

Faculties' perception of online learning sustainability post-pandemic era

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Abstract

The Pedagogical aspects of all educational institutes are revamping the post-pandemic era. The drift between traditional and modern teaching and learning practices is pivotal in raising the bar of educational institutes across the country. In this paper, we will understand the perception of faculty members as they are the ones who will be the center of teaching in the new arena. We will also study the effects or relationships of self-efficacy, Effectiveness, and efficiency with the perception of online teaching. From the vivid literature study, we have also included the ease of knowledge sharing as our mediating factor in the study to arrive at the desired results. A sample of 187 faculty members across various B-Schools was collected and analyzed using IBM SPSS 25 and SEM-PLS 4 to find out the reliability, validity, correlation between the observed variables and the regression line deployed in the study, and to find out the model fitness to prove the statistical measures relevant to the study. The results showed a positive outcome regarding the perception of online teaching practices. Though a few senior faculty members have some differences of opinion towards online platforms, most of them find it beneficial and are willing to use this in the future. The research also suggests that to maintain sustainability in the digital world, education should consider adopting this sort of online learning platform to get beneficial results for the industry and society in the long run.

Keywords: Ease of Knowledge Sharing; Efficiency; Faculty Perception; PLS-SEM; Self-Efficacy; Sustainability.

1. Introduction

Online teaching platforms are unavoidable in the context of the pandemic, which has rendered a massive drift toward online teaching. Teachers had abundant opportunities to be exposed to online teaching and learning resources. The faculty also had a tough time and faced numerous obstacles, despite all these, most of them believed that it was one of the better platforms in the unprecedented situation [1]. Still, experience in subjects and their effects must be thoroughly examined by researchers of online learning, and it must be initiated to date [2]. The Greek scholar's mobile learning focus helps in providing interactions among students and teachers. They also suggest that the influence of MOOCs and online learning platforms, along with their academic achievements, must be assessed by faculty and provide better motivation for learning [3].

Social-cognitive theory and its component of Self-efficacy by Bandura had a huge impact on the motivation studies and individuals' achievements in the academic setting [4]. Some do believe that understanding how self-efficacy has influenced the Development of teaching in higher education and the initial period of Professional Learning [5]. Providing students with authentic tasks, skills, and knowledge could be stimulated actively by the Educational Institute with Self-efficacy [6]. A degree of learner motivation and Self-efficacy is important to adopt online learning or a blended form of learning [7]. Some researchers also believe that one of the important traits of individuals is said to be Self-efficacy, and it serves as a moderator relationship between learning outcomes and interaction, including the experiences perceived by the learner [8].

[9] In their research study, had found the effect of online learning with student-motivated discussion topics. More than 1000 data points from students for trials were collected and proved that they have statistical power. They feel that effectiveness and efficiency are predominant in student participation in online teaching platforms [9]. Maurice Grzeda, in her research article, stated that mid-career learners' expectations to be understood for incorporating meaningful curriculum and for making revised pedagogies online may provide learning orientation more effectively [10]. Lakshmidhevi in her research article, suggested that College infrastructure should have E-learning and Digital Classrooms set up in it. she also suggested that educational platforms should incorporate new teaching methodologies in learning and teaching Justice [11]. in their article stated that to undertake innovative approaches in pedagogy, effective blended learning through teaching and learning is necessary [11]. [12] have reviewed the shift in learning underpinning design philosophy and in online computer programming, special care is given. Sheng Wang believes that the success of initiatives on knowledge management is highly impacted and depended on Knowledge sharing. He also says that strategies on knowledge sharing involving attitudes and behaviors are to be

considered heavily for successful knowledge management in the organization [13]. Aboelmaged has suggested that future researchers can investigate seeking and donating behaviors to better understand patterns of knowledge sharing and its effect on the performance of business. [14] made a comparative study on business students and faculty and suggested that realistic perceptions and experiences of online learning and teaching should be considered [14]. Harold has suggested that the focus on online education should continue in research prospects to gain a better perception of Standard Pedagogy. Flexibility on details will make a success of the new modalities [15]. Kibwana has conducted a qualitative study investigating 2 Ethiopia-based training programs and found that online-based training helps in minimizing logistical and infrastructural gaps [16]. Fazal and Abdul, in their article, had thrown some light on benefits derived from e-learning programs for organizations, namely career growth, meeting business objectives, improved productivity, and job-related knowledge enhancement [17]. With those points for discussion, we felt to analyze the perception of online teaching by faculty in the post-pandemic era. We feel that self-efficacy and effectiveness will result in their perception of the online teaching environment. Some researchers do feel that Knowledge-based methods were not deployed to solve the e-learning problem in a survey from the Mid-'90s to 2014 [18], owing to which we wish to find out whether ease of knowledge sharing serves as a mediating factor between self-efficacy and perception of faculties.

