.4	13.1	25
31-35	Count	5	1	4	10
	Expected Count	2.6	2.2	5.2	10
36-40	Count	1	0	0	1
	Expected Count	0.3	0.2	0.5	1
Total	Count	32	27	65	124
	Expected Count	32	27	65	124

Table 3.23

CHI-SQUARE TABLE

	Value	df	P- Value
Pearson Chi-Square	32.661	8	.000

Table 3.24

INTERPRETATION

Here the P value 0.000 is less than Alpha Value 0.05, so we reject the null hypothesis.

So we can conclude that there is a relationship between age group and way of learning.

CHAPTER - 4
INFERENCES

SUMMARY OF FINDINGS

- Majority of the respondents go with both online and offline studying. 27% male and 39% female choose both online and offline.
- The 87.2% of respondents use online educational application and 4.8% doesn't not use any offline educational application. 8% maybe used online educational application.
- The study shows that 59.2% respondents use Byju's App. Comparing to other App respondents, Byju's have a good customer base.
- The increase in the usage of online learning app due to COVID-19 pandemic does not affect the performance of the respondents. Majority of the respondents agreed that COVID-19 does not negatively influence the performance.
- The age group less than 25 prefer these online application because of the teaching quality. Ease of use and the better service provided by the application is also a factor for choosing the app.
- The percentage of respondent's user friendliness of the E-learning app that they prefer the most. The study shows that 34.4% respondents finds the user friendliness of the E-learning app that they prefer as excellent and 60% refer it as good.
- The study shows that 42.4% respondents rated their preferred app as excellent and 51.2% rated it as a good application.
- The respondents get sufficient information from online learning.
- Teenagers shows a high satisfaction in the on boarding experience of the online learning application.
- The study shows that 36% respondents knew about this learning app through internet.
- The study shows that 52.8 % respondents prefer both online and offline method of study.
- The study shows that 48 % respondents feels that lack of supervision is one of the great challenge in online learning.
- The study shows that 62.4% respondents are satisfied with the customer grievance provided by the app.
- The study shows that most of the users are satisfied with the online learning experience. So they recommend the online learning applications.
- The study shows that 57.6 % respondents agreed that online learning is cost effective. So it shows a positive attitude on online learning.
- The study shows that 56.8 % respondents are satisfied with the performance of the online learning application.

- The study shows that 88% respondents shows a positive attitude towards online learning during COVID-19 pandemic.
- The study shows that 63.2% respondents are satisfied with the overall online studying experience.
- The study shows that 76% respondents recommends the learning application to others.
- From the chi-square test, we found that there is no relationship between performance and COVID-19.
- From the chi-square test, we found that there is a relationship between age group and way of learning.

SUGGESTIONS

- Through this research, we got a deep understanding about the perception and attitude of Indian consumers towards online education. The individuals who represent the data are mostly among the age group of 15 to 35. Students choose the online classroom because it offers flexibility in busy schedules.
- We also found that the online advertisement plays a major role in spreading knowledge about online education because most of the people got aware of online education through online advertisements. So spend money more on online advertisements. Companies need to accurately monitor their products' consumer actions and outcomes to leverage precious quantities of granular data by conducting periodic evaluations.
- The government should organize workshops and seminars for creating awareness of online education among consumers and should include online education in the curriculum for students.
- In most fields, the amount of distance learning and online degrees is high and is growing rapidly. There are also growing numbers of schools and institutions which offer online learning. Students seeking degrees through the online method must be careful to ensure that their course work is performed in an agency that is accredited and certified.
- Develop technology that can be used to artificially remodel the teaching concepts in a classroom and constantly adapt to a child's individual requirements. So the teacher can effectively measure learning outcomes and provide individualized attention using technology.

- Educators may need to rethink their teaching methods and learning style to suit the modern learning environment. One of the resonating demands of the educators was the need for more exciting and collaborative EdTech solutions for teachers themselves, to enable better student learning outcomes.
- Through this research, we also got to know about the challenges faced by the respondent's while going on online for studies the biggest challenge is lack of supervision is still a challenge that is faced by the consumers. So the demand for tools that would allow people to map student engagement levels, perhaps even tools that could read the faces of the people to see how well they comprehended anything or not.
- Online education is going to be prevalent for further coming days. Most students choose the online classroom because it offers flexibility in busy schedules. Students must become lifelong learners in today's world with the abundance of information and knowledge and online education plays a significant role in helping individuals access learner-centered and self-directed instruction.

CONCLUSION

This research was conducted to understand the perception and attitude of Indian consumers towards online education compared to and offline education. We did this research among the individual which were in the age group of 15 to 35 and which had gone through both modes of learning experience online as well as offline. This research throws light upon the big question in today's internet geek world that which is a better mode of learning online mode of education or offline mode of education. As we found out in this research that however people love to spend the time on online website enhancing their skills and knowledge they still think that only online education is not enough to gain all the knowledge you still need human supervision that is through offline education and that's why most of the responders think that both are a good platform to learn. We have gone through different kinds of EdTech startups and studied their popularity for concluding that Byju's is the most popular EdTech startups followed by Vedanthu, Unacademy, and Toppr. COVID-19 has improved the perception and attitude of Indian consumers towards online education. Govt. of India has also realised and is going to invest a huge amount on online education. Thus the system of E-learning will surely give a challenge to classroom learning in the future.

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