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Critically Anatomization of Participants' Complacency using Online Learning Platforms in Bangladesh during the COVID-19 Pandemic

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Abstract:

The infamous global pandemic Corona virus – popularly known as COVID-19, started first in Wuhan (China) from December 2019, cost millions of lives all over the world, had significantly changed the global landscape, especially in the economy and society. A global pandemic was declared by WHO (UN) in March 2020. In Bangladesh, the virus was first detected on 8thMarch 2020 and impacted heavily on healthcare and economic progress. The impact on Bangladesh's economy is particularly pronounced because the country relies on globalized supply chains of international fashion brands and human resource exports. The pandemic interrupted socio-economic activities due to the lockdown & shutdown imposed by the government to control the health crisis. In Bangladesh, there are 52 ministries and divisions having more than one million public servants under structured government jurisdiction. These public servants have a noble duty to serve people's purposes. So, their skill development has vitality for the welfare approach of the Government. The COVID-19 crisis made an interruption of this regular activity due to the isolation & lockdown imposed by the government. Realizing these circumstances, NAPD, a national-level training institution, has conducted a number of online training programs to sustain training activities. The traditional face-to-face teaching approach has been transferred to online teaching via digital platforms, which has a significant impact on the quality of education, the interaction between trainer & trainee, the adaptability of the participants, etc. Putting up with user gratification on virtual training platforms in Bangladesh as the study entity, this study operates a structured and questionnaire survey with reality & trustworthiness test and web crawler to gather experience data of online and offline users, constructs a participants'

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gratification index system by analyzing emotion and the existing literature for quantitative analysis to forecast user gratification. The finding shows that users' private aspects have no direct impact on user satisfaction, while platform availability has the greatest consequence on user satisfaction. Finally, suggestions on improving the online education platform are given to escalate the level of the online education system, so as to promote the reformation of information-based education.

Keywords: Online Education Platform, User Gratification, Information-based Education.

1. Introduction

The learning process all over the world gets momentum when the distance learning approach was initiated in the early 90s. When the COVID-19 wave crashed on people, online teaching and training got much popularity ever. Many experts and scholars including Anderson and Sultan etc. from various countries have performed studies on online education with the vigorous expansion of online instruction initiatives. Go fine and Clark ushered the integrations of Slack into their study group of one faculty partner, one analysis coordinator, and around 20 research juniors& Statistics describing how the app's usage was calculated twelve months after its implementation and their results indicating heavy usage by both research professionals and assistants were presented. Thor et al. investigated the impact of the online format on the discussion quality and the survey results showed that students preferred using Voice Thread for presenting, learning from other presentations, and discussing presentation content by performing this process in the classroom. Botelho et al. evaluated the efficacy, ease of usage, ease of understanding, and satisfaction of a cloud-based clinical practice advancement practice document when described in relation to a conventional article method narrative.

The results suggested that a digital clinical book, using free cloud-based collaboration tools, was more useful, easier to use and learn from, and more satisfactory than a traditional paper recording system. Chapman et al. proposed four important dimensions of coverage, participation, quality, and student achievement, and constructed a massive open online course (MOOC) quality assessment framework. Hrastinski put forward a theory in his research: if we wanted to enhance online learning, we needed to enhance online learner participation. Miri and Gizellexhibited in their research the requirement for reevaluating the way traditional online learning morality lessons are formulated and provided; encouraging students to assemble enthusiasm in learning from length, employing them in online learning active and interactive and understandings.

Anderson et al. pointed out that healthcare professionals could share their expertise through online education and incorporate this teaching into their annual learning.

Kamali and Kianmehr pointed out that the public's interest in online education was growing, while educational institutions' interest in online education was going down. They held to the perspective that in order to alter the unfavorable consequence of online classes instruction, it was crucial to provide learners with a reasonable network environment, and discussed online education from the perspective of students. Alcorn et al. evaluated satisfaction with online education from the number of class participants, the participation rate of homework, the completion rate, and the improvement of grades. Asarbakhsh and Sars believed that the broken-down system, failed video connection or unusable use affected user satisfaction.

