

Perception of Teachers in Technology Adoption After Lockdown – A Study on Autonomous Colleges

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ABSTRACT

The COVID-19 pandemic had a significant impact on practically every country in the world. One of the repercussions of this pandemic was the shutdown of educational institutions to prevent the virus from spreading. The government urged instructors to use a variety of online educational tools to carry out teaching and learning procedures during the pandemic. However, the abrupt change in the nature of education compelled teachers to prepare themselves to deliver online education in an instant. The study aimed at evaluating the relationship that exists between antecedents of behavioral intentions, and how it impact on the usage of E-learning systems in various autonomous colleges. The research contends that content and pedagogy need, self-efficacy, and availability to infrastructure and online resources all influenced individuals' behavioral intents to use e-learning systems. However, the data suggest that self-efficacy is the most powerful factor influencing individuals' behavioral intentions to use e-learning systems in educational institutions, after perceived usefulness and perceived ease of use. The result also implies that easy availability and usage is the one of the main factors that trigger the teaching fraternity to adopt online mode even after the lifting of online classes. Also, the study demonstrates the factors hindering teacher's from adopting online educational technologies in colleges from e-learning system usage.

Keywords: Covid 19 pandemic, E-learning systems Usage, Behavioral Intention Factors, Online educational technology.

INTRODUCTION

E-learning has been defined commonly, as a learning activity that is aided and enhanced through the use of ICTs (Sambrook, 2003). The process of e-learning includes a variety of activities, including blended learning, using information and communication technologies (ICTs) to help teaching and learning, and gaining knowledge and skills only via the use of the internet. The COVID-19 epidemic has significantly impacted large areas of the world and essentially stopped life in many places. The pandemic has demanded a shift in human actions towards alternative modes, and paved a way for the emergence of a new normal way of living. Almost all spheres involving human activities which include business, health, travel, education, and so forth, is reacting erratically to the current pandemic situation while also trying to figure out how to proceed in the event of a post-pandemic. According to this viewpoint, the study examines the COVID-19 pandemic's immediate effects on higher education and makes assumptions about its long-term ramifications for a post-pandemic situation.

The paper brings us to educators' perceptions about the effectiveness and quality of education based on their post-pandemic online teaching experiences in order to recognize the possible role of blended/hybrid learning in higher education in a post-pandemic environment. The paper argues that self-efficacy is the most influential factor that affects individual's behavioral intentions to utilize e-learning systems in education institutions. The result also indicates that easy availability and usage a major factor that trigger educators to adopt online mode even after the lifting of online classes. Paper also demonstrates the factors hindering teacher's from adopting online educational technologies in colleges from e-learning system usage.

OBJECTIVES

- To study factors affecting teacher's intention to adopt online educational technologies.
- To assess the antecedents of behaviour intentions in higher education institutions.
- To study the factors hindering teacher's from adopting online educational technologies in colleges.

REVIEW OF LITERATURE

The COVID-19 pandemic has compelled the adoption of an online digital off-campus mode of teaching with a suddenness that is unlikely under normal circumstances. The concerns include unfavorable views of online education on account of the digital divide, lack of inclusiveness, inequity, unaffordability and value of online education; yet paradoxically, online education is also argued as a panacea to these very issues (Kebritchi et al., 2017; Jena, 2020). E-learning platforms were used as a secondary tool, and not an essential one, in transmitting information among teachers and learners (Tung, F.-C.; Chang, S). An investigation of the effectiveness of any learning platform before the pandemic focused on important external factors such as gender, cultural differences, personality differences, technical support, technology training, equipment accessibility and experience (Tabak, F.; Nguyen). Behavioral Intention (BI) has been defined by Davis (1989) as the level to which a person has developed conscious plans to perform or not perform some specified future behavior. According to TAM (Davis, 1989), perceived usefulness is the extent to which a person thinks that using a system would improve his or her job performance, while perceived ease of use is the degree to which a person thinks that using a system will involve less physical and mental effort. The majority of studies have used TAM to look into the efficacy and acceptance of using E-learning systems (Liao & Lu, 2008). Other models and theories are also blended into it and expanded upon. Some of these ideas are the hybrid models based on TAM and self-determined theory developed by Roca & Gagne (2008) and the TAM and unified theory of acceptance and utilisation of technology model developed by van Raaij & Schepers (2008). The theories of Liaw, Huang, and Chen are also known as TAM and the Theory of Planned Behavior Model (2007). Although TAM is largely regarded as a very practical, often used, widely adopted, and remarkably frugal in the field of information systems, it has also drawn criticism (Hu et al., 2003). According to Benbasat and Barki (2007), TAM has several drawbacks, such as diverting researchers' focus away from other equally significant events and advancements in the study of information technology adoption.

