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Barriers of Adopting Online Learning Among the University Students in Bangladesh During Covid-19

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Abstract

Due to the COVID-19, all the educational institutions in Bangladesh were forced to stop the traditional face-to-face learning method and adopt the online learning system to resume the students' learning activities, even though no one was prepared for that. The current study aims to identify the barriers to adopting online learning during this pandemic from the perception of university students of Bangladesh. The present study is a quantitative study and that has been conducted by performing a survey on 394 university students of Bangladesh with the help of a semi-structured online questionnaire. The current study is a cross-sectional study in nature, and the convenience sampling technique was adopted to carry out this study. The study found that the adoption of online learning of university students in Bangladesh is disrupted by several environmental and situational barriers, e-learning barriers, and psychological barriers. The current study provides insights into the barriers to adopting online learning among university students of Bangladesh. This study has both theoretical and practical contributions; theoretically, the current study provides a research framework to identify the barriers of adopting online learning, and practically, the findings of the study provide a brief concept of the barriers of online education to the stakeholder of the education industry of Bangladesh which will be beneficial for them to take proper initiatives to minimize these barriers. Finally, the current study was concluded by indicating some limitations and providing the directions for future research.

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1. Introduction

The Coronavirus was first reported in December 2019 (WHO, 2020), which has been spread throughout the world, affecting almost every country and country around the world warned individuals to focus on improving precautions. Many countries have enacted lockdown and social separation measures in response to the COVID-19 outbreak, resulting in the closure of universities and other higher education institutions. Nearly 191 countries have adopted national closures, of which five have implemented local closures, affecting approximately 99.4% of the global student community (Agormedah et al., 2020). The COVID-19 outbreak forced all educational institutions to switch online, even when nobody prepared for it (Pokhrel & Chhetri, 2021). To prevent the spread of COVID-19, higher education institutions worldwide have begun to operate remotely via internet platforms for emergency online teaching and learning (Bozkurt & Sharma, 2020;

Crawford et al., 2020; Onojah et al., 2021). The epidemic has a devastating impact on educational systems across the globe, resulting in extensive closures of schools, universities, and colleges, with over 80% of the students not attending school (Crawford et al., 2020; Sepasgozar et al., 2020; Quinn et al., 2020).

Distance learning, also known as online learning, is not a recent concept; it is the transition from traditional classroom instruction to digital learning. Online learning is a digital education system in which no physical companions are engaged, and time and location are unrestricted. Online learning is sometimes called distance learning (Bates, 2005). With the advancement of technology and the internet, e-learning has owned a place in academia. E-learning allows students to learn independently and allows people who are unable to attend regular schools for various reasons. Online learning focuses on synchronous and asynchronous web-based courses. Asynchronous learning involves indirect interactions between students and teachers through online forms such as conferences and online chat; on the other hand, synchronous learning involves direct interactions between students and teachers through online forms such as conferences and online chat (Ko & Rossen, 2017; Ogbonna et al., 2019; Sturm & Quaynor, 2020; Tarman, 2020; Vrellis et al., 2010). Some content is designed and displayed on Moodle LMSs, email systems, blogs, online conversations, Wikipedia, videos, articles, and other platforms. Dr. Cook and Dupras published an article in 2004 that outlined the most effective technique to create an online learning platform for use in medicine as well as they emphasize the need for an excellently user-friendly and logical website design, and the incorporation of self-assessment elements to ensure that learners are appropriately engaged in the content (Cook & Dupras, 2004).

In this creative and digital century, online learning is becoming more popular because it is developing significantly in the academic world; however, certain studies suggest limitations in prioritizing face-to-face education. There are many advantages of online learning, particularly in today's world; physically challenged students can be benefitted through online learning because it allows them to participate in virtual learning with less movement (Dhawan, 2020). The transition from classroom teaching to emergency online learning has a vast digital divide between and within schools and countries (Agormedah et al., 2020). According to Bernard et al., (2014), students do significantly better in online learning than in traditional education, as seen by higher rates of course completion, student satisfaction, and motivation to learn more as well as; some researchers have also demonstrated that e-learning performs better than traditional learning techniques (Lockman & Schirmer, 2020; Ryan et al., 2016). Closures of the institutions have increased learning inequalities and especially infuriated vulnerable students (Agormedah et al., 2020). Universities are conducting educational opportunities via online platforms, which is a revolutionary change. Online learning is a unique scenario switching from regular face-to-face education for both teachers and students, and they must adjust with limited or no further options (Ana et al., 2021). As academic institutions are closed due to the pandemic, online learning platforms play a significant role in assisting educational institutions in the teaching and learning process.

