



## A critical study technology acceptance model towards eLearning behaviour among Indian students

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### Abstract

**Purpose-** This study is conducted for the purpose of analysing the Behaviour pattern for online education acceptance among students. To know the student's perception towards e-learning and Identify the important constrains that would influence the acceptance of e-learning in university's students.

**Need for the study-** Online education is the primary channel of learning during present pandemic. E-learning has customised schooling into more adaptable and proficient learning in under-developed countries. Even though, e-learning remains underutilized in the simple phases of advancement in developing nations like India, it is necessary to understand the basic factors for the adoption of online learning.

**Methodology-** For this purpose, a conceptual model is framed. In order to find out the research gap, secondary data have been used and for analysis, primary data is taken. EFA in SPSS methodology is formulated for data analysis. For data collection, questionnaires have been filled by university students of Punjab State. The sample of 197 respondents have been collected for the analysis.

**Findings-** Therefore, the finding states that e-learning acceptance rate will be high in coming future and the major constraints figured out are effective delivery and availability of content. Moreover, due to covid-19 pandemic, the impact on acceptance for Virtual Learning is high.

**Practical Implications-** The process of calculating the impact of such factors on e-learning Buying Behaviour involves a detailed analysis of the involving factors and Personality traits that trigger Impulsive buying. It thus acts as a diagnostic tool to understand the strengths and weaknesses of the e-learning stage in higher studies. The results of the study will better equip the HEIs to assess the present position and devise future Managing strategies.

### Keywords

Access to quality content, E-learning, e-learning behaviour, Effective delivery, Impact of Covid-19.

### Introduction

As a necessary instrument these days, e-learning presents a new worldview in the fields of education therefore the adequacy of e-learning in the progress of learning and training strategy has been demonstrated and there have been endless works completed for acceptance of e-learning especially as far as its utilization degree is concerned (Zoubi & Alzoubi, 2019). Outstanding improvements in ICT have created huge transformations in both Corporates and the Education industry, bringing about people being acquainted with new standards, for example, e-government, internet business, web-based banking and electronic learning, where virtual learning is the most emerging and advanced sector in developing countries (Baki et al., 2018). E-learning is becoming a compulsory part of all instructive establishments like schools, universities, and colleges in and throughout the planet because of the pandemic emergency of COVID-19. This destructive circumstance gives a new way to teach students, called e-learning (Radha et al., 2020). Online education is the fate of education and corporate also depend on e-learning. After the shutdown of the school and colleges, almost every institute start to online teaching and learning platforms via zoom, google meet, blackboard, etc. to connect with students. And that is a big revolution in the education sector. E-learning is one that technology which provides education to everyone by channel of smartphone and other electronic devices. Even before COVID-19, it's been seen that this sector already has a great hike and also students were ready to accept online study.

### Need of The Study

India's education sector is being revolutionized by rapid increase in Web Technology and also the accessibility of inexpensive devices. Technology plays a great role for the student to successful teaching and learning. Global pandemic COVID-19, shut down many faces to face interactions. Several commercial firms have already recognized this global trend and some universities are also realizing strategic partnerships with multinational companies. Now other



industries have transformed into electronic mode, education also is transforming itself in electronic mode as it become a necessity nowadays. But for more effective use of e-learning, there is a need for more research in this study. However, developing nations particularly India, is lagging behind in the adoption of e-learning and ceased to enjoy the benefits that come with the adoption of e-learning.

#### objectives

- i. To know the student's perception towards e-learning
- ii. Identify the important constrains that would influence the acceptance of e-learning in university's students.
- iii. Test the hypothesis and get the evident result to refine the study

#### Review of Literature and Theoretical background

In order to properly investigate the factors that influence the adoption of E-learning, hypotheses are formulated and tested, which are as follows:

**H1:** Effective delivery on online course has a significant influence on behaviour intention towards e-learning.

This hypothesis state the relationship between effective delivery and acceptance of e-learning behaviour intention. Aim of this hypothesis is to test if the effective content delivery encourages students to get e-learning option for higher study.