From the perspective of users and designs, David and Glore pointed out visual content was quite important to improve participation and interaction of users. Based on the technology acceptance model and taking 172 online learning users as the objects, Roca et al. analyzed online learning satisfaction. The outcomes exhibited that the user's online education satisfaction was largely committed by the user's perception of the efficacy and quality of the lesson, the quality of the outlet and the website is assistance and the degree of anticipated accomplishment. Lin and Wang believed that students' satisfaction would be influenced by the difference of technology, the characteristics of teachers, students and courses. Panchenko held the view that the MOOC teaching mode could develop teachers' careers, improve teaching skills, and enable teachers to consider and examine their teaching activities from more perspectives. The literatures found that learners' autonomy played an important role in learning through the empirical study of MOOC.

Through exploratory factor analysis (EFA) and confirmatory factor analysis (CFA), Parra-González and Segura-Robles concluded that "game" was regarded as a motivating factor in the educational process, which could promote students to participate in the learning process more actively. According to the above research results, many scholars study online education and establish many evaluation models.

However, in the process of carrying out online educational platforms during this pandemic, many new problems arise in the new form of online education. This requires that new factors affecting user gratification be taken into account in the study. Based on these issues, this paper collects online user comment data to obtain the new factors affecting user gratification and establishes an evaluation system that can better reflect the complacency of online education platforms during the pandemic.

2. Data Collection and Processing

In this paper, data are obtained through web crawler and a questionnaire survey. The online learning data conveyed by web crawler technology is adjustable and matter-of-

fact without constraint. Accordingly, this article uses the data acquired by web crawler to make a macro-level analysis of the user knowledge on the existing online learning web education platform and eventually summarizes the leading aspects impacting user knowledge satisfaction.

Although the conventional questionnaires have many constraints, the obtained data are more targeted diverse and abundant, which can examine the scale of consequence characteristics summed up by the crawler data. Accordingly, this article integrates the two techniques to comprehensively obtain online and offline understanding data of users.

3. Research Question and Hypothesis

The face-to-face teaching approach has been converted to online teaching approach via digital mediums, which has significant impact on the quality of education, interaction among trainer & trainee, adaptability of the participants etc. The user gratification measurement in virtual training platforms in Bangladesh and find factors whose impacts on user satisfaction are the prime concern of the study. To satisfy the research question, the study searched whether the user personal factors have any significant impact on gratification or how they are manipulated by platform availability in online trainings during the COVID-19 pandemic.

4. Collecting Comments on Online Teaching Platforms

4.1 Platform Selection

At present, there are a large number of online teaching platforms in Bangladesh, such as Zoom, Google-Meet etc. We are unable to assess all platforms. Thus, it is necessary to select representative platforms to evaluate. In this analysis, data specimens of online learning education media were selected from Zoom & WhatsApp Platforms.

4.2 Collecting Comment Data

NAPD has conducted a foundation training course for the non-cadre officers (SFTC-12th batch) using zoom software for class and whatsapp application for information sharing. The duration of course was 23 may to 21 July, 2021. Therefore, this study collected comments from the participants and course management.

5. Questionnaire Data Collection and Processing

5.1 Questionnaire Design

It is quite intricate to sort out all the effecting factors that may impact an online teaching platform. To acquire a targeted evaluation of user experience, this paper adopted a questionnaire survey, whose main targets were professionals in various government institutions. Through determining and sorting relevant literature, this study was designed the questionnaire with three segments, as demonstrated in Table 1.

Table 1.Area of Questionnaire of the study

Ramification of Inquisition	Content of Inquiry
User's gratification on the online platform	Device access, learning content, Intention to learning.
Primary information	Gender, Educational background, Age, Employment nature
User Experience	Level of gratification, Platform usage, Availability, Perceived value, and Interaction.

In the second part, user experience and level of gratification-related questions used a Likert scale. Here, the scoring system was between 5-1, where 5 indicated strong agreement and 1 determined strong disagreement.