But there are also specific problems that have been specified; the sudden change

started the argument on the quality of learning and satisfaction of students (Baber, 2020). The most mentioned online learning issues are availability, economics, adaptability, instructional methodology, durable education, and teaching practices (Pokhrel & Chhetri, 2021). Students are exposed to excessive screen time in terms of online education (Domingues-Montanari, 2017). Some countries struggle to maintain a consistent internet connection and usage of digital equipment, and many poor students in developing nations are unable to purchase online learning tools (Adedoyin & Soykan, 2020). While the students are away from their regular school schedule, they face financial, social, and psychological consequences (Suneeth et al., 2021). Most universities face the lacking of connectivity to good internet connections or communication devices required to integrate online learning opportunities properly in low- and middle-income countries, including students and faculties (Agormedah et al., 2020). Because of business and office closures, a big percentage of the population now has no or less money and many students do not have access to smartphones or computers at home. Compared to ordinary profits, the data package is quite expensive as well as spending much time on the internet is putting the children in danger of cyberbullying (Drane et al., 2020). Students have been exposed to potentially hazardous and violent information, as well as a higher risk of harassment, because of increased and unstructured time spent on online learning.

School time helps students to develop social skills and awareness while also being enjoyable. As a result of closing schools and strict containment measures, many families are focusing on technology and digital remedies to keep their children engaged in learning, entertained, and connected to the outside world, but not all children have the required experience, competence, and funding to keep themselves safe and protected (Pokhrel & Chhetri, 2021). Some students claimed that they had to take their sick parents, grandparents, or family members to hospitals, and therefore it was difficult for them to remain up with the lessons when they returned home (Imber-Black, 2020). Although many students prefer online face-to-face classrooms (video), some (low-income) students have complained that face-to-face online class requires more data packages (Simamora, 2020). Many studies have identified the move to online learning as a forcible step, yet it is necessary to run the education process (Bao, 2020; Barbour et al., 2020; Halim et al., 2020; Yee, 2013; Zhu et al., 2020). One of the major factors hampering the progress of online education is a lack of enthusiasm or motivation, which increases the number of dropouts from the online course (Aragon & Johnson, 2008). Powers et. al., (2016) concluded that, compared to face-to-face learners, online learners achieve more unsatisfactory grades in exams because face-to-face learners receive immediate, practical support from the instructor to clarify any complex concepts and address their questions, but online learners do not get that support.

As an effect of online education, physical workplaces that are favorable to various modes of learning provide a major issue. In all forms of learning, course design plays an essential role in achieving better results which impacts the satisfaction of the students (Lee, 2014). Diverse courses and age range involve various methods to online learning, and there are a variety of subjects with numerous desires (Shapiro et al., 2017). Intrinsically determined students are mainly undisturbed in their education since they

require less monitoring and assistance, but students who are inadequate in learning find obstacles (Mathivanan et al., 2021). Teachers are split between listening to whom and using which tools. Pre-recorded videos, according to some, might assist; nevertheless, this would limit interactions. It is challenging to create a system that meets all the students' learning demands while still being convenient (Muthuprasad et al., 2021).

Students, teachers, and families have suffered due to school closures, as well as it affected economic and societal consequences (Agormedah et al., 2020; Damianakis et al., 2020; Jamerson & Mitchell, 2020; Owusu-Fordjour et al., 2020; Suneeth et al., 2021). Students, parents, and instructors across the world have felt the unanticipated pulsing impact of the COVID-19 epidemic as educational institutions have been closed to deal with the worldwide epidemic. When the instructors and the students were struggling, online learning has shown a viable solution to an unexpected global epidemic. The academic institution and instructors have accepted "Education in Emergency" through various online media and are now required to adopt new techniques for which they are inexperienced (Ratih et al., 2021; Song et al., 2021). Teacher and student preparedness must be assessed and supported in adjusting to the new circumstances. Students with a static mentality have trouble adapting and adjusting, but students with a creative mentality adapt easily to new situations.