**H1:** Accessibility of quality content has a significant influence on e-learning behaviour intention

This hypothesis is a point to analyse the relationship between accessibility of content and service with behavioural intention. The aim of this hypothesis is to determine if quality of content and service enjoyed using e-learning by higher education understudies. Similar study by (Ray et al., 2020) and (Kanwal & Rehman, 2017) found content on e-learning motivate students to use online education and also promote future use of e-platform. However, some other studies and some prior study also reject this statement (ALBELBISI & YUSOP, 2019) & Ali et al., 2018), so it is a critical factor which needs to be analysed.

**H1:** Covid-19 pandemic has no impact on the intention towards e-learning

This hypothesis create relationship between covid-19 pandemic and purchase intention towards e-learning. After testing this hypothesis, we can get proven result whether this situation actually change the preferences of education in higher study or not.

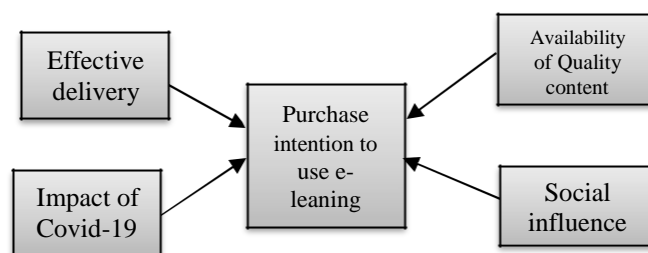
**H1:** Social influence has significant impact on intention towards e-learning

This hypothesis tries to make relation of social (parents, friends and teacher) impact on e-learning acceptance. one study shows, there is a significant relationship, where higher social influence has high behaviour intention to accept online learning (S FAQIH, 2019). However different studies found Social Influence as the least factor to adopt e-learning, according to that parent's pressure develop less intention to use e-learning in student behaviour (Sharma, 2020) (Azurduy, 2021).

#### Purchase intention towards e-learning

This factor depends on various factors which mean if other factors are satisfying then students are ready to use online learning technology. Moreover, it is a critical variable to get the respondent result to utilize online learning platform specific in lockdown period (Dhoot & Thakare, R, 2020). This time there is positive response found amongst students about e-learning. The unexpected conversion of traditional classroom to online classroom affect faculty and students performance and perception (Hargitai et al., 2021).

#### Theoretical model



#### Methodology

As per the objectives of this study, the research is necessarily a **Descriptive design**. Survey Research method (Questionnaire) would be used for research design. Descriptive study is based on large, representative samples and the data obtained are subjected to



quantitative analysis. To complete the objectives, student’s perception of e-learning and finding influencing factors in online education with the testing hypothesis, exploratory factor analysis (EFA) was used for the data analysis. The questionnaire has been adopted from the past study in similar variables. This method explains the factor which impacts the dependent variable. for this structured scaling, a questionnaire has been sent to the respondent. In the questionnaire, the Likert scale method was used. The sample size is taken from Private University’s students from Punjab State where convenience sampling is used to get the response due to this covid-19 situation. A total of 230 students were selected to send a questionnaire whereas 197 responses were received.

**Data Collection Methodology**

Secondary data was collected from various journals selected from Scopus, Web of Science and Google Scholar platforms. In addition to the newspaper, book chapters and data published on government periodicals have also been considered in the study.

**Primary Data**

To collect primary data, questionnaire is going to be used. Questionnaire is prepared from various studies like: Effective delivery (Dhoot & Thakare, R, 2020)), Light (López-Belmonte et al., 2021; Areni and Kim, 1994; Summers and Hebert, 2001), accessibility (Ray et al., 2020) and social influence (Kanwal & Rehman, 2017), (S FAQIH, 2019, Sharma, 2020) and (Azurduy, 2021), Purchase intention towards e-learning (Hargitai et al., 2021). Information is to be collected by sending google form structured questionnaire to students on their mail.

**Secondary Data**

Secondary data is collected from various journals selected on Scopus, web of science and google scholar platform in addition with newspaper, book chapters and data published on government periodicals.