5.2 Validity Test of Questionnaire

During the COVID period, Google Forms was used as a questionnaire survey tool to accumulate information. A total of 50 questionnaires were received, with 42 remaining after the removal of invalid questionnaires. These 42 questionnaires were entered into SPSS statistical software to perform reliability, descriptive analysis, and validity analysis.

5.3 Reliability Test of Questionnaire

The reliability test measures data reliability. The reliability is used to analysis the consistency and stability of data. Cronbach's 'α' has been used to analysis the internal consistency of the questionnaire data. Here, Cronbach's coefficient was between 1 and 0. In general, the value of the coefficient greater than 0.7 emblems that the entrenched questionnaire may pass the consistency test. The dependability test outcomes are illustrated in Table 2. In this questionnaire, six Cronbach's 'α' coefficients were all greater than 0.7, indicating that the internal reliability of the questionnaire was high.

Table 2. Questionnaire data for reliability information.

Index	Cronbach's α Coefficient	Number of Questions
Level of gratification	0.702	5
Intention of usage	0.711	3
Availability of interaction	0.731	4
Quality of service	0.721	2
Platform availability	0.706	3
Intention to learning	0.717	3

5.4 Validity Test of Questionnaire

Here, Content validity and structure validity have been tested in validity test. The structure validity passed the KMO (Kaiser–Meyer–Olkin) test and the Bartlett test. In general, while the significance level of the Bartlett test fulfills the significance requirement of a two-tailed test and KMO is greater than 0.5, it is envisaged that the questionnaire pass the validity test. The outcomes of the validity test are represented in Table 3. It can be seen that Bartlett test of the six first-level indicators and the test values of the KMO in the questionnaire fulfilled the assertion, apprising that those passed the validity test.

Table 3. Date Validity test

Index	KMO	Bartlett Test of Sphericity
Level of gratification	0.601	0.000
Intention of usage	0.511	0.000
Availability of interaction	0.562	0.000
Quality of service	0.581	0.000
Platform availability	0.700	0.000
Intention to learning	0.514	0.000

5.5 User Sentiment Test

All comments from the participants of NAPD were divided into different topics through data processing. The influencing factors affect user experience, namely platform suitability, platform service type, platform privacy, platform teaching type, platform functionality, platform design environment, and network technology environment. In modern era, different types of electronic devices have been emerged. In addition, to make participants more convenient during online session, the online-platform has to enable to adjust the horizontal and vertical screen any time. By encapsulating the factors influencing user based experience for online teaching platforms during the COVID pandemic, the following Table 4 is sorted out.

Table 4: Influencing factors in online training

Platform teaching type	“sharing the screen”, “main interface experience”, “horizontal screen”, “verification code”,
Factor	“computer”, “tablet”, “mobile”, “compatibility”
Platform design environment	“microphone”, “vertical screen”, “rotating screen”, “submit homework”, “self-rotating screen”
Platform functionality	“pop-up windows”, “network anomaly”, “bundled software”,”

Platform privacy	"online customer service", "course management service"
Network technology environment	"blank screen", "load fail", "system halted", "network fluctuation", "lost connection
Platform Suitability	"screen", "call the camera", "personal information"

6. Empirical Research on User Gratification

6.1 Creating a User Experience Gratification Index System

This study aims to establish an effective but non-redundant index system based on the factors influencing user experience obtained by emotion. The merits and demerits of online education method were noted by its users in the questionnaire and a large number of documents which are rigorously analyzed on the basis of receiving response from the users.

It amalgamates Web Qual 4.0 (Platform availability, data norm, relations method) and the D&M (DeLone and McLean) system success model (data grade, technique standard &assistance quality) to purify the characterizing arrows. Here, system quality and information quality have been exposed jointly with subjective multiple choice questions, while others are expressed on Likert scales, as illustrated in Table 5.