A comparative study conducted by Adams et al., (2015) shows that students' motivation, contentment, and attendance indicate that online learners get less effective than their face-to-face peers. The technique used to administer online exams differs depending on the convenience and skill of the instructors as well as the compatibility of the students (Muthuprasad et al., 2021). Many educational institutions have yet to develop additional plagiarism-checking procedures, owing to the enormous student population. Depending on how long the lockdown lasts, postponing or canceling the full exam evaluation might be a real possibility (Ana et al., 2021). The appropriate techniques for online education have yet to be determined, as most students have experienced emotional and mental suffering and have been unable to engage constructively. Patricia Aguilera-Hermida (2020) has categorized the challenges regarding online learning in three themes named environmental and situational challenges, e-learning challenges, and psychological challenges. A total of eighteen factors that the students generally face around the world have been noted after reviewing the articles related to the barriers of adopting online learning, and the noted barriers have been categorized according to the proposed theme of Patricia Aguilera-Hermida (2020) in Table 1.

Table 1. List of the Barriers of Online Learning During the Pandemic

Barriers	Factors	Source
Environmental and Situational	Concentration difficulties living at home	(Mukhtar et al., 2020; Patricia Aguilera-Hermida, 2020; Soni, 2020)
	More stress balancing life	(Adedoyin & Soykan, 2020; Patricia Aguilera-Hermida, 2020)
	Lack of social interaction	(Baber, 2020)

Barriers	Factors	Source
	Financial hardship	(Almaiah et al., 2020; Baticulon et al., 2021; Mukhtar et al., 2020; Vrellis et al., 2010)
	Lack of internet connectivity	(Agormedah et al., 2020; Baticulon et al., 2021; Khalil et al., 2020)
E-learning	Online learning is difficult to understand	(Dhawan, 2020; Nambiar, 2020)
	Insufficiency of supporting academic resources	(Alawamleh et al., 2020; Almaiah et al., 2020; Soni, 2020)
	Increasing of Workload	(Hussein et al., 2020; Khalil et al., 2020)
	Getting distracted during online class	(Muthuprasad et al., 2021)
	Not so familiar with the online technology	(Agormedah et al., 2020; Muthuprasad et al., 2021; Patricia Aguilera-Hermida, 2020)
	Lack of teachers-students interaction	(Alawamleh et al., 2020; Baber, 2020; Paulsen & McCormick, 2020)
	Difficulties in submitting the assignments	(Kumari et al., 2020; Muthuprasad et al., 2021)
	Difficulties on participating exams	(Muthuprasad et al., 2021; Sahu, 2020)
Psychological	Feeling more anxious	(Nambiar, 2020; Patricia Aguilera-Hermida, 2020)
	Feeling lazy and getting disinterested	(Alawamleh et al., 2020)
	Lack of motivation	(Alawamleh et al., 2020; Baber, 2020; Kumari et al., 2020)
	Suffered from negative emotions	(Baticulon et al., 2021; Patricia Aguilera-Hermida, 2020; Rajab et al., 2020)
	Difficulties on paying concentration	(Alawamleh et al., 2020; Mukhtar et al., 2020)

The first three COVID-19 cases in Bangladesh were detected on 8th March 2020. Following the other countries, the government of Bangladesh announced to close all the educational institutions from 17th March 2020 to 31st March 2020 (The Daily Star, 2020a) for maintaining social distancing to reduce the spread of the virus and later on the closure of the educational institution has been extended till 11th September 2021 periodically. COVID-19 has hit very hard in the education sector in Bangladesh, all the major public examinations of 2020 (Higher Secondary Certificate, Junior Secondary Certificate, Primary School Certificate) have been canceled due to the pandemic (Xinhua, 2020) and the public examinations of 2021 are in extreme uncertainty.

Bangladesh's education sector has been affected badly due to the COVID-19 pandemic. Universities have been shuttered since mid-March, causing real concerns regarding session jams and the students' futures. So considering that the University Grants Commission (UGC) instructed all the universities to start conducting online classes and according to the UGC's instructions, the universities have started following the new method of learning (The Daily Star, 2020b). This study aims to identify the barriers to adopting online learning during this pandemic from the perception of university students of Bangladesh.

