AN ANALYSIS ON PERCEIVED SERVICE QUALITY AND STUDENTS' SATISFACTION OF E-LEARNING DURING COVID-19 IN HIGHER EDUCATION INSTITUTION

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ABSTRACT
The outbreak of Corona Virus Disease 2019 (COVID-19) in various countries at the end of 2019 has transferred traditional classroom teaching to e-learning platforms, which unswervingly affects the educational quality. The whole education system from school to higher education level has been distorted due to COVID-19 in India and all over the globe and forced to accept online mode. However, even with this paradigm shift, little research has been done to extend traditional service management concepts to online educational settings during the pandemic in developing countries. This research attempts to bridge this gap by applying the SERVQUAL scale, a well-validated and widely used service operations construct, to the online classroom environment, this paper uses a questionnaire survey and Google forms to collect experience data of 354 students. The findings show that the SERVQUAL scale exhibits both reliability and convergent and divergent validity; in fact, in these regards, it outperforms traditional student assessment scales. Four factors empathy, responsiveness, reliability and website content and privacy have significant effect on student satisfaction of perceived e-learning quality. The findings of this paper can be used for making approaches for online education across the globe to accelerate the online education level during pandemic, to promote the reform of information-based education. The paper provides the whole picture of current online teaching-learning during Covid-19, which makes it rare and gives a holistic view of the environment. This novel technique to assessing the quality of e-learning services demonstrates that students may be considered as customers and has far-reaching consequences for all parties involved in higher education delivery.
Keywords: Covid-19, pandemic, perceived service quality, e-learning, online education platform, students' satisfaction.

INTRODUCTION

In 2020, the fear seizes the world's population in the COVID -19 pandemic. This covid-19 infectious disease was first detected in December 2019 in Wuhan city. As with the end of second wave in May 2021 after almost one and half year of pandemic, the COVID-19 pandemic on the education system made schools and colleges closures worldwide. On March 24 2020, India declared a country-wide lockdown of schools and colleges (Sanyal, 2020) for preventing the transmission of the coronavirus amongst the students (Sari et al., 2018). Closures of schools in response to the COVID-19 outbreak have brought to light a number of challenges limiting educational access (Bayham & Fenichel, 2020). COVID- 19 is soaring due to which the huge number of children, adults, and youths cannot attend schools and colleges (Sharma, 2020). Thus covid-19 disease impacted crucially on the education sector. As per UNESCO report, covid-19 has affected 1.6 billion young people i.e., 91% of world's students population could not attend schools and universities. In India, over 320 million students faced by various constraints and nationwide pandemic lockdown (Sharma, 2020). The global outspread of COVID-19 ensued in the closure of universities, colleges, and schools (UNESCO, 2020). This pandemic leads to the diverting of tradition teaching method to online teaching method. Therefore, many institutes go for the online classes (Shehzadi et al., 2021). Sooner than later, in various countries educators began to provide online classes by Google meet, Zoom etc. to restore the normal education system. The Ministry of Education of India support web- based education and enhanced the online platform's service capacity to reinforce online teaching (RAMMOHAN KHANAPURKAR et al., 2020). In result of the epidemic, it is mandatory to the institutional of higher education to maintain the normal teaching order in online mode (UGC, 2020). However, e- learning has some problems like system jams in the online learning platforms etc (Dhawan, 2020; Zalat et al., 2021). Regardless, it is vital to analyze e- learning can avail the needs of teachers and students, whether the e- teaching and learning can accomplish the teaching-learning exercise with high service quality and propose recommendations to promote the expansion of e- education according to the research results. However, scant amount of literature is available on the factors that affect the students' satisfaction and performance in online classes during the pandemic of Covid-19 (Rajabalee & Santally, 2021).

(Bridge, 2020) described that colleges are shifting towards technologies for student learning to avoid a strain during the pandemic season. As a result, the current study's goal is to construct and evaluate a conceptual model of student

satisfaction with e-learning during COVID-19, when both students and teachers have no choice but to use the online platform for learning and teaching without interruption.

