

# Students' Acceptance of Online Higher Education in COVID-19: Bangladesh Perspective

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## Abstract

COVID-19 pandemic is a serious global challenge from the year 2020 that had adjourned the academic activities of different level from the very begging of the lockdown throughout the world. The scenario of Bangladesh is very similar and education institution remains close for a longer period of time for the safety of the generation. Online education is the only solution to continue academic activities particularly for the higher education institutions. This paper is mainly attempted to examine students' acceptance of online higher education in the pandemic situation. To conduct the study, a total number of 320 respondents were taken as sample from nine universities including both public and private by using simple judgmental sampling technique. A face-to-face interview method was followed by using a structured questionnaire to collect the data. In this study, some statistical measures such as mean, standard deviation, correlation, regression were used to analyze the linkage. The study revealed that students' acceptance of online education has a significant relationship with availability of technology, smooth network facility, teaching method, teachers' cooperation, IT knowledge of student. The study also found that students' acceptance has insignificant relationship with internet charge.

**Keywords:** Students' acceptance, Online higher education, Bangladesh, Covid-19

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## 1. Introduction

The world is facing one of the most serious and difficult time due to the effect of COVID-19 (Dubey et al., 2020). The world health organization (WHO) noticed the virus as a global pandemic in March 2020 because of its global spread quickly (Bozkurt and Sharma, 2020). COVID-19 pandemic affects the human body and mind as well as the economy of the nations. Education system also suffered during this pandemic situation. Social distancing becomes compulsory to protect the transmission of the virus. The suffering in education sector can be reduced by implementing technology based education through ensuring physical distance.

Use of technology in education is not new. It creates opportunities in teaching and learning process and already developed a new dimension in education system. Due to the advancement of the internet and modern information technology, developed countries are familiar with online education program. COVID-19 pandemic forces developing as well as under developed countries to adopt modern technology in education system as online teaching-learning in the only way to meet crisis at education sector during lockdown (Basilaia et al., 2020).

In Bangladesh, education system follows traditional system of learning where face to face interaction between student and teacher is mandatory in a physical classroom. But COVID-19 pandemic brings some changes in the system by introducing digital classroom instead of physical layout. The government focused on the distance learning at every level of education to continue the learning of the students. Both teachers and students are not used to on the system as they are trying hard to get accustomed to this newly introduced practice. In university level the adoption of new system is comparatively easy in comparison with school level. Online education performed well at the long pandemic situation though a number of challenges restrict the proper utilization of online learning system. (Khan et al. 2021).

All educational institution including universities remains close almost for a period of one and half year. There are 46 public and 105 private universities in Bangladesh that are offering higher education for their students. Government of Bangladesh has taken initiatives and encouraged universities to continue the study of the students in online platform. Zoom, Google Meet, video communication systems, has gained massive popularity to receive distance learning. But the acceptance of online education in Bangladesh is still a matter of question. No study has already been conducted to understand the students' acceptance on online higher education. This study will fulfill the gap by addressing some issues that are associated with the students' acceptance of online education.

## 2. Literature Review

Online education is generally defined as learning through electronic devices such as desktop / laptop computers, smart phones, CD / DVD players, etc., which first appeared in the 80's as a competitor to traditional face-to-face

education system (Abuhamdeh, 2010). It implies the education system where students learn by maintaining a physical distance from instructor and follow a particular communication method of learning (Wang et al. 2013; Wilde & Hsu, 2019). Technology plays the intermediary role in the interaction between students and teacher and the outcome of the study depends on the learning environment including the space of learning (Bower, 2019; Gonzalez et al., 2020; Wang et al., 2013)

Keller et. al. (2007) showed his study on students' acceptance of e-learning that cultural and organizational factors are important to assess the students' acceptance of digital learning as well as being important in implementation of strategy and policy. Hermida (2020) studied on the use and acceptance of online learning from students' perspective and showed the impact of attitude, self-efficacy, motivation and use of technology on the cognitive engagement and academic performance of students. Kim et. al. (2021), studied on students' acceptance on online learning system in higher education and focused on the psychological issues to understand the behavioral pattern. The study found that perceived usefulness is influenced by perceived ease of use, attitude is affected by perceived usefulness, whereas perceived ease of use does not directly affect attitude. The study also revealed that attitude and subjective norms positively influence behavioral intention, while perceived behavioral control does not.