1.1. Objectives of the study

- 1) To assess the faculty's perception in the post-pandemic era regarding online learning.
- 2) To analyze the importance of knowledge sharing between self-efficacy and perception of faculty.
- 3) To understand the relationship between efficiency and effectiveness in the perception of faculty in the online learning environment.
- 4) To evaluate the driving force of faculty perception towards online learning.

2. Review of literature

[19] explored a qualitative study on the Emerging E-learning trends: A study of faculty perceptions and impact of collaborative techniques using fuzzy interface system. It also examined the level of adaptation and implementation of the trends and established the most applicable strategies for embedding these trends into the educational system. The sample size consisted of 70 teachers through a random sampling technique, and semi semi-structured interview was conducted to collect the data from the respondents. The fetched qualitative data was analysed using MATLAB. The findings of the study disclosed that artificial intelligence, video-based learning, mobile learning, gamification, and micro learning are pivotal in online learning and education, which also increases the student engagement level. The universities should plan strategically for the development of the faculty and provide an innovative environment both for the faculty and students, which paves the way for efficiency and effectiveness [19].

[20] executed a comparative study on factors influencing faculty perception and student perception of online education. The researchers deployed a semi-structured interview with 66 faculty members, and the relative importance index (RII) was used to assess the most momentous practices impacting online education. The study showed that student engagement and classroom interaction were the most concerning factors for faculty, with a value of 0.94. Similarly, making engaging and interactive lectures was found to be the most challenging. Students perceive engagement, interactive activities, instructor qualities, and responsiveness [20].

[21] carried out descriptive research on Perception of E-Learning's Role in Shaping Post-Pandemic University Education: Evaluating Its Positive and Negative Effects on Returning to Traditional Class. The research aimed to unravel the benefits of e learning during a pandemic and its impact on the students from the perspective of faculty members. The sample size of the study was 108, which was determined using a simple random sampling technique, and a five-point Likert scale was used to pool responses from the faculty members. The collected responses were analysed using Pearson correlation, coefficient, regression, arithmetic mean, and standard deviation. The results of the study showed that faculty must be trained on learning tools and educational institutions must accommodate the students with training and field activities to curb the negative effects during catastrophic situations [21].

[22] discovered a qualitative study on understanding the faculty members' perceptions and challenges in online teaching. Semi semi-structured interview was conducted to pool the responses from 15 faculty members from the UAE with a minimum of 5 years of experience using a purposive sampling technique. NVivo 12 Pro software was used to analyse the data. The results of the data analysis showed that clarity in the topic discussed was found to be essential among the online learners. Faculty find engaging students online through interactive class activities challenging. E-learners lack trust in online classes and expect the faculty members to provide a high level of learning support. Bennett et al in their study explored the impact of Hybrid learning spaces on various factors like employability and resilience building [23]. This article gave us insights into the relevance of perceptions with special reference to educators. Several inputs from the study help us in narrowing down educators' perceptions of sustainability and relevance to the study. Alvin Hwang, in his study, has constructed several growth factors about Online and Hybrid Learning with special reference to Business Management. His research highlights several horizons, like instructor-student interaction and learning outcomes [24] This gave a few insights into the Perceptions of Management faculties in a broader perspective.

[25] demonstrated a descriptive study on Self-Efficacy as a Determinant Factor for Knowledge Sharing Awareness. The study aimed to find out the level of knowledge sharing awareness and its association with demographic variables. The sample size of the study was 725, from whom the data was collected through the survey. Descriptive statistics were deployed to analyse the data. The results showed that knowledge awareness among the faculty members was found to be medium, and the level of self-efficacy in knowledge sharing was low. It was also found that there were differences in the knowledge sharing awareness concerning designation, working experiences, and academic field compared to gender [25].

3. Research methods

The study was deployed with convenience sampling as the study focuses on the Business School Faculty. Mostafa and Timothy have suggested that a wider study on educators be conducted to find out the actual intentions of online learning platforms [26]. Natalie, in their article have suggested the research community conduct a survey questionnaire or feedback form to understand the knowledge and self-efficacy concepts on online training to make improved online teaching platforms [27], for which a sample of 187 was collected and analyzed using PLS-SEM. The reliability of the research instrument was first analyzed. Secondly, to analyze the second objective, the correlation test was conducted, thirdly, to understand the third objective test of regression test was carried forward, and then the proposed model fitness was ascertained using PLS-SEM to check the fourth objective of the study, during which the mediation effect was also observed. The results of the above-given ones are discussed below.

4. Analysis and interpretation

4.1. Reliability

The first step every empirical researcher performs is Reliability statistics. This will give the researcher and the readers a sense of satisfaction and confidence to move further with the analytical part, as the result of this test indicates whether the research tool deployed in the study is valid.

