

IMPACT OF COVID-19 LOCKDOWN ON E-LEARNING WEBSITES/APPLICATIONS WITH SPECIAL REFERENCE TO MBA COLLEGES IN PUNE

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RESEARCH ABSTRACT:

THE COVID-19 not only stopped the operation of non-essential services but also halted the education system throughout the world, Colleges, Schools across India were shut down to contain the spread of the virus. Now there was an immediate need to respond to this situation and colleges, schools and coaching centers throughout India and the world started moving online for conducting classes, giving homework and assignments to the students, thereby not stopping the learning. The purpose of the research is to investigate the closure of schools, colleges due to COVID-19 and its impact on online websites, certification courses. As the only option to stay connected and keep learning was to use the internet and put its resources to the best use as learning is a continuous process and one cannot stay away from it for too long else they would be left out. Both Primary and Secondary research sources would be used to collect relevant information throughout the research, Primary research were taken from Questionnaire, Surveys and Interviews while secondary sources articles, previous research papers, newspapers etc. It was found that students found online learning necessary during the lockdown and that there was a significant relationship between closure of colleges and schools during lockdown and increase in online course takers

INTRODUCTION

The COVID-19 lockdown has led to the closure of schools and colleges throughout the world an estimated 1.2 Billion students across the world are affected due to the same, Nearly 186 countries around the world have stopped working due to this global pandemic, While some say that it is difficult to suddenly shift to a complete online learning methodology, The rest argue that information technology in education will help students and will eventually be a part of the regular curriculum.

However the academic calendar was disrupted and there was a need to stay on the learning track not only for students but also teachers, Now the best way to do so was to make use of online learning platforms, online communication platforms and certification courses to promote learning during this pandemic. Online classes started taking place on zoom, Microsoft teams, Google meet etc. Also the employees were asked to work from home so that the virus does not spread much.

INDUSTRY BACKGROUND

- The online education market in India was valued at INR 39 billion in 2018 and is expected to reach INR 360.3 billion by 2024, expanding at a CAGR of ~43.85% during the 2019-2024 period.
- Ease of learning, flexibility, and a wide range of study materials have influenced the overall growth of the industry.
- The Indian online education market is highly fragmented with around 3,500 edtech start-ups operating in the country. Many foreign players are entering the Indian online education industry.

- BYJU's, Udemy, Coursera and Duolingo are a few prominent players in the industry, catering to the requirements of different target audiences.
- The Indian Government also played an important role to promote e learning by offering free courses through portals like Swayam,Diksha,Nasscom. The AICTE launched an online portal “ENHANCEMENT IN LEARNING WITH IMPROVEMENT IN SKILLS”
- Portal which gives access to free online courses from 18 ed tech giants. A large number of ed tech giants also gave away online courses free of cost, based on a study on top 35 online learning platforms the ed-tech segment saw a 26% increase in online traffic between April 2019 to March 2020.
- BYJUs Learning app announced free classes till the end of April 2020,Like Uncademy founder Gaurav Munjal said that they have increased taking free online class.
- Some important factors for online learning are Students learn more than offline normal classroom courses, Important concepts can be discussed, Regular assessment can be made online.
- Some professors would argue that online presentations help create an efficient and effective communication model which could benefit students in the long run. Research suggests that online learning helps retain 25%-60% more information as compared to 8%-10% classroom teaching.
- Also E-learning requires a 40%-60% less time to learn than traditional classroom teaching as the course can be tailormade with our pace. So one can make the most out the time, also since these courses are self paced students can skip unnecessary stuff.
- E-learning also saves a lot of time commuting from one place to another.E-learning saves a lot of money as well by reducing time of commuting from one place to another. IBM is said to have saved \$200 million by switching to e-learning.
- For students COVID-19 was one of the best opportunities to enhance their skillset with a lot of websites offering free certification courses.

Though these courses were offered before COVID-19, There was an increase in number of course takers in the pandemic period. It has been stated by DHE under MHRD recommended that even the teachers, faculty member may use this time in online learning,self development, writing research papers and other fruitful activities

RESEARCH PROBLEM

1. Since the closure of education institutes due to the COVID-19 lockdown schools and colleges have opted to give online classes and homework online to contain the spread of the coronavirus.
2. From the research we want to investigate how much of an impact does the lockdown have on online learning
3. How has COVID-19 influenced the online certification courses and e learning platforms in MBA Colleges in Pune.