a. Hypotheses Development and Research Framework

Several authors have categorized the barriers of adoption in the context of online learning into two types; external barriers and internal barriers. External barriers are also considered as first-order barriers, which are related to the insufficiency of time and supporting resources, poor internet connectivity, lack of technical support and technical training, and academic resources, whereas internal barriers are also known as second-order barriers, which are related to the learners' negative emotions, teachers' attitudes, lack of learners' motivation and confidence, and no perception of benefits (Al-Senaidi et al., 2009; Ertmer et al., 1999; Snoeyink & Ertmer, 2001; Veen, 1993). Patricia Aguilera-Hermida (2020) stated that during online learning, the students are often suffered from environmental and situational barriers, e-learning barriers, and psychological barriers. Bozkurt and Sharma (2020) noted that online learning is getting disrupted by external barriers; moreover, Ribeiro (2020) stated that the transformation of the education system is interrupted by numerous barriers, and Adedoyin and Soykan (2020) mentioned that the learning activities through the online system are hindered by the users' negative emotions and economic instability as well as lack of technical efficiency, that study also found that the positive outcomes from the online learning are connected with the student's socioeconomic status, and the availability of the internet connection, no internet connection or low internet speed is an obstacle of online learning. Wilczewski et al., (2021) found that the isolation and home quarantine put the students in extreme anxiety, frustration, insecurity, and hopelessness, which affect the students' mental and physical health, the researcher also added that during online classes, the students are often affected by the negative emotion which impacts negatively in their psychological health. The previous research found that online learning during COVID-19 is disrupted by the students' financial status, technological competence, logistic barriers, lack of technical support, and communication (Abuhammad, 2020). In Table 1, a few more factors that disrupt the adoption of online learning are mentioned and categorized following the method used by Patricia Aguilera-Hermida (2020). Based on the review of the previously published literature, four variables are adopted in the current study, where environmental and situational barriers, e-learning barriers, and psychological barriers are the independent variables, and disruption of online learning adoption is the dependent variable. Therefore, based on the literature review, the present study proposes the following hypotheses.

H1: Environmental and situational barriers have a significant relation with the disruption of online learning adoption.

H2: E-learning barriers have a significant relation with the disruption of online learning adoption.

H3: Psychological barriers have a significant relation with the disruption of online learning adoption
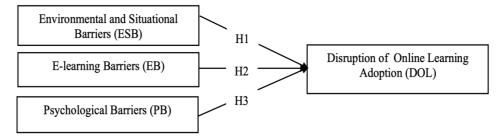
Figure 1. Conceptual Framework

2. Method
a. Sampling Strategies and Sample Size

The current is a quantitative study, and selecting the right sampling strategy and the sample size are very essential for almost every quantitative study (Collis & Hussey, 2013). The convenience sampling strategy was adopted for carrying out this study as the convenience sampling strategy provides the opportunity for purposive sample selection (Saunders et al., 2009); moreover, that sampling strategy is efficient in terms of money, time and effort. Students from the district of Dhaka, Bangladesh, who are studying at undergraduate and postgraduate levels at different universities and attending online classes during the pandemic were selected for this study. Dhaka district was selected as the research area because of its unique position in the country as it has the highest number of universities (UGC, 2021) as well as it contains urban, rural, and suburban areas, which will help to get the view of the students' perception with the diverse demographic profile. In terms of sample size, it was the provision to collect a sample size of more than 384 as sample size 384 is deemed appropriate for the population of millions (at 95% confidence level and 5% of margin error) (Krejcie & Morgan, 1970; Sekaran & Bougie, 2016). The questionnaire was sent to a total of 634 students and out of 411 responses were received. So, the percentage of the received response is 64.83%, and the percentage of receiving responses is acceptable as the study revealed that the average response rate of an online survey is 30% (Saldivar, 2012). After performing a data screening total of 394 data was taken for the final study. All the respondents belong to different demographic profiles. Table 3 represents the demographical data of the respondents, which shows that among 394 respondents majority of them are male, study at bachelor level and belong to the suburban area.

b. Data Collection Procedure and Instrument

The present study was conducted based on the primary data, and an online questionnaire was developed for data collection purposes. A semi-structured questionnaire was prepared by Google Docs and sent to the five students who were attending online classes for the pre-testing and based on their feedback, the necessary changes on the questionnaire were carried out and developed. The current study is a cross-sectional study in nature, and data was collected from the period 15th March 2021 to 15th May 2021. Due to the lockdown, the questionnaire was distributed through social media (Facebook Messenger and WhatsApp) instead of physical distribution, and after 60 days, the link of the questionnaire was disabled. The final questionnaire contained two sections; information regarding the demographic profile of the respondents was asked in the first section and the second

section contained several statements focusing on the respondents' environmental/ situational, psychological, and online learning issues. All the statements were developed by reviewing the related literature and discussing with the experts of that field for minimizing the bias of the researchers, illustrated in Table 8. A 5-point Likert scale was used to get the opinion of the respondents where 5 was the maximum value, and 1 was the minimum value, and all these values represent; 1= Strongly Disagree;