(Bhuasiri et al., 2012) said that E-learning bring advantages in education, not only for scholars, but also for universities. (De Byl & Taylor, 2007) detailed that E-learning brings out in reducing costs and empower academics to become more technology and digitally up to date. In addition, e-learning can also facilitate students such as time transportation, security, retraining. Finally, many people believe that learning/teaching is equally effective with respect to quality between the traditional setting and e-setting provided that appropriate methods (e.g., student interactions and timely instructor's feedback to the students) and technologies are utilized. So, in many institutes' educators are changing their traditional way of delivering the services in an attainment to be more flexible to increasing demands of e-learning students eternally (OECD, 2020) .

(Meola, 2020) says as with the emerging trend of Internet of Things (IOT), universities are focusing more over the internet-based tactics to deliver higher education (i.e., e-learning). the online teaching is one of the efficient tools to give lectures, and Modern classrooms are becoming apps (Azlan et al., 2020). But, as the present pandemic condition arouse, conducting online classes at university level have been made compulsory by the educational boards. He also stated that education is no restricted with the lecture room, as for learning there is no need of presence of a teacher to take place.

According to (Astin, 1993) the perception of quality education in traditional learning environment leads to student satisfaction, which is influenced by factors like ; social life on campus, time with instructors, career advice and course website. Several previous research have looked into the aspects that contribute to e-learning performance (Roca & Gagné, 2008; Y.-S. Wang et al., 2007) (Liaw, 2008; Liu et al., 2009).

Educators and practitioners are curious about how online education compares to offline learning in terms of results and accomplishments. Many research have looked into whether offline methods are more productive than online or hybrid ones (Jeong & González-Gómez, 2020; Lockman & Schirmer, 2020; Pei & Wu, 2019). It was noted that students performed much better in online learning. (Henriksen et al., 2021) reported educators faced problems from shifting from offline to online mode of teaching.

Full reviews of SERVQUAL and student evaluation literature are well beyond the scope of this article. Our main focus is on applications of SERVQUAL model in e-learning in higher education institutes. The conceptual underpinnings of the SERVQUAL model were first published in (Parasuraman et al., 1985). He focused on what (Gronroos, 1988) labeled "functional quality," or the performance of a service.

SERVQUAL has attracted considerable attention since its development and has been refined timely from past 25 years. It has been shown to be an effective tool for measuring customer satisfaction in many areas of interest and industries (Bharwana et al., 2013; Hussain et al., 2015; Jabnoun & Al-Tamimi, 2003; Liao & Cheung, 2008; Lin & Sun, 2009). Several studies on e-learning have been conducted to investigate student satisfaction (Ali et al., 2021; Gopal et al., 2021; Jameel et al., 2021; Haozhe Jiang et al., 2021; Puška et al., 2021; Saxena et al., 2021).
(Berry et al., 1988; Parasuraman et al., 2005) express views about service quality, although both pedagogue and practitioners make varying claims about what really constitutes service quality across industries, they are increasingly reaching the consent that service quality is purposively by the variation between customers' expectations of service and their evaluations of the services they receive.

(Stodnick & Rogers, 2008b) were the pioneer researcher to extend SERVQUAL application from traditional setting to classroom experience. However, there is limited literature on student satisfaction using the SEVQUAL methodology in online classrooms during the Covid-19 epidemic (Alzahrani & Seth, 2021; Marlina et al., 2021). According to the findings, certainty, empathy, responsiveness, reliability, and tangibles are the five most important predictors of e-learning service quality and student satisfaction during online classes.