4. Since the outbreak of COVID-19 a lot of e learning platforms have announced free courses for it course takers weather this had led to the increase in online enrolment of courses or not

OBJECTIVE:

1. To study the relationship between closing down of colleges due to COVID-19 lockdown and usage of e-learning platforms for classes
2. To study the relationship between government circular announcing free courses during COVID-19 Lockdown and increase in enrolments in online courses
3. To study the impact of COVID-19 lockdown on increase in online certification courses

HYPOTHESES

1. **Null Hypothesis H_0 :** There is no significant relationship between closure of schools and colleges due to covid-19 lockdown and demand of online courses or e learning platforms

Alternate Hypothesis H_1 : There is a significant relationship between closure of closure of schools and colleges due to covid-19 lockdown and demand of online courses or e learning platforms

2. **Null Hypothesis H_0 :** There is no significant relationship between the government circular announcing free courses and increase in enrollments for online courses

Alternate Hypothesis : H_2 : There is a significant relationship between the government circular an free courses and increase in enrolments for online courses

3. **Null Hypothesis H_0 :** There is no significant impact of covid-19 lockdown on demand of e-learning websites/certification courses

Alternate Hypothesis H_3 : There is a significant impact of covid-19 lockdown on demand of e-learning websites/certification courses

REVIEW OF LITERATURE

1) DR ANIL KUMAR GOYAL, MS SURBHI MALHOTRA (DECEMBER 2013)

- In this paper they have stated that the shift in learning is made from books to that of internet and online classes after the year 2000,the practicality of online courses is mentioned here and how it is relevant in todays world and its easier access and convenience , It is stated that online education is being imparted in offices as well to save time and money of the company.
- Various platforms of e learning are stated here such as Knowledge databases, Synchronous training,Asynchronous training and Online support
- Various benefits of e learning were discussed such as updating personal skills without hinderance of regular work, Tailor make learning program upto ones convenience and free time, Studying in a familiar environment where our mind is at ease, Immediate doubt clearance through real time chat boxes to that the learning remains continuous, online courses allow its user to gain a certificate in a much lesser time than traditional teaching methodology

- As an online students one gets to know about diversity in views by his/her classmates,. Virtual Classrooms were found to be the future of education the physical space adopted by a classroom has now changed to be a virtual space.

2) Research on the importance of training and professional certification in the field of ICT Case Study in Kosovo-By Blerton Abazi Edmond Hajrizi (2018)

- In this paper it is stated that employees who want to keep up with the changing era in technology are required to keep themselves updated with certifications. More often learning from professional courses offline is not the most efficient way to keep in pace with the changing era.
- In the research paper they have collected their data through questionnaires, direct interviews and target groups were identified and meetings were started with companies and organization, It is a survey based research design
- After the Questionnaire was circulated the findings were that people did not want to stop their job and pursue an course as they did not have enough time to devote to it. Some employees felt that the training completion and online certification will have a positive impact for them at work and it may help them get recognition or proper promotions in a timely manner.
- It is important to note that 70% of the employees stated that certifications are important if one wants to climb the corporate ladder especially the ones who do not possess a relevant

3) Impact of COVID-19 on the Online Tutoring Industry - STEM Courses Gaining Traction due to Growing Use from Schools and College Students (March 2020)

- This research paper discusses the need of moving to online education system after the recent coronavirus outbreak that affected most countries around the world.
- After the closure of education institutes throughout India due to unforeseen reasons online learning played an important role to bring student back to the learning ways, Courses related to science and technology engineering and management courses have become a popular go to option during this pandemic.
- Government of countries such as China, India have introduced online portals to facilitate the learning among the students, even major E-learning giants have launched free courses to support students during this crisis.