2= Disagree; 3= Neutral; 4= Agree; 5= Strongly Agree. The five-point Likert scale has been adopted as it increases the response quality and rate; moreover, it is quite easy for the respondents to read and fill up the survey (Babakus & Mangold, 1992; Dawes, 2008). In addition, the five-point Likert scale ranges from strongly disagree to strongly agree, which decreases the frustration level of the respondents (Sachdev & Verma, 2004).

Table 2. Measurement Items of the Variables

Variables	Item Number	Source
Environmental and Situational Barriers (ESB)	05	(Adedoyin & Soykan, 2020; Agormedah et al., 2020; Baber, 2020; Baticulon et al., 2021; Khalil et al., 2020; Mukhtar et al., 2020; Patricia Aguilera-Hermida, 2020; Soni, 2020; Vrellis et al., 2010)
E-learning Barriers (EB)	08	(Agormedah et al., 2020; Alawamleh et al., 2020; Almaiah et al., 2020; Dhawan, 2020; Hussein et al., 2020; Khalil et al., 2020; Kumari et al., 2020; Muthuprasad et al., 2021; Patricia Aguilera-Hermida, 2020; Paulsen & McCormick, 2020; Sahu, 2020; Soni, 2020)
Psychological Barriers (PB)	05	(Alawamleh et al., 2020; Baber, 2020; Baticulon et al., 2021; Kumari et al., 2020; Mukhtar et al., 2020; Nambiar, 2020; Patricia Aguilera-Hermida, 2020; Rajab et al., 2020)
Disruption of Online Learning Adoption (DOL)	04	(Alawamleh et al., 2020; Baber, 2020; Kumari et al., 2020; Muthuprasad et al., 2021; Patricia Aguilera-Hermida, 2020)

c. Data Analysis Procedure

The SPSS software (version 28) was used to analyze the research data. At the first stage, the descriptive analysis was employed to analyze the demographic profile of the respondents' which is illustrated in Table 3, the internal reliability of the measurement items, the normality of the data distribution. The internal reliability of the variables was checked through proceeding Cronbach's Alpha test to determine whether the measurement items of the variables are reliable or not, mentioned in Table 4. The normality of the data distribution was analyzed through mean, median, skewness,

and kurtosis, illustrated in Table5. Pearson correlation analysis was proceeded to check the relationship between the variables, shown in Table 6, all the hypotheses were tested through the p-value and t value which was proceeded by linear regression, illustrated in Table 7. And finally, all the statements used in the questionnaire were analyzed by mean and std. deviation, mentioned in Table 8.

3. Result and Discussion

Respondents' demographic profile (Table 3) shows that among 394 respondents 269 were male and 125 were female and the

percentage of male and female respondents is respectively 68.3% and 31.7%. In addition, 213 respondents belong to the age group 18-24 years old, 176 respondents belong to the age group 25-34 years old, and 5 respondents were more than 34 years old and the percentage was respectively 54.06%, 44.67%, and 1.27%. Furthermore, 199 respondents were pursuing their bachelor's degree, 189 were pursuing their master's degree and 6 were Ph.D. students and their percentage is respectively 50.5%, 48%, and 1.5%. Moreover, 127 respondents were from national universities, 130 respondents were from private universities, and 137 respondents were from public universities and their percentage is respectively 32.3%, 33%, and 34.8%. In addition, 98 respondents belong to the rural area, 160 respondents belong to the sub-urban area, and 136 respondents belong to the urban area and their percentage is 24.9%, 40.6%, and 34.5%, respectively.

