

# Impact of Covid19 on Individual's Choice of E-Learning

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## ABSTRACT

The current research tries to investigate the individual's choice of e-learning during and post pandemic period taking 'high school and university' students as study group. 420 respondents wherein 271 responses from 'university students' and 149 'high school students' have been recorded. Using descriptive-analytical method analysis has been conducted and CFA was applied. The measurement model reflects significant difference in the 'items' contribution to the construct. For 'high school' students '*risk minimization and choices availability*' were the primary reasons and for 'university students' '*cost effectiveness and choices availability*' were the primary reasons for e-learning. Further, other factors are also discussed in detail in the study which might have significant effect on individual's choices of different target groups.

**Keyword-** *online education, e-learning, covid19 and education, university students, high school students.*

## INTRODUCTION

Covid19 has drastically changed the way Indian education industry used to operates. Rapidly growing social chaos and severe threat to humanity also changed the way of living of the entire world (Maatuk, et al. 2021). India too couldn't get away from all this mess. All the industry has shifted their mode of operations which could be best possible for them (Medhat&Kassas, 2020). Many industries were badly affected, some survived and some did extremely well because they shifted to most powerful and convenient mode (Dhawan, 2020). Covid19 not only influenced the industries but also changed the way of thinking, perception and choice of an individual towards various tasks like- learning,

training, education, health etc. (Mukhtar, Javed, Arooj&Sethi, 2020). Covid19 has opened new vistas for technological world in which usage of technology is prime (Kaur, et. al., 2020). Even in developing countries, nations have emerged as highly tech-adaptive in a very short span of time. India, as the global hub for variety of industry also came ahead to adopt and use of technology in every possible sector. Indian education sector has transformed from traditional mode of learning to smart learning methods using technology. World over the online education and learning platforms have evolved and overnight became the billion-dollar industry.

E-learning refers to teaching and learning using any electronic device like- smart phone, tablet, laptop, desktop computers etc. (Singh & Thurman, 2019). Internet played crucial role in e-learning as each technological device operate on it (Colace, et. al., 2016). E-learning platform was found most comprehensive and interactive which has highest engagement capability (Mutisya&Makokha, 2016). On the other hand, users find it creative, flexible and more of student centric. The e-learning techniques are cost effective and has wide coverage across the world (Rapanta, et. al., 2020). Along with this, it offers world class education from global experts and teachers. Technology has integrated global learning system which offers high quality teaching methods, material and technique. Gradually, e-learning turned into fashion and every educationist are offering online courses (Horner, et al., 2018).

## **LITERATURE REVIEW**

E-learning or online learning is being considered as the rise of modern learning methods across the world especially amongst the developing countries. Experts call it digital evolution in Indian education industry wherein rapid diffusion of teaching-learning technology can be seen (Maatuk, et al., 2021). Pandemic caused shutting down of educational institutions with immediate effect and left no way to go with advent technology. According to the world bank report, adoption of latest technology for teaching and learning risen by 63% during short span time of 6 months (worldbank, 2021). The adverse effect on education sector brought ever body on acceptance mode to live with technology. The growth of e-learning in India was registered with 36% in last quarter of 2020 (Li, et al., 2022). Studies identified that 92% university students have opted online learning during the pandemic in order to continue their education without getting affected. Globally, dramatic rise was experienced by tech-companies for subscription of tech-based online learning software (Alyoussef, 2021). Economists name it a

‘new world order’ where tech oriented firm would take lead in the market and could only be survived in this scenario. Virtual learning and training grew rapidly with broad expectations of users. Covid19 turn the world into closed economies in which physical interaction reduced significantly and growth of virtual interaction grew up (Bilal, et al., 2021). Business operations turned into virtual reality and a fashion of ‘work from home’ came into existence. It didn’t leave any area untouched, even in education sector schools, universities and B-schools suddenly entered into hybrid mode for continue their tasks (Pandey, 2022). Various studies also been taken over across the world to know the potential reasons of fast adoption of online learning system. Even in India, researchers examined important reasons of tech-adoption in the society.