4) Impact of covid-19 in Indian Education-IRSHAD ALI (2020)

- This research paper talks about how coronavirus affected schools and colleges in India and discusses about the uncertainty of opening colleges and schools. Over 91% of students around the world are said to have affected due to this crisis, Now since social distancing is by far the most effective way in containing the virus
- The research paper talks about online education saving time and gives easier and quick access to information also is useful to prevent unnecessary travel from place to place and can be useful in pandemic situations also other unforeseen reasons.

- The findings of this research were based on an observational and a descriptive basis among students in an engineering college in Haryana around a sample size of 100 students and the research showed that 86% of the total students preferred online classes but since the research was conducted on a limited number of students this research may not be very reliable to produce conclusive evidence.

5) COVID 19: A massive exposure towards web based learning: KMahalakshmi and RRadha journal of Xindan University (2020)

- This research paper talks about how covid-19 led to lockdown in order to maintain social distancing to contain the spread of the disease. Hence there was an immediate need to respond through online learning and using e platforms to conduct classes.
- This lockdown could be viewed as an eye opener to so many of the unknown preexisting online platforms that are effectively being used in today's context creating so many things for students such as online lectures, quizzes ,discussion ,sharing of important documents which makes a more effective relationship between the student and the teacher like never before
- Also students can take the benefit to maximum web based e learning platforms such as SWAYAM PORTAL,NPTEL,COURSERA all of this are known as MOOC'S-Massive open online courses.

6) Impact of Covid-19 In Educational Institutes In India: Akash Gupta and Mala Goplani (2020)

- This research article tried to analyze the effect of COVID-19 lockdown on educational institutes such as schools, colleges. And decisions taken by the government, relevant stakeholders during this crisis.
- Descriptive and analytical study was conducted and the sources taken were newspapers, official websites, articles and discussions with teachers, Letters issued by government authorities are also used for assessment of COVID-19 on the India education system.
- To summarize all the letters, it was found that government and other institutions which were relevant had been taking proper steps for the pandemic
- Use of digital platform was encouraged by the MHRD TO promote learning during the lockdown phase
- Information was given to teachers to use their quarantine time in self-development, online assessment, preparing lesson plans

7) Students' Perception and Preference for Online Education in India during COVID -19 Pandemic(Authors: Muthuprasad T , Aiswarya S. , Aditya K. S. and Girish K. Jha 2020)

- Here a group of agricultural students' perception of e learning classes were found out, these students were agricultural graduates who studied life sciences, social sciences it included students from graduation, post-graduation and PhD level.

- In this research report a survey was taken of 307 agriculture students, and they were asked about their perception on online learning about 56% of respondents were female while 44% were male. Questionnaire was designed with the help of informal discussions and survey of literature. Both qualitative and quantitative data was gathered from the research, background. In the questionnaire 67% of the students favored online education as a substitute to online classes.
- Thus, in conclusion it was noted that online classes were advantageous to the students and timings of the classes could be flexible and online classes could be adopted even after the pandemic comes to an end. Lectures could be prerecorded or live as per convenience of students

8) Online Education And Its Effective Practice: A Research Review-Anna Sun And Xiufang Chen (January 2016)

- This research paper has reviewed nearly 47 published studies and online research work since the year 2008. The paper gives practical suggestions to people who want work on online courses.
- The methodology used for this research paper is research on articles related to online teaching and literature review prior to 2008.
- Sources of literature data taken here are taken from journal articles and full texts and an intent is made to understand the evolution of online courses before 2008 and after that, Which is discussed in three stages, Stage I indicates the views before 2008 and in Stage II how online description ,online teaching was used and Stage III talks about online cyber space, learning, e-learning courses, Virtual learning and instructions.
- The paper answers 3 questions
 - i) Evolution of online education
 - ii) Effective practices in online teaching
 - iii) Effective practices in online learning.