**Sampling Plan**

Research Design	Descriptive Research
Target Population	Punjab State
Sample Size	197
Unit of Population	University Students
Sampling Method	Convenient non-probability method
Data Collection Method	Questionnaire

The following sampling plan was developed to conduct survey:

**- Population**

The relevant population for this study comprised of University academic students from various private university of Punjab in the academia session of management department

**Sample Size**

The criteria for deciding the sample size was based on the time and resource considerations. The sample size for the survey is 197. This is selected with the help of g\* power value.

Normality Analysis of the questionnaires

**Tests of Normality**

Table 1

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
ED_mean	.148	150	.000	.920	150	.000
SI_mean	.237	150	.000	.806	150	.000
Accessibility mean	.212	150	.000	.870	150	.000
Impactofcovid_mean	.216	150	.000	.826	150	.000
Purchaseintention _mean	.179	150	.000	.855	150	.000

If the **Sig.** value of the Shapiro-Wilk Test is greater than 0.05, the data is normal. If it is below 0.05, the data significantly deviate from a normal distribution. Thus data (table1) is not normal. Hence non parametric tests are used.

**INTERPRETATION:**

**Demographic profile of respondents**

Table below shows the demographic profile of the respondents on the demographic variables of gender and age.

TABLE 2: DEMOGRAPHIC PROFILE OF RESPONDENTS

GENDER	FREQUENCY	PERCENTAGE
Male	104	53
Female	93	47
<b>Total</b>	<b>197</b>	<b>100</b>
<b>(class )</b>		
Post-graduation	67	34.01
Under graduation	130	65.98
<b>Total</b>	<b>197</b>	<b>100</b>



As shown in Table 2, the gender profile of the sample comprises of 47% females and a larger 53% composition of males. The qualification distribution of the sample is app 34% of postgraduate and 66% undergraduate students participated.

**Sample size accuracy**

As the result of KMO and Bartlett’s test (table 3) shows that value is .903, which define the relationship of all factors are reasonable and greater than the required value. In addition, Bartlett’s test of sphericity prove significance level is 0.000 which less than 0.05 which defines the null hypothesis, that no significant relation among all factors is rejected and will continue with alternate hypothesis. So according to the findings sample size is accurate for this study and true to find the impact of these component with accepting intention towards e-learning.

**Table 3 : KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.903
	Approx. Chi-Square	1572.032
Bartlett's Test of Sphericity	Df	120
	Sig.	.000

**Most effective factors**

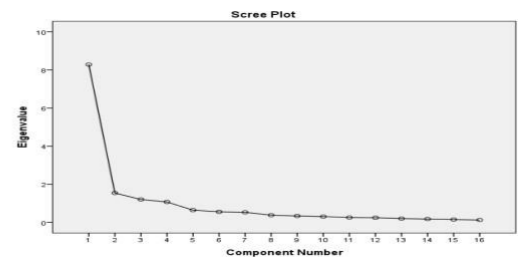
The Principal component analysis is used to extract factors and number of factors were decided using statistical criteria of eigen value greater than 1 as shown in Table 4. The five factors explained 75% of total variance of data on Acceptance of E learning. These components have also been shown through screen plot diagram.

4	1.072	6.701	75.62	2.251	14.072	75.627
5	.642	4.014	79.64			
6	.554	3.460	83.10			
7	.530	3.313	86.41			
8	.379	2.367	88.78			
9	.336	2.101	90.88			
10	.306	1.912	92.79			
11	.256	1.602	94.39			
12	.247	1.541	95.93			
13	.200	1.251	97.18			
14	.175	1.093	98.28			
15	.150	.937	99.21			
16	.125	.783	100.00			

**Table 4: Total Variance Explained**

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.285	51.779	51.779	4.428	27.676	27.676
2	1.541	9.629	61.408	2.863	17.894	45.570
3	1.203	7.518	68.926	2.558	15.985	61.555

Extraction Method: Principal Component Analysis.



**Table 5 : Model Summary**

Model	R	R Squared	Adjusted R Squared	Std. Error of the Estimate
1	.730 <sup>a</sup>	.533	.523	.78687

a. Predictors: (Constant), Effectiveness, Availability of Material, Impact of Covid-19

Findings from screen plot we can see four points are on the upper side so accordingly four variables have greater correlation with each other.