The model consists of the following dimensions (Parasuraman et al., 2005):
1. ''Tangibles'' which include the physical facilities and appearance of personnel.
2. ''Reliability'' which reflects the ability to perform the promised service accurately.
3. ''Responsiveness'' which include the willingness to help customers and provide prompt service.
4. ''Assurance'' which is an indication of the knowledge and courtesy of employees and their ability to inspire trust and confidence; and
5. Empathy which includes caring and individualized attention that the service firm provides to its customers
Universities are developing student-centered strategies that treat students as "customers" (Weerasinghe & Fernando, 2018). Therefore, it can be defined that student satisfaction occurs when students achieve their goals

(Dehghan et al., 2014). Based on definitions student satisfaction in classroom learning environment, it is argued that online student satisfaction happens when students study in the e-learning environment accomplish their aims. Students will not be satisfied when their e-learning experiences are lower than their expectations.

After reading the various research results, researchers studied online education and established many evaluation models. Authors identified studies that have applied SERVQUAL in a college environment. (Udo et al., 2011) pioneered this stream of research by examining the applicability of the SERVQUAL scale to measure student perceptions of university-level e-learning service quality. The author stated that adopting the SERVQUAL scale to gauge university service quality has now become a strategic problem as a result of these findings. Except for reliability, five characteristics play a substantial impact in perceived e-learning quality, which influences learners' satisfaction and future intentions to enrol in online courses.

According to (Asogwa et al., 2014; Lin & Sun, 2009; R. Wang et al., 2010) (Udo et al., 2011; R. Wang et al., 2010) (Jabnoun & Al-Tamimi, 2003; Stodnick & Rogers, 2008b, 2008a) the SERVQUAL instrument has been extensively used to evaluate the service quality of a variety of institutions. Given the general usefulness of this instrument, it would be seemed as fit to investigate its suitability in higher education during Covid-19.

The instrument used in service management literature to measure service quality is the SERVQUAL scale. Very little work has been done to combine education and service management research, even as higher education continues to perform towards student-oriented strategies. Conducting online classes during the pandemic, several new problems arise. This requires special attention that new factors affecting student satisfaction should be taken into consideration in research. This research bridges this gap by applying the SERVQUAL scale within a classroom setting. Can SERVQUAL, a valid and reliable customer-centric scale used to measure the quality-of-service delivery in environments as diverse as retail and business consulting, be used to measure and thus ultimately improve the quality-of-service delivery in higher education? This question is of equal importance to all stakeholders in higher education.

Although other researchers have looked into the aspects that influence student satisfaction, no one has looked into student satisfaction with online classes during the Covid-19 pandemic. Firstly, this have been least explored by Indian researchers in Indian e-learning based study. Secondly, the focus of most of the researchers is before covid-19. Based on this, separate focus is required on this. However, there are no studies that systematically examined the work on e-learning service quality, and how online learning SERVQUAL factors contributes to overall online learning service quality, e-student satisfaction during COVID-19. Students and teachers were not mentally prepared for the change. As a result, the focus of this study will be on how students perceive these changes as reflected in their satisfaction levels. Our research is based on the (Udo et al., 2011) questionnaire with some modifications to reflect an e-learning environment during pandemic. It can be mentioned that online education is a type of service whose quality, for example, can be assessed with modified SERVQUAL.

CONCEPTUAL FRAMEWORK

In essence, the framework in Figure 1 suggests according to the literature, there are three key relationships between the constructs involved in the analysis on perceived service quality and students' happiness with e-learning during Covid-19 in higher educational institutions in developing countries countries. The first link suggests COVID-19 consequences on the components of E-SERVQUAL framework derived from various literature. The second link suggests separate relative effects of different E-SERVQUAL parameters on quality of online learning classroom as well as on the overall students' satisfaction. The third link is the quality of online learning considered as an outcome of overall students' satisfaction. These three links are important because they suggest how students' satisfaction, how the dimension-specific of service quality factors can shape this construction and their association in the online learning in tertiary education. These links will be examined in turn.