Evaluation indicators affecting user satisfaction are divided two variables on the basis of primary and secondary domains. Here, the primary and secondary domains are considered to evaluate the user experience complacency which is basically acquired by the emotions of users. At that point, User's willingness to continue using, Level of gratification, Platform availability, The Quality of Interaction, Information Quality, System Quality, The Quality of Service, Users Personal factors are the primary variables. Recommend to others, Increment the frequency of use, Learning use, Attractive, Learning ability, Measures of the online platform, Ease to browse, Design to interface, Learning record, Learner participation, Practice feedback, Accuracy, Integrity, Timeliness, Concurrent access, Course management, Artificial service, Education level, Use frequency, Satisfaction tendency, Platform choiceare the secondary variables.

Table 5. Evaluation indicators affecting user satisfaction

Primary Variable	Secondary Variable	Indicators
User's willingness to continue using	Recommend to others	Loy1—DuringtheCOVID-19pandemic, target the online education platforms you are fully satisfied with their features, technical supports and you may recommend to others.

	Increment the frequency of use	Loy2—DuringtheCOVID-19pandemic, the online teaching platform you are using will be used more in the upcoming era and recommending.
Level of Gratification	Learning use	Sat2—During the COVID-19 pandemic, you think the existing activities of the online teaching platform can fulfill your learning requirements.
	Attractive	Sat3—DuringtheCOVID-19pandemic, you are satisfied with the online teaching platform.
	Learning ability	Sat1—Comparedwithofflinelearning, you think remote teaching facility during the COVID-19 pandemic is more attractive.
Platform availability	Measures of the online platform	Pq2—DuringtheCOVID-19pandemic, the measure soft he online teaching platform you used are easy to learn.
	Ease to browse	Pq3—DuringtheCOVID-19 pandemic, the navigation system of online network you used is lucid, without confusion, and the page is easy to browse.
	Design to interface	Pq1—During the COVID-19 pandemic, the interface design of the online network teaching platform you used is very reasonable.
	Learning record	Pq4— During the COVID-19 pandemic, the online teaching platform you used correctly recorded your learning time, learning content and learning data.
The Quality of Interaction	Learner participation	Int1—During the COVID-19 pandemic, while learning online, you will actively answer the teacher's questions and participate in the classroom learning.
	Practice feedback	Int2—During the COVID-19 pandemic, you will complete the online study assignment assigned by the teacher on time.
Information Quality	Accuracy	A1—During the COVID-19 pandemic, which of the following difficulties and problems have you encountered while studying online?
	Integrity	A2—During the COVID-19 pandemic, in accordance with your common online teaching platform, what is the main medium to learn online?

	Timeliness	A3—During the COVID-19 pandemic, in the course of online teaching, what online interactions did you mainly participate in?
System Quality	Concurrent Access	A5—During the COVID-19 pandemic, which terminal can the online teaching platform you are using support for online learning?

Continued (Table5)

The Quality of Service	Course Management	Cq2—During the COVID-19 pandemic, the online teaching platform you use can recommend relevant courses according to what you watch.
	Artificial service	Cq1—During the COVID-19 pandemic, when the online teaching platform fails, the customer service will help you to solve the problem in time.
Users Personal factors	Education level	Per1—What kind of student are you?
	Frequency of use	Per2—How often did you use an online teaching platform before Per3—COVID-19?
	Complacency tendency	When you use the online teaching platform for the first time, you will hold a completely negative attitude towards the platform because of some dissatisfaction with the use of the platform (such as registration trouble, slow login, etc.)
	Platform choice	A6—What platforms will you use as learning aids during and after the COVID-19 pandemic?

6.2 Structural Equation Mode

Structural equation modeling (SEM) is a conventional model to unravel multivariable problems in the field of social sciences. In social science, it is required to sort out the inter-relation between concealed variables and more than one dependent variable that might not be directly measured. SEM can estimate abstract hidden variables through observable variables.