Table 1: Construct Reliability and Validity of the Study

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
EE	0.922	0.925	0.922	0.749
EKS	0.841	0.860	0.834	0.564
P	0.928	0.930	0.929	0.765
SE	0.893	0.897	0.892	0.675

As Gliem & Gliem in their research article have given a set of threshold values for measuring reliability. The Rho_a results are above .85 for each variable, which indicates that the construct variability is good. The results of Cronbach's Alpha in Table 1 do reveal that the research tool deployed in the study is reliable, and the values of other reliability and construct validity tests meet the expected threshold [28]. The researcher can further go along with all other statistical tests for further analysis of the study based on the results obtained from the construct validity and reliability test performed with the help of Smart PLS.

4.2. Correlation

Table 2: Shows the Correlation between SE and EKS

		SELF	EASE
SELF	Pearson Correlation	1	.686**
	Sig. (2-tailed)		.000
	N	187	187
EASE	Pearson Correlation	.686**	1
	Sig. (2-tailed)	.000	
	N	187	187

Table 3: Shows the Correlation between EKS and P

		EASE	PERCEPTION
EASE	Pearson Correlation	1	.626**
	Sig. (2-tailed)		.000
	N	187	187
PERCEPTION	Pearson Correlation	.626**	1
	Sig. (2-tailed)	.000	
	N	187	187

To find out the relationship level between the proposed variable, we have carried out the correlation between SE and EKS as shown in Table 2, and the Correlation between EKS and P, as shown in Table 3. In both cases, there exists a Positive correlation between the given variables as Table 3 shows the moderately positive relationship between SE and EKS with the value of .686, and as per Table 3, there is a moderately positive relationship between EKS and P with a value of .626 which shows that there is a positive relationship between the variables. [29] We will further verify the same with mediation effect using pls as shown below

4.3. Regression

Table 4: Shows the Regression Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.806a	.649	.642	2.65068

Table 4 indicates the R square value of .649, which shows that there is an association between the given variables EE and P [30]. Based on this model summary, further, the significance is tested using the Anova table 5 shown below

Table 5: Shows the Regression Anova results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2369.528	4	592.382	84.312	.000b
	Residual	1278.750	182	7.026		
	Total	3648.278	186			

The ANOVA table shows that the value of p is <0.05, which satisfies the average threshold value for the significance of the study. With this inference, the regression equation can be formed below

Table 6: Shows the Regression Coefficient Output

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	2.464	.778		3.166	.002
	EE1	1.470	.308	.412	4.765	.000
	EE2	.010	.312	.003	.032	.974
	EE3	.867	.311	.228	2.785	.006
	EE4	.965	.268	.239	3.603	.000

Based on the Regression Coefficient Table 6 the researchers can infer the following Regression Equation of the study $Y=BX$ which gives the equation that $Y= 2.464+1.470+.867+.965$ as the significant value alone is considered for equation, we neglect EE2 as it is insignificant as shown in the equation 0.974 which is higher than 0.05 [30]

4.4. Model fitness

Table 7: Shows the Fit Indices of the Proposed Study

	Saturated model	Estimated model
SRMR	0.060	0.067
d_ULS	0.489	0.604
d_G	0.365	0.385
Chi-square	359.480	372.431
NFI	0.866	0.861

The Fit Indices table 7 indicates that all the expected values met the required threshold levels and acknowledges that the proposed model is Fit as the SRMR value is less than 0.08 and the value of NFI remains closer to 1[30].

4.5. Test of path for the study

The Researchers test the path of the study using the following hypotheses

H1: Self-efficacy is positively significant on Ease of Knowledge Sharing in Faculties of B-Schools

H2: Ease of Knowledge Sharing is positively significant with Perception of Faculties in B-Schools

H3: Effectiveness and Efficiency is significantly positive on Perception of Faculties in B-Schools

H4: Ease of Knowledge sharing significantly mediates between Self-Efficacy and Perception of Faculties in B-Schools

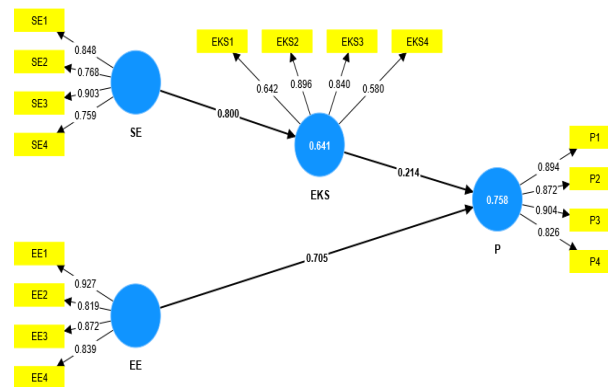


Fig 1: Model of the Study.