Table 3. Demographic Profile of the Respondents

Demographic Variables	Classification	Frequency	Percentage
Gender	Female	125	31.7
	Male	269	68.3
Age	18-24	213	54.06
	25-34	176	44.67
	More than 34 years	05	1.27
Level of Study	Bachelor	199	50.5
	Masters	189	48.0
	PhD	06	1.5
Type of University	National	127	32.2
	Private	130	33.0
	Public	137	34.8
Area of Residence	Rural	98	24.9
	Sub-urban	160	40.6
	Urban	136	34.5

Indicates the reliability of the variables (Table 4) shows Cronbach's alpha is the most widely used technique for assessing the reliability of the measurement items of variables (Hair et al., 2010). The purpose of this test is to determine whether the variables are reliable or not (Bryman & Bell, 2011). Researchers considered the value .70 to be the bottom line for the ideal value and a value greater than 0.70 indicates that the measurement items are reliable (Hair et al., 2010). Cronbach's value greater than .90 is considered as the excellent reliability, the value between 70 to 90 is viewed as the high reliability, and values between 0.50 and 0.70 are viewed as moderately reliable, whereas figures less than 0.50 are considered as low reliability (Hinton et al., 2014). Table 4 shows that all the variables are highly reliable, as all the values were found more than 0.70.

Table 4. Internal Reliability of the Variables' Measurement Items

Variables	Item Number	Cronbach's Alpha	Type
Environment and Situational Barriers(ESB)	05	.789	High Reliability
E-learning Barriers(EB)	08	.862	High Reliability

Psychological Barriers(PB)	05	.829	High Reliability	
Disruption of Online Learning Adoption (DOL)	04	.780	High Reliability	

Depicts the normality of the data distribution and it was checked by identifying the value of the mean, median, skewness, and kurtosis (Table 5). According to Hair et al., (2021) the data of the current study is normally distributed as all the scores of skewness and kurtosis are between ± 1. In addition, according to Erkan (2016), the data of this study is normally distributed as the mean and median values are found almost the same. The value of the mean, median, skewness, and kurtosis as presented in Table 5 shows that the data was normally distributed.

Table 5. Normality of the Data Distribution

Variables	N	Mean	Median	Skewness	Kurtosis
Environment and Situational Barriers (ESB)	394	3.73	4.00	-.220	-.614
E-learning Barriers (EB)	394	3.74	4.00	-.144	-.436
Psychological Barriers (PB)	394	3.80	4.00	-.296	-.703
Disruption of Online Learning Adoption (DOL)	394	3.86	4.00	-.479	-.483

Indicates the Pearson Correlation Coefficient results of the current study (Table 6). Hair et al., (2007) mentioned that the direct association between the variables is represented by positive correlation coefficient 'r', and the negative value indicates the inverse association between the variables, whereas the value of r is zero indicates that there is no association between the variables. Cohen (1988) classified the strengths of correlations between the variables and that depict that the r-value between.50 to 1.00 indicates the high correlation between the variables, r-value between.30 to 0.49 indicates the medium correlation between the variables, and the r-value between.10 to 0.29 indicates the low correlation between the variables. The r-value for all the variables are found between ± 0.01 to ± 0.7 and that shows there is a relation between the independent variables with dependent variable. The result of the Pearson Correlation Coefficient of all the independent variables which are Environmental and Situational barriers(ESB) (r=.766, p <.01), E-learning barriers(EB) (r=.801, p <.01), and Psychological barriers(PB) (r=.789, p <.01) have high relationship with the dependent variable Disruption of online learning adoption (DOL).

Table 6. Pearson Correlation Coefficient between the Variables

		Environment and Situational Barriers (ESB)	E-learning Barriers (EB)	Psychological Barriers (PB)	Disruption of Online Learning Adoption (DOL)
Environment and Situational	Pearson Correlation	1			

		Environment and Situational Barriers (ESB)	E-learning Barriers (EB)	Psychological Barriers (PB)	Disruption of Online Learning Adoption (DOL)
Barriers (ESB)					
E-learning Barriers (EB)	Pearson Correlation	.856**	1		
Psychological Barriers (PB)	Pearson Correlation	.815**	.855**	1	
Disruption of Online Learning Adoption (DOL)	Pearson Correlation	.766**	.801**	.789**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	394	394	394	394

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

The hypotheses test result of the current study (Table 7) shows all the hypotheses were tested through the critical ratios (t values) and p values. Erkan and Evans (2016) mentioned that the relationship between the variables is found significant when the p values are below 0.05 and t values are above 1.96. Three hypotheses were developed in the current study and all the hypotheses are found significant as all the t values are above 1.96 and p values are below 0.05. More specifically, hypotheses one (H1) is supported as the relationship between Environmental and situational barriers (ESB) and the Disruption of online learning adoption (DOL) was found significant ($\beta = 0.197$, t value = 3.448, p-value = 0.001). In addition, hypotheses two (H2) is supported as the relationship between E-learning barriers (EB) and the Disruption of online learning adoption (DOL) was found significant ($\beta = 0.355$, t value = 5.544, p-value = 0.000) and, the hypotheses three (H3) is supported as the relationship between Psychological barriers (PB) and the Disruption of online learning adoption (DOL) was found significant ($\beta = 0.324$, t value = 5.691, p-value = 0.000).