Sarkar et. al.(2021) studied to assess public university students' perception regarding online education and observed that students prefer conventional type of study rather than virtual study as they can't understand online class properly and feel uncomfortable on the method of study. The study also stated that female students' participation is much higher than male students and urban students have more positive reception than rural students in online study. Yang and Liu (2005) stated that teachers and students have different perception about the use of the technology of e-learning environments in higher education. Teachers hoped to maintain control of the teaching and learning process just as they do in a conventional classroom, while students valued using tools such as chat-rooms, bulletin boards etc. to control their own learning process. Biswas et. al. (2020) studied on students' perception on mobile learning and showed that most of the students have positive perception on mobile learning system. The study also mentioned that mobile learning helps to students to recover study gap in pandemic situation as most of the students are familiar with the device.

In Bangladesh, online education system is introduced first time in a wider scale at university level as to meet the demand of time at pandemic situation. Online education creates challenge to both teachers and students and the overall environment of education (Jaques & Salman 2007). Previous literature found that technical issues, complexity, sequencing of activities were among the major obstacles to the incorporation of multimedia application in the learning (Boyles, 2011, Fahy, 2004). More the country is digitalized more the nation can be converted into digital form and different institutional system can be conducted virtually (Orlando & Attard, 2015). As our country is not digitally advanced as developed country, it may take much time to cope with the new platform. Khan et. al. (2021) found that lack of experience of students and teachers on online platform, high mental acceptance of traditional system, low internet connection particularly in the rural areas, lack of IT knowledge of users, system complexity and limitations, cost of internet, keeping concentration of participants are major challenges of adopting online education system. Tabassum et.al (2020) studied on online education system from the perspective of university teachers and addressed that poor internet connection and lack of logistic support are the major factor that restrict the acceptance of online learning.

The prospect of virtual education system in Bangladesh is massive. It creates many benefits to both students and teacher through developing new path of learning and students feel more interested on the different online courses. (Brazendale et al., 2017). Students may join the class from anywhere, at anytime without any formal preparation for joining the class (Khan et. al. 2021). Understanding the prospect of online education, it seems to be an important issue for detailed research. The above literature revealed that no comprehensive study has yet been conducted to address the factors that are associated with the students' acceptance on online higher education. The study focuses to fulfill the gap.

### 3. Formation of Hypothesis

Students' acceptance is the dependent variable of the study and the independent variables are those factors on which students' acceptance of online higher education relies. Independent variables include teaching method, availability of technology, smooth network facility, teachers' cooperation, internet charge, IT knowledge of students. From the analysis of literature review, the following hypothesis can be postulated.

H1: There is a positive relationship between teaching method and students' acceptance of online higher education.

H2: There is a positive relationship between availability of technology and students' acceptance of online higher education.

H3: There is a positive relationship between smooth network facility and students' acceptance of online higher education.

H4: There is a positive relationship between teachers' cooperation and students' acceptance of online higher

education.

H5: There is a positive relationship between internet charge and students' acceptance of online higher education.

H6: There is a positive relationship between IT knowledge of students and students' acceptance of online higher education.

#### 4. Research Methodology

Data used in this study have been collected from primary sources. Considering the nature of the present study, data were collected by a structured questionnaire through online Google form. A sample of 320 students was taken as respondents from both bachelor and masters level. A simple judgmental sampling technique is used to find the respondents from different private and public universities located in Chittagong and Dhaka city.

To analyze the problem and test the hypothesis frequency distribution, mean, standard deviation, Pearson's correlation and regression analysis were used. Cornbrash's reliability analysis was done to check the reliability of the instrument. The analysis provides a value of 0.76 which is greater than acceptable level in social science i.e. 0.6 and a value close to 1 provides more reliability in a range between 0 and 1 for the analysis of the data. SPSS 18.0 software has been used in this regard.

#### 5. Findings and analysis

##### Mean and Standard Deviation Result:

Mean value and standard deviation of students' acceptance and relevant variables are shown in table 1. Mean score (3.75) shows that overall online education has a good acceptance to students. Standard deviation is relatively low with 0.53116 which indicates a greater consistency in the response regarding overall acceptance. Teaching method has highest mean value (4.1937) with relatively low standard deviation (0.64324). Teachers' cooperation has the second highest mean value (4.1500) followed by internet charge (3.8312). The value of standard deviation of the variables indicates a greater consistency in the response to the variables.