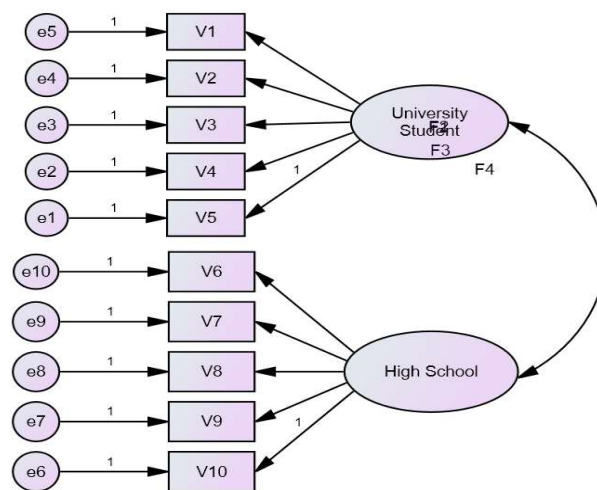
The current study is an extension of all the studies which determined the potential reasons of tech-adoption during and post pandemic period. Taking Indian respondents into consideration the study shall predict individual’s choice for e-learning replacing physical learning. The study shall present university as well as high school students’ opinion for tech-adoption and e-learning through various platform.

## RESEARCH METHOD

### 3.1 Research design and Method

The current research uses descriptive analytical technique which gives acute ease of analyzing ‘ordinal’ data on primary respondents collected at 5 point Likert scale. It includes quantitative research method to determine the findings from primary responses. Below diagram indicate the research design-

**Fig 3.1a- Measurement Model (CFA)**



### 3.2 Sampling Design

With respect to the above research design the current study primarily focuses up on two sets of samples like- 'University students and High School students'. Description of detailed sample design is being presented in below table 3.2a-

**Table 3.2a- Sample Description**

University Students		High School Students	
MBA	87	10 <sup>th</sup>	68
BBA	102	12 <sup>th</sup>	81
BFT	56	-	-
BA	26	-	-
Total	271	Total	149

### 3.3 Sampling Method

The above samples have been collected through self-designed structured questionnaire. The items were selected from previous researches and want to reassure their influence on selected respondents i.e. high school and university students with respect to the adoption and acceptance of e-learning during and post pandemic period. Broadly, non-probabilistic convenience sampling technique has been used to identify and record the responses from eligible respondents.

### 3.4 Sampling Unit

The study conducted analysis on 420 responses (refer table 3.2a) in which 271 responses were collected from university students and 149 responses from high school students. The number sample units were purely decided up on possibilities of responses may easily available at the time of collection. All the responses were collected in the presence of researcher and there is no doubt about the quality of responses. Improper and partially filled questionnaires were dropped immediately at the time of collection.

### 3.5 Analytical Tool

As the study primarily focuses up on quantitative analysis hence primary data has been processed with adequate statistical tools. Here, first conducted 'Cronbach's Alpha' test to establish questionnaire's validity. Second, 'Confirmatory Factor Analysis' was applied on predetermined items using SEM in AMOS 20 version. A measurement model was also prepared for better understanding through estimates of items.

## RESEARCH OBJECTIVE

The current study is primarily focus up on following objectives-

1. To measure the composite effect of factors on individual choice of e-learning during and post pandemic period.
2. To conduct a measurement study of selected factors with respect to 'university and high school' students.