The R2 output of the study extracts a value of 0.758 which is considered a substantial model fit as the value is above 0.75 [31,32]. The researcher has utilized SEM_PLS to elucidate the moderation effect of the study which is shown in Fig. 1. The P values of the mediation show a partial mediation between the variables SE & P through EKS as the P value is less than 0.05. This fact is also supported by Patterson and [33] in their article, where they asked organizations to find ways to transfer knowledge and expertise to novices from experts [33]. This gives us an understanding that EKS defines 64% of the study, as it serves as one of the major criteria for the study, while the dependent variable P describes 75.8% of the study. It is evident from the analysis of Path Testing p values less than 0.05 for all (H1, H2, H3, and H4) hypotheses were accepted and show a significant positive impact on perceptions of Faculties in B-Schools.

5. Discussions

The frequency distribution results exhibit that 89.3% of the Respondents felt that Sharing of Updated learning material is shared with ease through an online learning environment. 82.3% of the respondents felt that they are much more confident in using online materials and platforms. 79.1% of the respondents felt that students make use of the resources effectively while involved in online learning methods. 75.9% felt that improved collaboration and interactivity is possible in the online learning environment. The results were extracted based on the inputs collected by respondents in a statement manner to highlight the impact of the study. The correlation table has indicated that the research conducted by the researchers is significant at 99% which gives a clear picture that there exists a good relationship between the observed variables of the study while the regression table also indicates the association and closeness of the study and the model fitness test used in the study shows how far the results suffice the objectives of the study and we can consider the study as valid as all the required statistical threshold levels are met by the research tools and instruments deployed in the study. The study helped us understand the various aspects of Online learning required for sustainability in the long run. The study suggests that online learning will be one of the platforms where knowledge sharing will be much more evident enough in the long run. Digitalization hits almost every industry in the rapidly growing world of today. It is important to have a digital platform through which ease of use, Efficacy, and Knowledge sharing will be fruitful in making a sustainable learning environment.

Most of the faculty members hailing from different institutes felt that online learning has become an inevitable aspect in the mindsets of modern-day learners and the study suggests that faculty members of different age groups adopt this online mode of learning and teaching which will help them to meet their pedagogical requirements of the institutes they hail from. The study has highlighted that while looking into the sustainability of Online learning, it is important to ensure the ease of use and self-efficacy aspects where Knowledge sharing acts as an intermediate factor or the mediating factor between the Self-efficacy and the perception of faculty members while considering the sustainability factor of online learning in the post-pandemic Era.

The previous research insights by various researchers on the sustainability of online learning do not have much weightage or importance over the perceptions of faculty members, which is given prior importance and deployed in this study, as the researchers felt this is one of the important aspects to be covered. Future researchers can bring in various inputs on the same aspects from the students' or learners' perspective, or they can also investigate other aspects that they may feel would have significant results over the study. The study was purely focused on faculty members and their perspectives. Future researchers can increase the number of respondents by mass data collection and can narrate the importance of the same.

6. Conclusion

The study carried out by the researcher also emphasizes the fact that the perception of faculty members is positive in using online mode of learning even after the pandemic as they feel that they were able to reach their goals and make effective learning outcomes where knowledge sharing is quite easy and serves as the mediating factor towards the perception of faculty members. Though a few senior faculty members have some differences of opinion towards online platforms, most of them find it beneficial and are willing to use this in the future, even though they lack interest due to various factors, as it has become the need of the hour. Even working employees have felt that this platform serves their needs in keeping themselves competitive. From the results it is very clear that the objectives of the study were met as self-efficacy and efficiency & effectiveness were the key driving force of faculties toward their perception of online teaching post-pandemic era with ease of knowledge sharing as the mediating force in achieving the desired result of the study and there are still several drivers that can be explored.

6.1. Limitations

The study is limited to Management Faculties across Tamil Nadu to emphasize the need for HR Managers to upskill the employees. The research community may select faculty across other domains and departments and can replicate the research to find out the intensity across various disciplines. One of the notable limitations, which can be a hint for futuristic research, is that the Study didn't focus on faculty age group and seniority level as it was not the objective of the study.

6.2. Managerial implications

The research study suggests the following possible managerial implications that will benefit the education community and society, especially First faculty members can take up some FDP or Workshops to enhance their skill set in transforming from traditional learning to online learning platforms for a sustainable future. Secondly, colleges can use online platforms for knowledge sharing rather than traditional printed copies, as they will help them to revise, and update required knowledge and skill sets periodically. Future researchers can further narrow down their view in respect to recent technological advancements, which may enhance the perception of faculty in a different perspective like the Inclusion of stimulation and prototyping in learning aspects like Gamification or even the trending explorable area of Generative AI can add betterment in Learning and Development of both students and faculties.

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