Table 7. Hypotheses Test

Model	Unstandardized Coefficient		Standardized Coefficient	t	Sig	Hypotheses Result
	B	Std. Error	Beta			
Constant	.459	.118		3.879	0.000	
Environmental and Situational Barriers (ESB)	.201	.058	.197	3.448	0.001	Supported
E-learning Barriers (EB)	.378	.068	.355	5.544	0.000	Supported

Psychological Barriers (PB)	.326	.324	.324	5.691	0.000	Supported

Table 8 illustrates the perception of students towards online learning which includes environmental and situational barriers, e-learning barriers, psychological barriers, and the disruption of online learning adoption. Following the method of Bawaneh (2020), the following statistical standard equation is adopted for classifying all the statements.

= (Maximum value – Minimum value)/ Number of required categories
= (5-1)/5
= 0.80

[1-1.80 = Strongly Disagreed (SD); 1.81- 2.60= Disagreed (D); 2.61-3.40= Neutral (N); 3.41-4.20= Agreed (A); 4.21-5= Strongly Agreed (SA)]

Table 8. Mean and Std. Deviation of the Respondents' Perception

Variables	Statement	Mean	Std. D	Respondents' Perception
Environmental and Situational Barriers (ESB)	ESB1: I face concentration difficulties living at home during online classes.	3.72	1.330	Agree
	ESB2: I often feel more stress balancing life during this pandemic.	3.80	1.290	Agree
	ESB3: Lack of social interaction disrupts me from attending online classes.	3.83	1.213	Agree
	ESB4: Financial hardship during pandemic disrupts me from attending online classes.	3.69	1.312	Agree
	ESB5: Lack of internet connectivity often disrupts me from attending online classes.	3.61	1.328	Agree
E-learning Barriers (EB)	EB1: I feel that online learning is difficult to understand.	3.65	1.321	Agree
	EB2: I feel the lacking of supporting academic resources in online classes.	3.63	1.326	Agree
	EB3: My workload has been increased in online classes.	3.61	1.342	Agree
	EB4: I got easily distracted during online Classes.	3.62	1.354	Agree
	EB5: I am not so familiar with online technology.	3.81	1.249	Agree
	EB6: I feel the lacking of teachers-students interaction during online classes.	3.84	1.250	Agree
	EB7: I feel difficulties in submitting the assignment in online classes.	3.87	1.189	Agree
	EB8: I feel Difficulty in participating in exams during online classes.	3.86	1.231	Agree
Psychological Barriers(PB)	PB1: I feel more anxious in online classes.	3.78	1.239	Agree
	PB2: I feel lazy and get disinterested in online classes.	3.75	1.240	Agree
	PB3: I feel a lack of motivation for attending online classes.	3.82	1.263	Agree

Variables	Statement	Mean	Std. D	Respondents' Perception
	PB4: I suffer from Negative Emotions in online classes (ex: Fear, Anger, Disgust, Sadness, Rage, Loneliness, and Annoyance).	3.80	1.343	Agree
	PB5: I feel that I have difficulties paying concentration during online classes.	3.85	1.200	Agree
Disruption of Online Learning Adoption (DOL)	DOL1: I feel that the situational barriers disrupt my online learning activities during COVID-19.	3.87	1.201	Agree
	DOL2: I feel that the environmental barriers disrupt my online learning activities during COVID-19.	3.89	1.229	Agree
	DOL3: I feel that the e-learning related barriers disrupt my online learning activities during COVID-19.	3.84	1.299	Agree
	DOL4: I feel that the psychological barriers disrupt my online learning activities during COVID-19.	3.86	1.289	Agree

According to the method of Bawaneh (2021), all the mean values of all statements were found between 3.41 and 4.20 which shows that the respondents were agreed with all the barriers.