Table 1: Mean and standard deviation of variables

##### Descriptive Statistics

	N	Mean	Std. Deviation
Teaching method	320	4.1937	.64324
Availability of technology	320	3.7969	.74656
Smooth network facility	320	3.2969	.94155
Teachers' cooperation	320	4.1500	.65963
Internet charge	320	3.8312	.88684
IT Knowledge of students	320	3.4812	.80727
Students' acceptance	320	3.7500	.53116
Valid N (listwise)	320		

##### Analysis of Correlation Result:

Correlation between students' acceptance and relevant variables is shown in table 2. There is a positive correlation among all the variables with the students' acceptance. Out of the six, five variables namely teaching method, availability of technology, smooth network facility, teachers' cooperation, IT knowledge of students has a significant correlation with the students' acceptance of online higher education. IT knowledge of students has highest correlation with students' acceptance ( $r=0.325$ ) followed by correlation between smooth network facility with students' acceptance ( $r=0.306$ ). Teaching method, availability of technology, teachers cooperation also has significant positive Correlation with students' acceptance. But variable, internet charge does not have significant relationship with students' acceptance.

**Table 2: Pearson's Correlation**

	Teaching method	Availability of technology	Smooth network facility	Teachers' cooperation	Internet charge	IT Knowledge of students	Students' acceptance
Teaching method	1						
Availability of technology	.487**	1					
Smooth network facility	-.038	-.017	1				
Teachers' cooperation	.899**	.501**	-.057	1			
Internet charge	.261**	.085	.023	.285**	1		
IT Knowledge of students	.152**	.012	.137*	.164**	.070	1	
Students' acceptance	.234**	.267**	.306**	.233**	.077	.325**	1

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

\* . Correlation is significant at the 0.05 level (2-tailed).

**Model Summary and ANOVA Findings:**

**Table 3: Model summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.504 <sup>a</sup>	.254	.240	.46315

- a. Predictors: (Constant), availability of technology, teachers' cooperation, teaching method, smooth network facility, internet charge, IT knowledge of students

**Table 4: ANOVA Result**

ANOVA<sup>b</sup>

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	22.860	6	3.810	17.761	.000 <sup>a</sup>
	Residual	67.140	313	.215		
	Total	90.000	319			

- a. Predictors: (Constant), availability of technology, teachers' cooperation, teaching method, smooth network facility, internet charge, IT knowledge of students

- b. Dependent Variable: Students' acceptance

In table 4, the output of ANOVA shows the value of F is 17.761 which represent the significance of the model. As the criterion for it that value of F should be greater than 5 which is fulfilled. The significance level is also acceptable at p=0.000.

**Coefficient Analysis:**

**Table 5: Coefficient analysis**

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.676	.230		7.298	.000
Teaching method	.053	.093	.064	.568	.571
Availability of technology	.156	.041	.219	3.837	.000
Smooth network facility	.156	.028	.277	5.586	.000
Teachers' cooperation	.029	.092	.035	.310	.757
Internet charge	.004	.031	.006	.119	.906
IT Knowledge of students	.177	.033	.269	5.351	.000

a. Dependent Variable: Satisfaction

The standardized beta coefficient of teaching method is 0.064 at significance level 0.571. It shows a positive relationship between teaching method and students' acceptance and it has 6.4% influence of independence variable to dependent variable. Hence the hypothesis H1 is accepted.

Based on standardized beta coefficient (0.219) and significance level (0.000) it can be concluded that there is a significant positive relationship between independent variable availability of technology and dependent variable students' acceptance. This recommended that availability is an important factor to detect students' acceptance. Therefore the hypothesis H2 is accepted.

The standardized beta coefficient of smooth network facility is found highest value (0.277) among the other variables at 0.000 significance level and shows a strong positive relationship with the dependent variable customers' satisfaction. This result leads to the acceptance of hypothesis H3.

Based on standardized beta coefficient (0.035) and significance level (0.757), there is a positive relationship between teachers' cooperation and students' acceptance. Therefore the hypothesis H4 is accepted.

The standardized beta coefficient of internet charge is found a small one (0.06) at 0.906 significance level. It shows 6% influence of independent variable on dependent variable and suggests a positive relationship though the relationship is not significant. So, hypothesis H5 is accepted

The standardized beta coefficient of IT knowledge of students is 0.269 at 0.000 significance level. It can be interpreted as 1 unit change in IT knowledge of students brings 0.269 unit change in students' acceptance which indicates the significance of the variable to assess students' acceptance. Hence the hypothesis H6 is accepted.

**Conclusion**

Online education is the demand of the pandemic situation as it has no alternative to carry the study of the students. It is a replace of traditional classrooms enabling students to engage in learning through various tools and web technologies. In university level, urban students have more acceptance of this system than rural students because of the availability of technology, internet facility and other logistic support. This study assessed the acceptance of students of both public and private universities on online higher education. To understand the students' acceptance some factors namely- availability of technology, smooth network facility, teaching method, teachers' cooperation, internet charge, IT knowledge of student are identified and evaluated. The study reveals that all the factors except internet charge have significant impact on the acceptance of online higher education though internet charge has insignificant but positive impact on the issue.

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