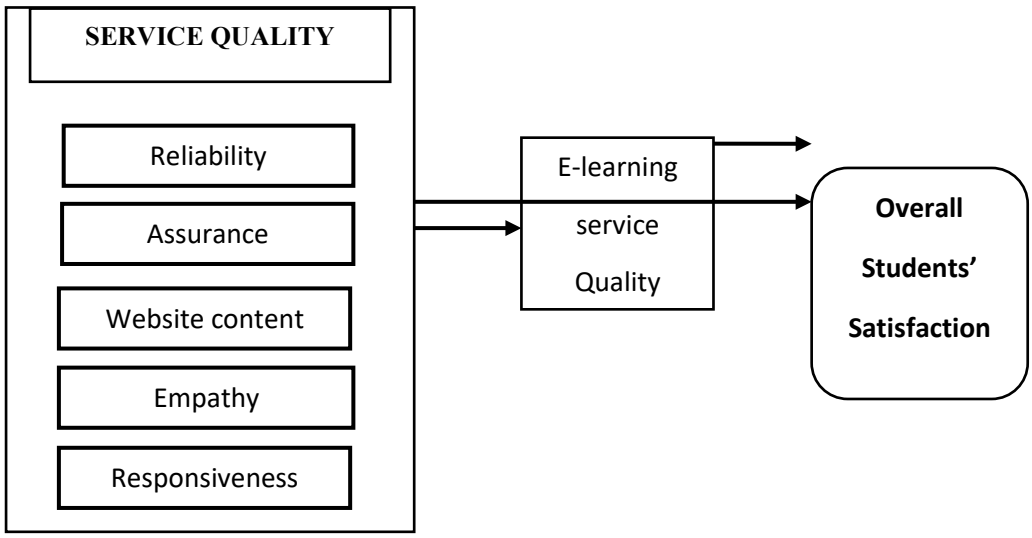

Figure 1: Conceptual Framework source: self-constructed

Hypothesis development

All of our constructs (as well as the hypotheses in the following section) are based on the precepts of the principles of modified SERVQUAL as discussed above. We used previously validated questions from past research, wherever possible (see Table 1). We adopted SERVQUAL used by (Udo et al., 2011) because it is the comprehensive scale that has been modified to reflect online learning environment. However, we replace ''Tangibles'' with ''website content'' to reflect the online environment more appropriately. The ''Website Content'' dimension has been used in previous studies (Cao et al., 2004; Hongwei Jiang & Zhang, 2016; Santos, 2003; Udo et al., 2011). The model that emerges is shown in Fig. 1. While items in the ''Satisfaction'' construct (e.g., I am satisfied with e- classes) the ''E-Learning Quality'' construct is specific to the type of service which is delivered in service environment.

Based on the proposed research model, a survey instrument was developed to collect data to test the study hypotheses. The original SERVQUAL construct was measured using a 13-question instrument that had previously been utilised in other studies (Cao et al., 2004; Stodnick & Rogers, 2008a; Udo et al., 2011). The four original components of SERVQUAL (Assurance, Empathy, Responsiveness, and reliability) were taken from (Gopal et al., 2021; Stodnick & Rogers, 2008b; Udo et al., 2011) but merely edited to reflect and fit online learning environment. The first set of assumptions is based on SERVQUAL's original four components are as:

H1: Assurance is not related to students satisfaction of e-learning quality.
H2: Empathy is not related to students satisfaction of e-learning quality.
H3: Responsiveness is not related to students satisfaction of e-learning quality.
H4: Reliability is not related to students satisfaction of e-learning quality.

Website Content is the layout of information and functions that depict the overall firm presence and its public image affect how a customer perceives web service quality (Gopal et al., 2021). The four items for this measure were taken that reflect overall perceptions of quality, clarity of instruction, updated information, and features on the website and the overall appeal of the website. (Saxena et al., 2021) argues that effective website content can positively influence customer attitudes toward the quality of the web-based services that they receive.

H5: Website content is not related to students' satisfaction of e-learning quality.

Measures of online service quality during this covid-19 pandemic have been developed in previous studies (Ali et al., 2021; Jameel et al., 2021; Haozhe Jiang et al., 2021; Shahzad et al., 2021). This concept assesses the student's total e-learning experience, including overall enjoyment and satisfaction with the service provided. We adopted three items from (Gopal et al., 2021) construct is very similar to the one used in this study. Our hypothesis related to learner's satisfaction is:

H6: Online students' perceptions of e-learning quality are not associated with the students' satisfaction with the learning experience.