## RESULT ANALYSIS

5.1 To measure the composite effect of factors on individual choice of e-learning during and post pandemic period.

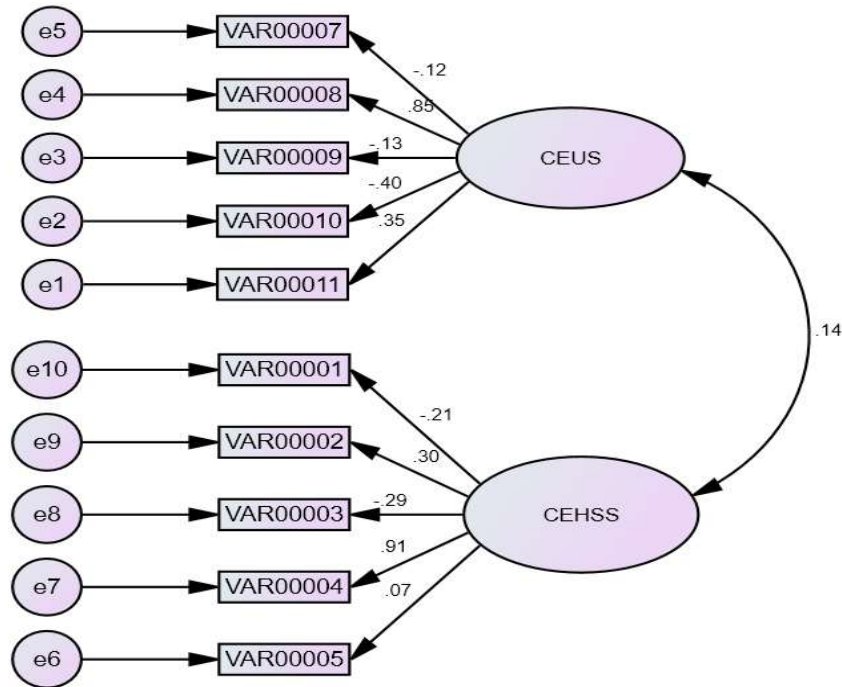
**Table 5a- Combined Factor Score Chart**

Category	Need of hour	Choices Availability	Abundant E-Learning Resources	Risk Minimization	Cost Effectiveness
HS	3.997972	3.88172	4.081481	3.804248	4.017241
US	4.259958	4.09188	4.057652	4.274633	4.417778
<b>Total</b>	<b>4.128965</b>	<b>3.9868</b>	<b>4.069567</b>	<b>4.039441</b>	<b>4.21751</b>

The study has been conducted on five important factors viz. 'Need of the Hour, Choices Availability, Abundant E-Learning Resources, Risk Minimization, Cost Effectiveness' with respect to understand the individual's choice for e-learning in the post pandemic period. The data indicate that 'cost effectiveness and need of hour' were the two major factors caused people motivated to adopt online learning methods. The respondents believed that 'cost effectiveness' was the major reason (M= 4.21751) behind the acceptance and adoption of e-learning option and also accept the truth that it was the 'need of hour' in the society (M= 4.128965). Other factors whose score is observed above 4 were- 'abundant e-learning resources and risk management' whose mean scores were M= 4.069567 & M= 4.039441 respectively.

5.2 To conduct a measurement study of selected factors with respect to 'university and high school' students.

**Table 5b- Measurement Model**



Here, abbreviations used in the model referred as-

- VAR00001& 7 - Need of the Hour
- VAR00002& 8 - Choices Availability
- VAR00003& 9 - Abundant E-learning Resources
- VAR00004&10 - Risk Minimization
- VAR00005& 11 - Cost Effectiveness
- CEUS - Choice of E-learning by University Students
- CEHSS - Choice of E-learning by High School Students

The measurement model estimates the regression weights for each factor and shall depict the contribution to form individual choice of e-learning during and the post covid19 pandemic by high school students and the university students. The below table representing the descriptive statistics and estimate for understand the level of contribution of each factor-

**Table 5c- Standardized Regression Weights (Default Model)**

Relationship Variables			Estimate
VAR00011	<---	CEUS	.350
VAR00010	<---	CEUS	-.399

Relationship Variables			Estimate
VAR00009	<---	CEUS	-.129
VAR00008	<---	CEUS	.854
VAR00007	<---	CEUS	-.120
VAR00005	<---	CEHSS	.073
VAR00004	<---	CEHSS	.913
VAR00003	<---	CEHSS	-.289
VAR00002	<---	CEHSS	.302
VAR00001	<---	CEHSS	-.209

### Choice of E-Learning of High School Students (CEHSS)

The regression estimates are found quite high for 'RISK MINIMISATION' i.e. VAR00004 i.e. R= .913 that indicate 91% reason of e-learning adoption was due to pandemic risk minimization. Second, 'CHOICE AVAILABILITY' i.e. VAR00002 R= .302, 30% contribution it has made. These two factors were observed most significant for tech-adoption and early acceptance of new world order requirement. On the other hand, other three factors like- Need of the hour (VAR00001) R= -.209 indicate negative approach towards the phenomenon, 'abundant e-learning resources' (VAR00003) R= -.289 negative relationship and 'cost effectiveness' (VAR00001) R= .073 reveal weak association. The analysis represents the psychological mind set of high school students that they have opted new methods of learning not due to cost effectiveness or abundance of e-resources or need of the hour, but primarily to cope up with the risk (health risk) prevailing in the society and expected choices available to compensate physical learning from class room teaching.