In accordance with the above user satisfaction or gratification indicators, this study utilizes the SEM to create the Indicator System Model (ISM) and acquires the significance path coefficient of the hidden variables on user satisfaction. The IS (information systems) success model proposed by DeLone and McLean measured user gratification on a website in terms of the service quality. McKnight and Chervany constructed the factors influencing customer belief and supplier intention from the

perspective of psychology and sociology, and each structure was further decomposed into two to four measures. Lao et al. used text mining technology to establish a curriculum quality evaluation model that included five first-level indicators: curriculum content, instructional design, interface design, media technology, and curriculum management to deliver a base norm for apprentices to assess the quality of the curriculum. Huang et al. constructed an overall evaluation index system based on online education using four primary indices: system structure, educational resources, interactive mode, and market environment.

This study explores the factors which influence user gratification with the use of the aim of online platforms for teaching by examining the four domains of interaction standard, service standard, access or availability, and personal factors the following hypotheses:

Hypothesis 1. The user gratification with the online platform for teaching has a positive influence on the user's willingness to recommence such platform.

Hypothesis 2. The service standard of the online platform for teaching has a positive significance on user gratification.

Hypothesis 3. The personal factor of the online platform for teaching has a negative Significance influence on user satisfaction.

Hypothesis 4. The availability of the online teaching platform has a positive vibe on user satisfaction.

Hypothesis 5. The standard of interaction in the online platform for teaching has a positive significance on user gratification.

6.3 Model Estimation and Significance Test

A SEM can precisely deal with the inter-relation of hidden variables in the speculative model of user gratification of an online platform for teaching. In this research, AMOS (Analysis of Moment Structures, IBM, Armonk, NY, USA) software was utilized to explore the structural equation model.

Based on the validity and reliability analysis of the sample information fulfilled the desired demands. The parameter analysis outcomes of the initial model are represented in Table 6. After measuring the initial model, the significance test of the path coefficient and load coefficient was needed. The "C.R." (critical ratio) value was acquired by the difference between the estimated parameter and standard parameter.

While the absolute value of "C.R." was greater than 1.96 and the corresponding probability p value was less than 0.05, it can be explained that there was a significant difference

between the coefficient and the estimated parameter value of 0 at 95% confidence. That's why it is anticipated that the influence of the coefficient was significant.

Table 6. Parameter analysis outcomes.

Influence Elements	Coefficient	Influence Elements	Estimate	S.E	C.R.	
User gratification	<—	The standard of interaction	1.000		1.989	***
User gratification	<—	The standard of service	0.389	0.187	2.078	***
User gratification	<—	Platform availability	−0.236	0.224	2.032	***
User gratification	<—	User personal factors		0.382	0.417	
User's willingness to continue using	<—	User gratification	1.000	0.049	5.557	***
The standard of interaction	<–>	The standard of service	0.273			
The standard of service	<–>	Platform availability	0.262	0.042	6.225	***
The standard of interaction	<–>	Platform availability	0.217	0.035	6.276	***
Platform availability	<–>	User personal factors	0.002	0.016	0.102	0.918
The standard of service	<–>	User personal factors	−0.083	0.033	−2.528	0.011
The standard of interaction	<–>	User personal factors	−0.066	0.025	−2.639	0.008

Note that *** emblems the significance level when $p < 0.001$.C.R is the abbreviation of critical ratio. <–> reflects the influencing factors are inter-related. <— indicates a common relationship between the influencing factors. S.E is the abbreviation of Standard Error.

6.4 Modified Structural Equation Model

While the SEM (Structural Equation Model) had been performed, it was utilized to test the fitness degree of the sample data and perform model path analysis by calculating

the fitness effecting parameters. In general, there are three specific indices for the fitness degree of a model in AMOS:

1. Absolute fitness index,
2. Value-added fitness index,
3. Simple fitness index.

There are numerous fitness indices in the above mentioned AMOS. But few have been taken on the basis of the requirement, relevancy and compliance of the appraisal. In this research, common fitness indices were taken from the above mentioned three fitness indices, and the calculation results are presented in Table 7.

Table 7. Fitness degree of model.