RESEARCH METHODOLOGY

Table 1: Research Methodology

GEOGRAPHICAL AREA	PUNE CITY
POPULATION	MBA Students in Pune
SAMPLE SIZE	163 Respondents
SAMPLING METHOD	Convenience Sampling
DATA COLLECTION	Primary Data Collection: Questionnaire Secondary Data: Research Papers, Articles, Journals, Websites
STATISTICAL TOOLS	Linear Regression, Correlation, Anova
RESEARCH TYPE	Survey Based Descriptive Research
RESEARCH DESIGN	Descriptive Research Design

DATA ANALYSIS

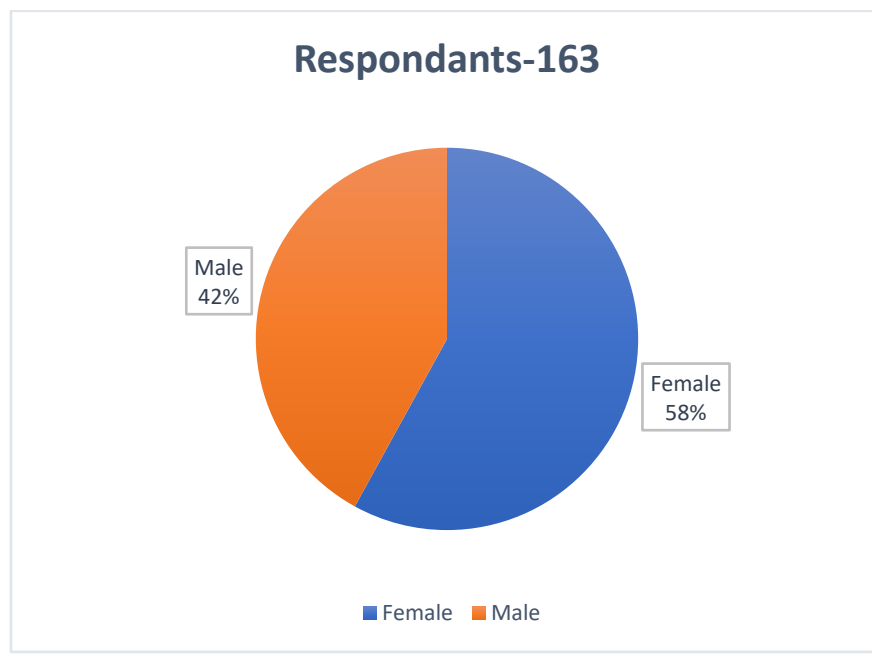


Figure 1: Respondent Demographics

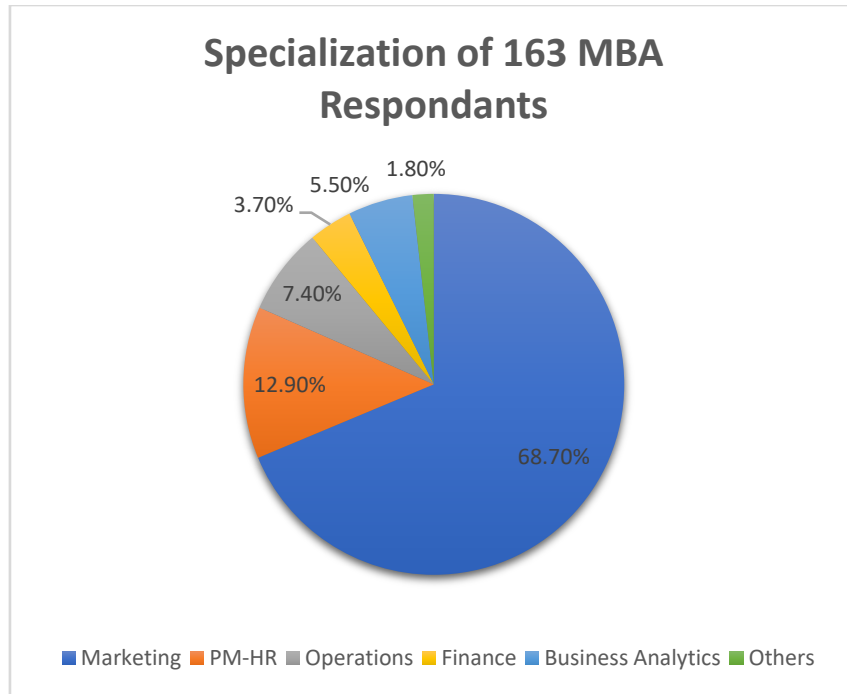


Figure 2: RespondentsSpecialization

RELIABILITY TEST

Table 2: Case Processing Summary

		N	%
Cases	Valid	163	100.0
	Excluded ^a	0	.0
	Total	163	100.0

a. Listwise deletion based on all variables in the procedure.