Table 1 Construct Sources

Hypothesis	No. of items	Source
H1-H4	13	(Cao et al., 2004; Stodnick & Rogers, 2008a; Udo et al., 2011)
H5	7	(Gopal et al., 2021; Saxena et al., 2021)
H6	5	(Ali et al., 2021; Jameel et al., 2021; Haozhe Jiang et al., 2021; Shahzad et al., 2021).

METHODOLOGY

Data collection and survey instrument

As propounded by past literature, the analyses of how students are satisfied with virtual learning. Therefore, we chose to adapt measurement scales by (Alzahrani & Seth, 2021; Parasuraman et al., 2005; Stodnick & Rogers, 2008b; Udo et al., 2011) to measure online learning service quality as multidimensional constructs. Criteria for selecting items from these instruments were based on various previous studies on service quality in different settings, online customer service quality. These elements were then adjusted to fit the e- learning environment. The authors consequently developed a 37-item questionnaire to study e- learning service quality. Addition to this, the instrument included five item each to measure overall service quality, student satisfaction with online learning. A comprehensive assessment of the items of this preliminary scale was then carried out using group of students who had e- learning experiences of at least from past six months. Based on the feedback and suggestions, 4 items were removed. The remaining items were semantically corrected for completeness and clarity. The recalibrated scale was then sent again to the group for consideration to make sure that the revised preliminary scale had content validity. The resulting questionnaire had 33 items, of which 24 items measured student perceived e- learning service quality which was on the basis of students past 6 months e- learning experience. In addition, 5 items measured overall e-learning service quality, 4 items measured overall student satisfaction. The questionnaire used the five-point Likert scale where 1 represented “strongly disagree” and 5 represented “strongly agree.” The respondents were asked to select the scale based on their knowledge and perception of each statement in the questionnaire.

Sample and Data analysis

The sample consists of students of a deemed university in the northern India. Convenience sample was considered reasonable for the study. The questionnaire was filled by students who had been attending online classes offered by the university from past six months during pandemic. Specifically, asked students to fill questionnaire using emails. 372 questionnaires were received. Out of which 18 were invalid due to duplicity and incomplete information, at last 354 responses were considered for final analysis. SPSS 21 was used to perform various statistical analyses. Statistical techniques applied for validating hypothesis and concluding research results are descriptive statistics, reliability analysis, factor analysis and regression. Reliability test and factor analysis were used to filter factors. Multiple regression was used to evaluate the impact of individual factors of SERVQUAL on overall perceived e-learning service quality and studet satisfaction.

Validity test

The test is divided into structure validity and content validity. The questionnaire scale utilises substantial literature as a reference to ensure excellent content validity. The KMO (Kaiser–Meyer–Olkin) test and the Bartlett test both passed the structure validity. When the KMO number is greater than 0.5, the questionnaire has passed the validity test. The validity test results are provided in Table 2.

Table 2 Validity test results

Dimensions	**KMO**	**Bartlett test of sphericity**
Reliability	.774	.000
Assurance	.702	.000
Responsiveness	.692	.000
Empathy	.699	.000
Website content and privacy	.835	.000
E-learning service quality	.826	.000
E-learning overall student satisfaction	.867	.000

Respondent Profiles

Table 3 shows the demographic profile of the sample. As shown, female students in the survey accounted for 53% while male students accounted for 47% of the respondents. Students in the age group 18-22 accounted for 68%; the

23-25 age groups accounted for 28%; the 26-28 age group accounted for 3%. Students enrolled in bachelors of vocational (B. Voc.) course were 52%, BBA accounted for 34.5% and MBA were 13.5%.