Indicators		Judgment of Standard	Revised Model Results
	$\chi 2$	the smaller the better	127.452
Absolute fitness index	χ^2/df	1–3	2.360
	GFI	>0.9 better fit >0.8 can accept	0.938
	RMR	<0.0798	0.0546
	RMSEA	<0.0799	0.0689
Value-added fitness index	NFI	>0.9 better fit >0.8 can accept	0.914
	TLI	>0.9	0.915
	CFI	>0.9	0.958
Simple fitness index	PCFI	>0.5	0.623
	PNFI	>0.5	0.606

Here, GFI means goodness-of-fit index; RMSEA means Root Mean Square Error of Approximation, NFI means Nor med fit index; CFI means comparative fit index; PNFI means parsimonious nor med fit index. $\chi 2$/df is the abbreviation of degree of freedom ratio; RMR means Root Mean Residual; TLI means Nonstandard fitting index; PCFI means Simple adjustment comparison fit index.

7. Results Analysis

By testing and modifying the SEM and studying the sequence proposed by the path coefficients of the influencing factors and the research hypothesis are presented in Table 8.

Table 8. Path coefficients of the affecting factors.

Influence Elements	Path Coefficient	Influence Elements	Affect the Path
User gratification	<—	The standard of interaction	0.238
User gratification	<—	The standard of service	0.329
User gratification	<—	Platform availability	0.703
Pq2	<—	Platform availability	0.41
Continue using			
Int2	<—	The standard of interaction	0.35
Int1	<—	The standard of interaction	0.10
Cq2	<—	The standard of service	0.5
Cq1	<—	The standard of service	0.4
Pq4	<—	Platform availability	0.34
Pq3	<—	Platform availability	0.33
Pq1	<—	Platform availability	0.63
Sat3	<—	User gratification	0.13
Sat2	<—	User gratification	0.64
Sat1	<—	User gratification	0.55
Loy1	<—	User's willingness to continue using	0.55
Loy2	<—	User's willingness to continue using	0.78
The standard of interaction	<–>	The standard of service	0.273
The standard of service	<–>	Platform availability	0.262
The standard of interaction	<–>	Platform availability	0.217

Here,

"<—" depicts a common relationship between the influencing factors,

"<–>" reflects the influencing factors are interrelated.

From the above summary, it has been drawn the summary that among the four major factors, personal factors had no significance on user gratification, depicting that users had a strong attitude and were not sentimentally biased rather platform availability had the strong influence on user satisfaction. In terms of availability, the activity design and functional operation of the online platform for teaching were the most pivotal crux. In case of interaction standard, the feedback by the participants assigned by course management was the core factor affecting the cognition of interaction experience. The significance of service standard on user gratification was mainly happened by on time response to problems and diversity of course nature. The online users desired that the online learning platforms could fulfill their learning requirements and render required activities for distant learning. It cannot be denied while the users were using these online based educational platforms for distant learning, they faced few technical problems but at a same time they were elated to receive the facilities of education in lieu of face to face traditional approach.

8. Discussions

Three issues would be discussed here. First of all, it was compared the judgments of relevant publication and discuss the affinity among the existing literatures and this article. Secondly, in order to underline the unique factors that affect the user's gratification of online education & training platforms during the COVID-19 global pandemic, it has been discussed online education system during the COVID-19 pandemic which is also the excellent contribution of this article. Finally, the conclusion of this paper can be used to other countries in the world what we discussed the in section of internationalization of conclusions.

8.1 Characteristics of Online Education during the COVID-19 Pandemic

Before COVID-19, teachers and students were individualistic and chosen online education in a small range. At present, it has become a necessary choice for distance learners. This choice provides a prospect for people to re-examine online education. Therefore, based on the COVID-19 situation, this paper studies the user gratification of online instruction platforms, which is dissimilar from the focus of user gratification under common occasions. According to the judgments of this article, the availability of the platform during the COVID-19 situation is the main factor affecting user gratification, which also reflects that users focus more on mobile terminal equipment, platform load, technology proficiency and other aspects. This study not only summarizes the weaknesses and constraints exposed by the online education platform during the COVID-19 pandemic, but also makes a significant contribution to the

upgrading and optimization of online education, improving people's perspective of online education, and increasing the adoption and gratification of online education.