Table3: Reliability Statistics

Cronbach's Alpha	N of Items
.780	6

Figure 4: Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
COVID-19 Lockdown increase in online courses -	19.38	13.459	.602	.731
Usage Of applications for college	19.03	15.820	.346	.785
COVID-19 Lockdown increase in certification courses	19.43	12.728	.641	.719
Government e-learning portal usage	19.61	13.425	.563	.739
I am Frequently participating in online webinars on different subjects	19.96	13.523	.468	.763
Government Certification courses usage	20.39	11.387	.584	.738

Inference:

- Cronbach's alpha is 0.780 which is greater than 0.6, Hence there is strong individual indicator reliability and higher degree of internal consistency in data.
- Also, except two values in correlation table, All other values are greater than 0.5. Hence, there is a convergent relationship between them.

HYPOTHESES TESTING:

Null Hypothesis H_0 : There is no significant relationship between closure of schools and colleges due to covid-19 lockdown and demand of online courses or e learning platforms

Alternate Hypothesis H_1 : There is a significant relationship between closure of schools and colleges due to covid-19 lockdown and demand of online courses or e learning platforms

1. REGRESSION:

Table 5-1.1: Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	Government e-learning portal usage, Usage Of applications for college-	.	Enter

a. All requested variables entered.

b. Dependent Variable: COVID-19 Lockdown increase in online courses

Table 6-1.2: Model Summary b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.463 ^a	0.214	.204	.835	2.257

Table 5-1.1: Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	Government e-learning portal usage, Usage Of applications for college-	.	Enter

a. All requested variables entered.

b. Dependent Variable: COVID-19 Lockdown increase in online courses

Table 7-1.3: ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.379	2	15.190	21.804	.000 ^a
	Residual	111.461	160	.697		
	Total	141.840	162			

a. Predictors: (Constant), Government e-learning portal usage, Usage Of applications for college-

b. Dependent Variable: COVID-19 Lockdown increase in online courses

INTERPRETATION

- 1) R square (table 1.1) measures the proportion of total variability in dependent variable that is explained by independent variables. Here, **21.4%** of variability in dependent variable is explained by model. Therefore, this verifies that there is relationship between dependent and independent variables.
- 2) In ANOVA table (table 1.2), **P value is less than 0.05**. Therefore, the research concludes that all the five independent variables are positively related to consumer satisfaction. All the hypotheses proposed previously are supported.
- 3) Durbin Watson value (table 1.1) is **2.257** which is in the range of 1.5-2.5. Hence, there is no autocorrelation present in data.

P-value= 0.00018, since p value is less than **0.05**, **Reject null hypothesis**

Inference:

2. Null Hypothesis H_0 : There is no significant relationship between the government circular announcing free courses and increase in enrollments for online courses

Alternate Hypothesis : H_2 : There is a significant relationship between the government circular an free courses and increase in enrollments for online courses

Table 8:Correlation table

		Government e-learning portal usage	I feel that lockdown was a good opportunity to learn and upgrade my personal skills?
Government e-learning portal usage	Pearson Correlation	1	.516**
	Sig. (2-tailed)		.000
	N	163	163
I feel that lockdown was a good opportunity to learn and upgrade my personal skills?	Pearson Correlation	.516**	1
	Sig. (2-tailed)	.000	
	N	163	163

** . Correlation is significant at the 0.01 level (2-tailed).

Here since the **Pearson correlation 0.516 > 0.50** therefore we accept the alternative hypotheses which is

INFERENCE

There Is A Significant Relationship Between The Government Circular An Free Courses And Increase In Enrollments For Online Courses

2. CORELLATION TEST

3. Null Hypothesis H_0 : There is no significant impact of covid-19 lockdown on demand of e-learning websites/certification courses

Alternate Hypothesis H_3 : There is a significant impact of covid-19 lockdown on demand of e-learning websites/certification courses