Davis (1989) defined behavioural intention (BI) as the degree to which a person has made deliberate preparations to engage in or refrain from engaging in a particular future activity. The study's mediating variable, behavioural intention-to-use, was explained as the likelihood that a person would use an E-learning system if it were made available to him or her. When it comes to actually using new technology, a person's behavioural intention to use it is quite important (Davis, 1989). According to TAM, consumers' behavioural intentions influence how they actually utilise technology (AU). In addition, Li et al. (2012) found that system functionality is directly influenced by perceived usefulness, perceived ease of use, and self-efficacy; that system interactivity also affects users' intentions to use e-learning systems; and that perceived usefulness significantly increases users' intentions to use e-learning systems after their initial use. Chang (2013) also suggested that an individual's decision to adopt e-learning systems is preceded by their perception of value and satisfaction. Similar to this, Huang et al. (2011) discussed learning styles and how they affect people's participation in online learning programmes. They also discussed how instructors' attitudes toward technology, their teaching methods, and how they manage the technology have an impact on learning. Although DeLone, McLean, and their updated version of the IS success-model (2003) distinguished between system use and intention-to-use, they still agreed that intention-to-use is an individual construct. Similar to this, Venkatesh et al. (2003) confirmed the direct connection between a system's intended purpose and actual use. Intention-to-use is therefore presumable to have a favourable impact on E-learning utilisation in the context of this study. H1: Behavioral intention to use has the potential to influence the usage of E-learning systems in Tertiary Education Institutions, according to the study's hypothesis. Perceived usefulness (PU) is a crucial antecedent of intention that motivates potential users of ICT products to accept cutting-edge and user-friendly technology, claim Pikkariainen et al. in their 2004 study. Perceived utility measures how useful and effective an e-learning system is at enhancing academic and professional performance in the eyes of potential users (Li et al., 2012). TAM asserts that users determine a particular technology's utility and thereafter generate a favourable intention to employ it. TAM asserts that PU directly determines behavioural intention. In other words, a person's propensity to utilise a certain ICT tool for their particular activities depends on their knowledge of, and judgments about, its value to their regular activities (Hanafizadeh et al. 2014). It has been scientifically demonstrated that perceived usefulness significantly

influences usage intention, and more specifically, the use of Elearning systems. (2012) Chen and Tseng Therefore, the more positively someone feels about using an E-learning system, the more likely it is that they will use it, and the more positively they feel about using it. Additionally, Yang & Yoo (2004) hypothesised that perceived utility directly affects the use of information systems (IS), in line with the original Technological Acceptance Model (TAM). This came before a number of other studies, including those by Davis (1989, 1993), which named perceived usefulness as the main factor influencing the use of information systems on numerous occasions. In contrast, perceived ease of use has a relatively minor impact, particularly during the adoption process (Yang & Yoo, 2004; H2: Perceived usefulness has the potential to influence the utilisation of E-learning systems in higher education institutions). H3: Individuals' behavioural intentions to use e-learning systems in higher education institutions will be greatly influenced by perceived usefulness.

RESEARCH METHODOLOGY

The study is based on the data collected from both primary and secondary sources. The study is limited to teaching staff of various Autonomous colleges in Cochin city. The primary data is collected through structured google form questionnaire which was distributed to 150 respondents, out of which only 140 responded back after eliminating incomplete and irrelevant responses, 120 responses were selected for conducting the study. The sample was selected by purposive sampling technique. The data collected were statistically processed, classified, tabulated and analyzed by using statistical and mathematical tools and techniques.

ANALYSIS AND RESULTS

Table 1: Profile of Sample

Variable	Categories	Frequency	Percentage
Gender	Male	32	74
	Female	88	26
	Total	120	100
Area of living	Urban	56	46
	Semi urban	44	37
	Rural	20	17
	Total	120	100
Designation	Assistant Professor	90	75
	Associate Professor	22	18
	Professor	0	0
	Others	8	7
	Total	120	100
Work experience	Up to 5 years	68	56
	6 – 10 years	26	22
	11 – 15 years	18	15
	More than 15 years	8	7
	Total	120	100

Source: Survey Data

Table 2: Awareness on new education technologies

Variable	Categories	Frequency	Percentage
Awareness on Education 4.0	Yes	28	47
	No	32	53
	Total	120	100
Awareness on various educational technologies available for teaching - learning process	Yes	104	87
	No	16	23
	Total	120	100

The Covid pandemic is a reason for adopting the online mode of teaching	Yes	108	90
	No	8	7
	Can't say	4	3
	Total	120	100
Possess special training to equip with online methods of teaching	Yes	78	65
	No	42	35
	Total	120	100
Intention to use e-technologies after the lift of lockdown	Strongly agree	48	40
	Agree	60	50
	Neutral	8	7
	Disagree	4	3
	Strongly disagree	0	0
	Total	120	100

Source: Survey Data

Table 3: Factors hindering the adoption of online educational technologies

Variable	Frequency	Percentage
Lack confidence	11	9
Lack of self-competence	17	14
Lack of infrastructure	22	18
Lack of funding	20	17
Lack of power resources	12	10
Limited technological tools	30	25
Others	8	7
Total	120	100

Source: Survey Data

It is evident from the table that the major factor which hinders the adoption of online educational technologies is limited technological tools (25%) followed by lack of infrastructure.