Before COVID-19, the instructors& trainers who provided courses on the online teaching medium system were specially trained by enterprises and only taught for a certain type of course. However, this COVID-19 outbreak is all on a sudden. Instructors who do discuss not use the online education platform are transformed into ordinary offline teachers. The preparation time of ordinary teachers was not enough. In addition, a considerable number of teachers lack sufficient knowledge of information technology, so the concept of online teaching is relatively weak. In the face of sudden online teaching, difficulties emerge, such as how to arrange classes, how to carry out online teaching according to the plan, which online teaching medium to choose, and how to monitor the effects and qualities of online teaching, which will lead to the drop in user gratification.

Therefore, in this study, the consequence of COVID-19 on user gratification is not only in the context of COVID-19, but it is also concluded that the usability of the platform is the main factor affecting users' gratification with the online education platform in pandemic period.

8.2 Internationalization of Conclusions:

The analyses in this paper are based on the user data of NAPD training using online educational platforms during the COVID-19 crisis. In order to carry out the decisions to use these platforms, this segment elucidates whether the research results of this paper can be extended to other corners at international level.

First of all, this paper finds that platform availability is the most important factor affecting the fulfillment of the online instruction platform, while the user personal factors have no significant impact on the gratification. In view of the similar online teaching methods adopted by countries all over the world, most of them adopt the forms of video conferences or live broadcasts. Therefore, the findings can be augmented to all countries in the world.

Secondly, this paper obtains the gratification of evaluation technique and complacency prediction norm of an online educational platform during the COVID-19 pandemic. Because this form of online instruction is still used in other countries, the evaluation system and prediction model obtained in this article can be applied to the other countries that have not yet recovered offline teaching approach.

9. Suggestions & Conclusion:

COVID-19 pandemic has provided a varied understanding in understanding process all over the world. This study collected user experience data on online education platforms during the COVID-19 pandemic. Through data analysis of online user reviews, we extracted the factors influencing satisfaction and established a scientific and effective satisfaction index system using the existing publications. In addition, the data obtained from an offline questionnaire were examined and analyzed, and a structural equation model was built for quantitative analysis of the relationship between various indicators. It was found that users' personal factors had no direct impact on their gratification, while platform availability had the extraordinary effect on user gratification.

Technological difficulties cannot be dismissed. Although an online teaching platform provides available teaching methods, there are always many difficulties in the platform technology. The design environment of the platform should be more concise and easy to operate. In terms of the network technology environment, some platforms frequently meeting problems such as internet lags and network congestion. Technological problems in these platforms are the main factors affecting user experience that lead to students' discontent and significantly reduce the efficiency and quality of teaching. Therefore, improving the platform technology is the primary problem to be solved. As for the above specialized problems of the online education platform, the enterprises that belong to the platform should improve these problems, increase the investment in the online education platform and develop the function of the online system. Companies can obtain education financing through online crowd funding, initial coin offerings and other means, and use these financing methods to improve the quality and availability of online systems.

The two-way interaction of pedagogy must be improved. Using a questionnaire of offline users, we analyzed first-level indicators selected by the structural equation, and determined that the main factors influencing user gratification with the online teaching platforms were procedure quality, interaction quality, service quality, and platform availability. Interaction atmosphere refers to the effective transmission atmosphere in the process of knowledge acquisition. An increase in interaction can enhance students' learning confidence and engagement. In a conventional classroom, there are various teaching interaction modes, such as backward classroom, random inquiries, and group statements. However, in a web atmosphere, the platform has few settings for teaching interaction like chat rooms in Zoom, and teachers' input teaching is the main training mode. Accordingly, the platform must actively develop various interactive formats, such as 'you ask me to answer', 'face to face', 'students record learning videos' and 'real-time data lecture' to promote efficient understanding and further improve the quality of education. Moreover, trainer should have choices to identify inattentive learners so that punitive measures can be carried smoothly.

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