### Choice of E-Learning of University Students

The regression estimates are found at higher side for 'CHOICES AVAILABILITY' i.e. VAR00008 R= .854 i.e. 85 %. It reveals that 'choices availability' for teaching & learning in online learning platforms contributed significantly for tech-adoption by university students during and the post pandemic period. Followed by, 'COST EFFECTIVENESS' i.e. VAR00011 R= .350 which estimated around 35% for making choice of e-learning in pandemic period. Other factors like- VAR00007, 9 & 10 i.e. 'need of the hour, abundance of e-learning resources, risk minimization' etc. shows negative association with the concept. Which means, mature students (college students) carry a complete

different approach for e-learning choice and tech-adoption during the pandemic time.

**Comparative Analysis**

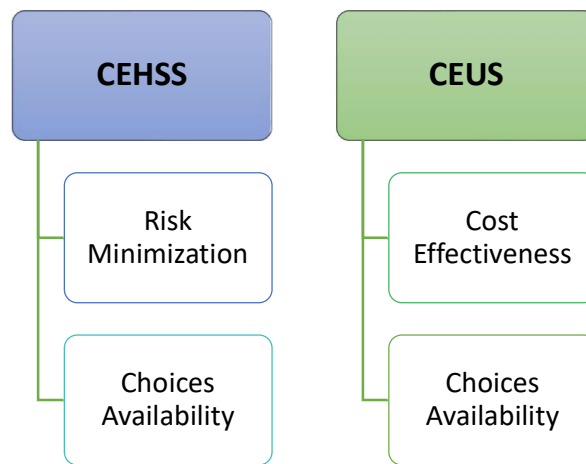
The result clearly indicates significant difference between ‘high school and university’ students’ choice of adopting e-learning method. Their choices are not at all correlated with each other and reflect complete difference. The outcome is being supported through covariance table generated from AMOS outcomes-

**Table 5d- Covariance between Groups (Default Model)**

	Estimate	S.E.	C.R.	P	Label
CEHSS <--> CEUS	.001	.002	.286	.775	
	Estimate				
CEHSS <--> CEUS	.114				

The estimates (covariance statistics) indicate weak association between the groups which helps to conclude that both the student groups differ in their individual choices towards the tech-adoption or selecting e-learning method during and the post pandemic period. Also, their purposes were totally different to select and adopt online learning techniques. Below fig 5e indicate primary reasons of selecting e-learning method-

**Fig 5e- Primary Reasons of Preferring E-Learning Mode**



Researchers determined varied reasons of e-learning adoption by different user categories. Here, the study representing the students’ perspective for e-learning adoption during and post pandemic period. The study found amazing difference in the purposes and perspective behind the tech-adoption for learning and development purposes. Both the student categories believed that online learning platforms offer different choices at affordable cost. Here, ‘choices availability’ is



the common factor identified whereas other two reasons are different like- for high school students 'risk minimization' was the prime reasons and for university students 'cost effectiveness' was important.

## CONCLUSION

Pandemic was a nightmare for every one of us. It influenced life in different means, for all it brought varied changes in the life style as well as other aspects of life. The world has changed the way we used to see it and now things have got new shape and face which is completely new to this world. This we call 'a new world order' where every sphere of life and business have transformed into high tech mechanism. It has also redesigned the education industry in which tech inclination is abundant. Hence, the study tried to determined important reasons of shaping individual choice of e-learning with respect to 'high school and university' students. The research found that, both the students significantly differ in their choices and represent a different perspective. Hence, it is suggested to the firms offering e-learning plans to consider students' perspective towards selection and adoption of their offerings.

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