Table 3 Demographic profile of respondents

Classification	Frequency	Percent
Gender (n-354)		
Male	158	47
Female	196	53
Age (n=354)		
18-22	242	68
23-25	100	28
26-28	12	3
Courses(n=354)		
B.Voc.	184	52
BBA	122	34.5
MBA	48	13.5

Measurement model Analysis

The main goal of this study was to look into the elements that influence student satisfaction with online classes during the COVID–19 epidemic. The quality factors for e-learning services were determined using principal component factor analysis. The descriptive, multivariate statistics of the items were evaluated before doing factor analysis, and no outliers were found. A Bartlett sphericity test (KMO) was performed to determine whether the data was suitable for factor analysis. After running the first principle component analysis, 4 items were excluded because they had low-value cross-loadings. 33 items were analyzed. All of the items had a high loading on one factor and a low loading on the others, indicating that structure and content validity were both met. The dependability of individual items is determined by calculating a simple correlation. (Tabachnick et al., 2007) proposed that items are dependable when the standardised loadings value is more than 0.55, and all of the items in Table 4 are reliable.
Table 4 shows the five factors:

1. Reliability
2. Assurance
3. Responsiveness
4. Empathy.
5. Website content.

Table 4 Factor loadings and Cronbach Alpha

Factor	Loadings	Cronbach alpha
Factor 1: Reliability		.771
Online course materials are valuable	.775	
Course materials are practical in real life	.742	
Assignments are sufficient in length and difficult	.748	
Instructors consistently provide good lectures	.819	
Factor 2: Assurance		.831
Instructors have sufficient knowledge	.839	
Instructors are well organized and prepared	.886	
Instructors answers all question thoroughly	.838	
Factor 3: Responsiveness		.757
The university resolves regarding online classes	.831	
The university has convenient office operating hours	.831	
University staff gives me prompt service	.801	
Factor 4: Empathy		.780
Instructors creates environment for interactive participation	.811	
Individual student is given attention during online classes	.853	
I feel motivated to study during online classes	.841	
Factor 5: Website content		.837
Course materials are organized	.818	
College website have up to date information	.801	
Website Information is accurate	.807	

My online transactions are always accurate	.852	
My personal information is safe	.891	
Online transactions through university website are safe	.881	
I feel safe in providing sensitive information for online transactions	.848	
E- learning service quality		.866
E-learning course materials are up to date	.837	
E- classes enhanced my learning	.854	
E- classes are easy to access	.800	
E- classes are time savy	.845	
E- classes resulted in my academic success	.697	
E- learning Overall student satisfaction		.938
I am satisfied with e- classes	.921	
I have enjoyable experience	.909	
I would recommend others also	.931	
I have overall success from e- classes	.910	

Regression Analysis

The main purpose of this essay is to see if there are any correlations between different components of e-learning service quality and overall e-learning service quality and e-learning satisfaction. Overall e-learning service quality and overall e-learning satisfaction were the dependent variables, whereas five characteristics of virtual learning service quality were the independent factors. Variables such as gender and age were included in the multiple regression equations for analysis to control the impact of demographic variables. It should be noted that F statistics were used to measure the framework's overall fit. Overall e-learning service quality, as well as e-learning satisfaction, were all statistically significant at p 0.001. (see Tables 5 and 6).

The results of the regression analysis between SERVQUAL dimensions and satisfaction are shown in Table 5. The model accounted for 45.4 percent of the variability in the dependent variable (F = 33.487, p 0.001). Two independent characteristics, reliability and empathy, are statistically significant and favourably connected with the quality of e-learning services. Because empathy has the largest standardised beta, it has the most influence, followed by reliability. The other three dimensions were not statistically significant: assurance, responsiveness, and website content.

Table 5 Regression analysis results

Independent variable	Standardized coefficients beta	t-value	p-value
Reliability	.307	3.327	.001***
Assurance	-.060	-.737	.462*
Responsiveness	-.043	-.614	.540*
Empathy	.408	5.224	.000***
Website content	.117	1.293	.198*

Notes: Notes: Dependent variable: student satisfaction (F = 33.487, p < 0.001, adjusted R2 = 0.450, R2 = 0.464); *p < 0.1; **p < 0.05; ***p <0.001

Table 6 summarises the regression analysis results regarding the link between service quality factors and e-learning service quality. The model explained 59.5 percent of the dependent variable's variability (F = 56.72, p 0.001). There were four independent variables that were statistically significant and positively connected to e-learning service quality: reliability, responsiveness, empathy, and website content.. With the highest standardized beta, website content is highly influential followed by empathy, responsiveness and reliability. The variable, assurance is not statistically significant at p<0.05 in the regression model.