- i. Further finding from Varimax Rotation Method (table 4) define the factor loadings of various items distributed among the five factors. Those item where sig. value is less than 0.4 is ignored for the fair result. Covid-19 has major impact on purchase intention towards e-learning, other two constrain effective delivery and availability of quality content also have correlation with adoption of e-learning.
- ii. For further analysis and testing of hypothesis, Multiple Regression analysis has applied. Here result shows correlation value is .730 which proves that factors are matching with dependent constrain and  $r^2$  value is .533 which is acceptable and shows that the proportion of all independent factor explaining the dependent (acceptance of e-learning) in this result. Finding shown on table 5.

Finding of ANOVA analysis shows the relation effect of constant value Effective delivery, Availability of Quality content, Impact of Covid-19 and affecting variable find in table 6. Also the sig. value of beta is .000 is less 0.05 reject the null hypotheses as per table 7.. Acceptance and purchase intension of study through E Learning mode is

significantly affected by factors effective delivery, quality of content and Impact of pandemic (table7).

**Table 6: ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	96.736	3	32.245	52.078	.000 <sup>b</sup>
Residual	84.826	137	.619		
Total	181.561	140			

- a. Dependent Variable: Intention towards e-learning
- b. Predictors: (Constant), Effective delivery, Availability of Quality content, Impact of Covid-19

**Table 7. Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.055	.252		.219	.827
1 Impact of Covid-19	.268	.080	.256	3.347	.001
1 Availability of Material	.149	.078	.130	1.908	.058
1 Effective delivery	.517	.082	.469	6.299	.000

a. Dependent Variable: Intension towards e-learning.

**Implication Theoretical Implications**

The study accounts for an empirical contribution to the domain of higher education specific to the university segment in higher education at the state level. While the global level adoption is



considered for e-learning in higher studies, India which is lagging behind some challenges to accept, it is important to make corrections in these factors. New entrants to the market, targeting the university segment may find significant insights into the importance laid upon the different demand drivers for different aspects of the e-learning environment.

### Practical Implications

The results of the study will better equip the HEIs to assess the present position and devise future Managing strategies. Based on the above study, the following recommendations are proposed for the HEIs:

- After finding the impact of covid-19 on accepting online education it should be adopted as new normal in mainstream education at least in universities
- Effective delivery is the main source which impacts to accept e-learning in smooth study running
- If students get all the accessibility (device, internet infrastructure etc.) e-learning will be functioning in mainstream education in Universities.
- E-learning institutes are beneficial to help in economic growth as well as a service provider as their participation in GDP which is also growing
- All stakeholders (investor, government etc.) are keeping their eyes on these types of e-learning platforms to capture a great extent of market share.
- This result shows that at least in our sample of Indian students, we found that e-learning buying was prevalent. Since the results were obtained in Punjab, we believe that the results are generalizable to most other cities.

### Conclusion

By concluding data collection, it can be said that online education acceptance amongst students is growing substantially after the covid-19 epidemic. There is some evident variable that plays a significant role in it. The abrupt rise of pandemic prompted constrained reception of instruction through web-based mode. Acknowledgement of this new method of training by the young people of India is impacted by a large number of components. So assuredly it is detected by the study that there a positive impact of such components like Pandemic, Effective conveyance, accessibility of content and future e-learning intension. Further, it was seen that pandemic and successful conveyance are significant supporters in monstrous ascent in reception E-Learning. The consequences of this review might be significant with regards to the Covid-19 pandemic that has raised their cognizance towards the

reception of E-Learning and the pandemic circumstance incited individuals to learn and utilize advanced innovation and brought about expanding the computerized proficiency. This result also finds that social influence has the least impacted factor on e-learning adoption. This component is not considered by EFA analysis.

### Limitation

To understand the student's perception towards e-learning among university's students, this study tries to overcome the gap and analyse the factors that influence the adoption of e-learning. Study novel and limit only to understand the perception of university-level students combined state and private university in north India region. Numerous factors are not taken into account in this study. Future work can work on that constraints also. This study is only limited to one region, there is a scope to expand the area of research and need longitudinal research for this cross-section exploratory research.

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