3.REGRESSIONTable 9-3.1:Variables Entered/Removed^b

Model	Variables Entered	Variables Removed	Method
1	COVID-19 Lockdown increase in certification courses ^a	.	Enter

a. All requested variables entered.

b. Dependent Variable: Government Certification courses usage

Table 10-3.2:Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.487 ^a	.237	.232	1.175	1.802

a. Predictors: (Constant), COVID-19 Lockdown increase in certification courses

b. Dependent Variable: Government Certification courses usage

Table 11-3.3:ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	68.992	1	68.992	49.990	.000 ^a
	Residual	222.198	161	1.380		
	Total	291.190	162			

a. Predictors: (Constant), COVID-19 Lockdown increase in certification courses

b. Dependent Variable: Government Certification courses usage

Table 12-3.4:Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.544	.383		1.420	.158
	COVID-19 Lockdown increase in certification courses	.637	.090	.487	7.070	.000

a. Dependent Variable: Government Certification courses usage

INTERPRETATION

- 1) R square (table 3.1) measures the proportion of total variability in dependent variable that is explained by independent variables. Here, 23.7% of variability in dependent variable is explained by model. Therefore, this verifies that there is relationship between dependent and independent variables.
- 2) In ANOVA table (table 3.2), P value is less than 0.05. Therefore, the research concludes that all the five independent variables are positively related to consumer satisfaction. All the hypotheses proposed previously are supported.
- 3) Durbin Watson value (table 1.1) is 2.257 which is in the range of 1.5-2.5. Hence, there is no autocorrelation present in data.

P-value= 0.000178, since p value is less than **0.05**, **Reject null hypothesis**

Inference:

There is a significant impact of covid-19 lockdown on demand of e-learning websites/certification courses

FINDINGS

- The study concluded that majority of the sample used an e-learning application or website during the Lockdown. 65% of the people strongly agree that they use an e-learning application for attending online lectures, indicating that the student are opting for online classes (*Muthu prasad t, Aiswarya s. , Aditya k. s. and Girish k. jha 2020*).
- Majority of respondents 68.7% Belonged to Marketing and 12.9% PM-HR Specializations respectively. 82.8% of the respondents gave a rating between 6 to 10 points on a 10-point Likert scale that they would recommend e-learning websites or applications to others.
- Shorter time for course completion (*IRSHAD ALI 2020*) was found to be the most important factor that students perceive as a major advantage of e-learning after doing factor analysis while 70.55% of respondents agree that convenience during unforeseen circumstances as another important factor of e-learning.
- 62.5% of the respondents agree that the free e-certification courses announced by the government will help them during lockdown. Use of digital platforms were encouraged by MHRD and encouraged students to take up courses from Government portals such as NPTEL, SWAYAM to name a few (*Akash Gupta and Mala Goplani 2020*).
- The results from this study tells us that COVID-19 has led to an increase in e-learning website usage and enrollments across MBA students in Pune.

SUGGESTIONS

1. The research gives implication to marketers of e-learning websites/platforms to promote their courses during such unforeseen pandemics or during vacations, holidays and latest technological advancements. This way they can introduce their courses and promote them well to ensure maximum enrollments as these online courses.
2. Special discounts can be given by the e-learning websites so that they get maximum enrollments as e-learning will continue to grow not only for students but also for teachers, working professionals
3. The e-learning websites/platforms can tie up with internet broadband companies to provide students with affordable e-learning packages, And the over dependence on classroom courses will reduce