Table 6 Regression analysis results

Independent variable	Standardized coefficients beta	t-value	p-value
Reliability	.188	2.347	.020**
Assurance	-.009	-.133	.895*
Responsiveness	.163	2.678	.008***
Empathy	.248	3.645	.000***
Website content	.321	4.1	.000***

Notes: Dependent variable: overall e- learning service quality (F = 56.729, p <0.001, adjusted R2 = 0.585, R2 = 0.595); *p < 0.1; **p < 0.05; ***p < 0.001

Correlation Analysis results

For the two variables, the correlation coefficient analysis technique was used to answer this question. Table 7 reveals that overall e-learning service quality and e-learning satisfaction have a statistically significant and positive connection (the correlation coefficient 0.748, $p < 0.01$).

Table 7 Correlation between e-learning service quality and e-learning satisfaction

	E- learning service quality	Overall e- learning satisfaction
E- learning service quality	1	.748
Overall e- learning satisfaction	.748	1

DISCUSSION

The purpose of this study was to explore the factors that affect students satisfaction regarding online classes during the pandemic period of COVID–19. As we have noticed, education sector is undergoing severe changes in which instruction are delivered, which requires to study understanding of e-learning quality. Because no one knows how long the pandemic will last, the teaching style has been switched to online mode. Despite the fact that some of the educators were not tech-savvy, they upgraded their skills in order to deal with the unforeseen situation (Gopal et al., 2021). This paper was motivated by (Udo et al., 2011) who used SERVQUAL in online setting to know the quality of student experience of online classroom. We have measured this amid covid-19 pandemic.

Previous studies, such as (Asogwa et al., 2014; Gorgodze et al., 2019; Stodnick & Rogers, 2008b; Tan & Kek, 2004; Udo et al., 2011) literature focused on the satisfaction of users normal use of online education platforms when there was no public health disaster such as COVID-19.

When comparing the current study to previous research, previous studies looked at the elements that influence student satisfaction in the traditional schooling framework. The current study, on the other hand, was done during India's shutdown time in order to uncover the key aspects that influence students' happiness with online lessons. The outcomes of statistical analysis showed that there are 5 main elements that measure e-learning service quality: reliability, responsiveness, assurance, empathy and website content. These factors also have unique attributes found in the e-learning environment during pandemic.

First factor, “Empathy” on the basis of results, highest coefficient beta has the most positive influence on how learners perceive e-learning quality. The application of e-learning service quality concept is one of the major contributions of the current study. The shows that students are given individual attention during online classes and they are motivated to study online during covid-19. Students also demand an e-learning environment conducive to robust connections between the professor and the students because of COVID-19's considerable social influence. Instructors who prepare tasks and examinations for students to gauge their academic performance are highly appreciated by pupils.

Second, reliability dimension addresses the resources that must be utilised in the classes for the course. Teachers who were formerly typical offline educators are now online educators. Online learning content needs to be well-organized, informative, and practical. Furthermore, these learning materials must be chosen in accordance with student learning needs and should present some challenge to encourage students to keep studying. Meeting the needs and requirements of students in terms of information search, registration, and online course preparation should be done in a timely, accurate, and efficient manner.

Third, responsiveness dimension addresses in order to address student issues, colleges must have an online office that is responsible for student enquiries, with working hours that are convenient for students. Students must always receive services that are consistent with what was promised in a prompt, accurate, and timely manner. In order to have strong e-learning service quality seen by the students, which in turn is very credible to lead to student happiness, the student interests must be carefully examined.