In the present study, the students were asked about the barriers to adopting online learning related to environmental, e-learning, and psychological factors. The findings of the study show that university students in Bangladesh face environmental and situational barriers, e-learning barriers, and psychological barriers which hinder the effectiveness of their online learning. The current study found that in environmental and situational barriers students are disrupted from getting the benefit of online learning due to the concentration difficulties while living at home during online classes and the students also claim that the amount of stress during this pandemic has been increased as well. Adedoyin and Soykan (2020) found that the students' are getting disrupted due to the unexpected appearance of family members and pets. Moreover, many guardians have lost their jobs as well as the students who were dependent on part-time work for managing their study costs but due to the pandemic, they have lost their jobs which has made them economically unstable and put them into financial hardship. Regarding financial hardship, the previous study found the COVID-19 has put the people of developing and under-developing countries in extreme trouble, even in Bangladesh several suicide cases have been recorded during the COVID-19 period as the people have lost their jobs and living with the financial crisis, increased their mental stress (Bhuiyan et al., 2020). Adedoyin and Soykan (2020) stated that online learning is dependent on technological devices and the internet connection and bad internet connection put the students' in trouble during online learning but the present study found that the quality of internet services around the country is not the same and the lacking of internet connectivity has been also found as the barrier of the online classes. Wilczewski et al., (2021) found that isolation and home quarantine increased the level of anxiety, frustration, insecurity, and hopelessness which affect the students' psychological health and the result of the present study de-

picts that the lacking and insufficiency of social interaction demotivating the students to adopt online learning.

There are so many issues that have been found as E-learning barriers. Effective participation of both the teachers and students is the key to bringing success in online classes. Wut and Xu (2021) stated that the effectiveness of online learning during COVID-19 depends on the designing of course content, availability of academic resources, and interaction between the instructors and learners but the participated students of the current study feel that online learning is too difficult to understand to them, moreover, the lack of teacher-student interaction in an online class as well as the insufficiency of supporting academic resources was found as the reason of the disruption of adopting online learning. Moreover, students claim that the amount of workload has been increased during online classes and they easily get distracted. Submitting assignments and participating in the exam is difficult in online classes. In addition, many students are not familiar with online learning technologies and systems, whereas numerous previous studies have found the lacking of technical competence as a barrier to online earning (Abuhammad, 2020; Al-Senaidi et al., 2009).

As psychological barriers, the study found that students feel more anxious in online classes and they feel lazy as well as become disinterested in the online class. Wilczewski et al., (2021) also found that the negative emotions affect the students during the online classes, which impact negatively in their mental health. Apart from these, the students suffer from a lack of motivation and negative emotions in online classes such as fear, anger, disgust, sadness, rage, loneliness, and annoyance. Moreover, the students claim

that they have difficulties paying concentration during online classes.

4. Conclusion

The COVID-19 pandemic has put the entire world in extreme suffering. COVID-19 prevalence has expanded its harmful impact on the education sector, including health care, economics, and society. Some effective initiatives such as social distance, quarantine, and the closure of educational institutions have been taken to limit the spread of the COVID- 19 which has significantly influenced students' academic growth and development. The traditional education system has become crippled due to the impact of COVID-19. University students are in extreme uncertainty about their future. Most of the universities across the world had to shut down within a couple of weeks and brought massive changes in their teaching method by starting online learning instead of face-to-face learning. Although that sudden move provided an opportunity for instructors and learners to get practical knowledge about online learning, it puts tremendous stress on all those included in the educational process. From the perspective of university students in Bangladesh, the current study provides insights into the barriers that university students usually face while adopting online learning and attending online classes. The students face numerous barriers related to environmental-situational, e-learning, and psychological, which hinders them from getting the advantage of online learning.

The current study provides an overall idea about the students' perception of the barriers to online learning in Bangladesh. This study found that the effectiveness and the success of online learning in Bangladesh depend on the learning environment, technical resources, students' mental health,

the way of designing the course content, course outline, sufficiency and availability of the course materials as well as the relationship and interaction between the teachers and students. This study has both theoretical and practical implications; theoretically, the current study provides a research framework to identify the barriers of adopting online learning and practice, while the findings of this study have important implications for the stakeholder of the education industry of Bangladesh as it provides a brief concept of primary barriers of online education which will be beneficial for the stakeholder (ex; the government, UGC authorities as policymakers, university authorities, teachers, and students) to take proper initiatives for minimizing the reasons which disrupt the students from getting the benefits and positive outcomes of online learning.

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