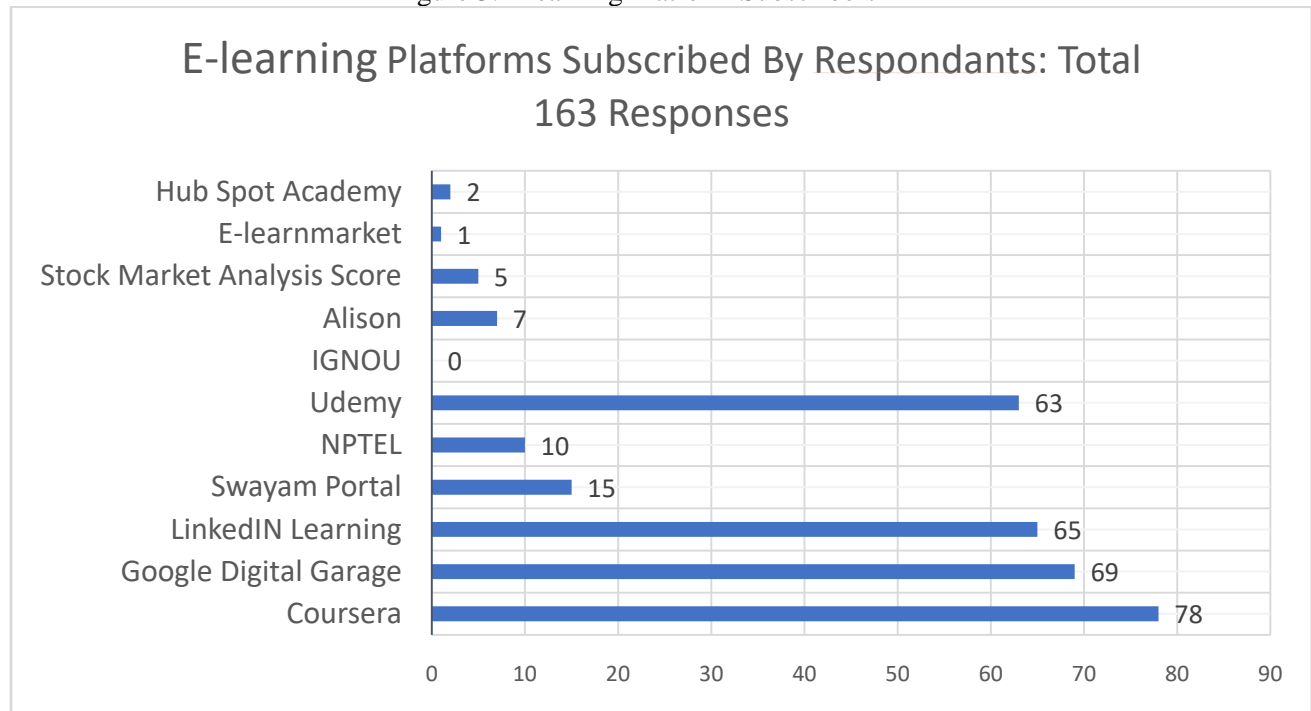
LIMITATIONS

- The research is based on data collected from Google-Forms here Maximum Respondents belonged to a single University
- Data was collected from 163 Respondents only
- Data Pertains only to MBA Students in a Single City which is Pune

CONCLUSION

- The Objective of the research paper was to study the relationship between closing down of colleges and increase in e-learning platforms for classes and Relationship between COVID-19 lockdown and increase in e-certification courses.
- Here a total of 6 Variables were used 3 Independent and 3 Dependent Variables to test to Hypotheses. SPSS software was used to do the data analysis.
- To test the first hypotheses Linear Regression and ANOVA was applied taking COVID-19 Lockdown as dependent variable and Usage of e-learning applications as independent variable, The ANOVA table and Dublin Watson Value indicates that there is a relationship between the two variables.
- For the Second Hypotheses the Correlation test was applied and a positive correlation was found between COVID-19 lockdown and increase in e-learning portals offered by government,
- For the third Hypotheses Linear Regression and ANOVA was applied taking COVID-19 Lockdown as dependent variable and Increase in e-certification courses as Independent variable
- The below is the different platforms on which the respondents have subscribed to E-learning courses, the numbers indicate the number of subscriptions taken, e.g.: Coursera Courses were taken up by 78 Respondents, Since a respondent may have subscribed to e-learning courses in two or more platforms therefore the respondents were given a multiple option question.

Figure 3:E-learning Platform Subscribers



FURTHER RESEARCH DIRECTION

- Future research can cover colleges throughout a particular state and Entire Country to get more accurate results.
- In addition to this future research could include Price of the courses, Occupation, Schools as a elements to enhance the research and test their impact during the COVID-19 Lockdown.

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