Table 4: Online educational technologies used in respective institutions as a part of teaching - learning process

Variable	Frequency	Percentage
Moodle	100	83
Forma LMS	0	0
Open edX	0	0
Canvas LMS	5	4
Others	15	13
Total	120	100

Source: Survey Data

It is evident from the table that Moodle (83%), is the major online educational technologies platform used in respective institutions as a part of teaching - learning process.

Table 5: The factors that affect readiness in adopting Online Educational Technologies

Variable	Mean Rank
Content and pedagogy requirements	2.63
Self-efficacy	2.43

Accessibility to infrastructure and online resources	3.65
Suitability of working environment	3.92
Personal choice	3.92
Others	4.45

Source: Survey Data

Inference: Computed the mean rank using Friedman test. The major factors that affect readiness in adopting Online Educational Technologies is self-efficacy (2.43) followed by Content and pedagogy requirements (2.63), which is significant at 5% level of significance.

Table 6: Factors that triggered to adopt online mode even after the lifting of online classes

Variable	Mean Rank
Greater clarity, comprehensibility and less mental effort	2.60
Easy availability and usage	2.10
To increase productivity	3.28
Enhance the effectiveness of my learning.	3.58
Deliver entertaining content	4.28
Others	5.15

Source: Survey Data

Inference: Friedman test is used to compute the mean rank. The major factors that triggered to adopt online mode even after the lifting of online classes are easy availability and usage (2.10) followed by greater clarity, comprehensibility and less mental effort (2.60), which is significant at 5% level of significance.

DISCUSSION AND CONCLUSION

The study makes important advances in our understanding of how higher education institutions in Cochin City use e-learning technologies. According to the study, self-efficacy has a significant role in enhancing the use of e-learning systems in educational settings. The study's conclusions were found to be compatible with and in agreement with many earlier research that had also concluded that pedagogic needs are important predictors of technology use. According to the study, self-efficacy had the greatest ability to predict behavioural intention-to-use when compared to other characteristics. This finding suggests that, in the context of higher education, self-efficacy is the key behavioural intention component influencing the use of e-learning systems. The main driving force behind the adoption of the online mode, even after the ban on online classes, is its accessibility and ease of use. This shows that when E-learning systems are perceived as being simple to use, people are more likely to use them. The findings show that 25% of respondents believe that a lack of technological resources is the main barrier preventing the implementation of online learning technology. Another key barrier to online education is the lack of institutional infrastructure. 90% of respondents said they planned to employ e-technologies in the teaching and learning process even after the lockdown was lifted. Moodle is the major online educational platform used in most of the institutions as a part of teaching - learning process.

The development of technology has made it more difficult for instructors to adapt and incorporate it in the classroom. Teachers face more of a problem when attempting to integrate technology into classroom activities than simply network PCs. The review has revealed aspects that either favourably or negatively influence teachers' usage of ICT in order to successfully integrate ICT into education. Numerous elements at the individual level affect how teachers use ICT. Teachers' attitudes, knowledge, and sentiments affect how they use ICT in the classroom. According to research, teachers' self-efficacy affects whether or not they believe technology is valuable and should be incorporated into the classroom. The adoption and integration of ICT into teaching and learning processes can be simply explained by teachers if they have a positive attitude toward the use of educational technology.

On a technical level, in order for ICT to be successfully adopted and integrated into teaching, teachers must believe it to be superior to current practices, consistent with their values, past experiences, and needs, easy to use, and capable of being tested out in small doses before adoption. Finally, the innovation's effects must be evident to others. Even yet, some educators are cautious to switch from a current programme to one they have only learned about through literature

and conversation, not from direct observation. These three qualities or aspects of how instructors embrace and incorporate ICT into their instruction give information about the variables that encourage their use of technology as well as the obstacles that stand in the way of ICT integration. Lack of infrastructure and technology is the main factor cited in the studies. Teachers must therefore be convinced that technology may make their instruction more engaging, simple, entertaining for both them and their students, and more motivating.

RECOMMENDATION

The findings of this study point to several practical directions for autonomous colleges in Cochin. First, since self-efficacy emerged as the strongest predictor of behavioural intention to use e-learning systems, institutions should prioritise structured, hands-on ICT training for faculty rather than one-off orientation sessions, particularly for staff who report low confidence with digital tools, since lack of confidence and self-competence together accounted for a meaningful share of resistance in this sample. Second, given that limited technological tools and inadequate infrastructure were the two most-cited barriers to adoption, colleges should audit and upgrade shared digital infrastructure (stable internet access, device availability, LMS server capacity) before investing further in training alone, since training without adequate infrastructure is unlikely to translate into sustained use. Third, since ease of availability and usage was the leading reason teachers continued using online tools even after classes returned to in-person mode, institutions should standardise on a small number of well-supported platforms — Moodle, the dominant platform in this sample, is a reasonable anchor — rather than fragmenting effort across many tools. Finally, because this study surveyed a single city and a purposive sample of 120 respondents, future research should extend this model to a larger, randomly sampled population across multiple cities and institution types, and should test the proposed hypotheses statistically (e.g., via regression or PLS-SEM) rather than relying solely on descriptive rankings, to establish the causal weight of each antecedent identified here.

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