Fourth, assurance dimension is directly related to the certainty of the Students who take part in e-learning want lecturers with a lot of experience in the field, well-prepared lectures, and a genuine interest in their well-being. Prior to, during, and after e-learning, an e-learning system is used to implement and complete e-transactions. Students want to see their inquiry in the e-classroom.

Finally, the website content and privacy factor focuses primarily on the content on the online system's website must be well-organized, easy to find, and correct. Students may struggle to traverse the pages if this is not done, and they will be unable to complete the essential transactions. The job of the lecturer also pertains to the protection of a student's privacy and sensitive information. If this personal and financial data is stolen or misused, the ramifications for scholars

and the university will be enormous. As a result, colleges must constantly improve their security systems using complex algorithms in order for students to have faith in the e-learning system in general and the security system in particular.

Overall, the students thought that online education was beneficial to them, despite the fact that it was their first encounter with online lessons during the Covid-19 pandemic (Agarwal & Kaushik, 2020; Rajabalee & Santally, 2021). Online instructors must be enthusiastic about developing authentic educational tools that actively connect students and encourage them to achieve their full potential. Teachers and students have equal responsibility for improved academic performance.

Relative Importance of Each Factor of E-Learning Service Quality

As a result of the COVID-19 circumstance, the most essential features of this article are to determine the various implications of each e-learning service quality dimension on total e-learning service quality perceived by students, as well as e-learning satisfaction. Universities will be able to conduct quality improvement projects more effectively if they do so. There are four criteria that have positive and statistically significant effects on overall e-learning service quality, as assessed in the above-mentioned results. Reliability, responsiveness, empathy, and website content and privacy are evaluated in decreasing order of importance. There are two variables that have a statistically significant beneficial impact on e-learning satisfaction. These factors are ranked in decreasing order of importance: Reliability and empathy.

Reliability, responsiveness, website content, privacy, and empathy are the four most critical elements determining e-learning service quality, according to the study. Both the quality and pleasure of online services are influenced by two basic factors: reliability and empathy. As a result, institutions should address these criteria in order to improve student satisfaction with e-learning. In addition, e-learning empathy positively effects e-learning satisfaction and responsiveness positively effects e-learning service quality.

CONCLUSION

There is very little research on how to determine online learning service quality during Covid-19 pandemic. This study collected student data on e-learning in Indian higher educational institute during the COVID-19 pandemic. After this study we conclude that to improve e-learning service quality, the first step is to identify dimensions that make up e-learning service quality based on students experiences and perceptions. This study identifies five dimensions based on the old construct given by (Parasuraman et al., 2005) that make up e-learning service quality. To improve overall e-learning service quality during pandemic, universities should be interested in all of the five factors. However, to gain competitive advantage in a fierce competition environment among universities characterized by limited resources, universities should focus on three factors, empathy, reliability and website course content, to achieve the highest online service quality.

Additionally, this research shows that there are four factors, empathy, reliability, responsiveness and website course content, which contribute to e-learning satisfaction. There appears to be a consensus about the great potential benefits of e-learning. However, not all colleges are successful in putting their e-learning programmes into action. This failure can be attributed to a variety of factors. One of the key causes is that many institutions do not treat students as consumers who should be treated with care. To put it another way, the quality of e-learning services does not satisfy the needs of clients - students. As a result, universities must have special approaches to increase e-learning service quality in order to get a competitive advantage in the field of e-learning. Finally, this study demonstrates the links between overall e-learning service quality and e-learning satisfaction. This finding is consistent with other research on the subject of online and traditional services in general.

LIMITATION OF THE STUDY AND FUTURE WORKS

There are some drawbacks that exist and can be studied further. This study only takes students perception regarding online learning. The future researchers can include perspectives of teachers to make more generalized results. Also, the teachers performance can also be checked with similar kind of conditions. The nature of this research is cross-sectional. To overcome this constraint, future study could employ a longitudinal approach. The results cannot be applied to other samples because the data was obtained from a single university. Country wise comparison can be done to understand students perspective.

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