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Exploring Differences in e-Learning Satisfaction: Comparative Study between Public and Private University

探讨电子学习满意度的差异：
公立大学与私立大学之间的比较研究

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Abstract: Recent studies suggest that domain-specific e-learning contributes an important role in shaping the user's satisfaction of e-learning. In general, this study has been undertaken to examine the effect of system design, perceived ease of used (PEOU), institutional support, and self-efficacy on user's satisfaction of e-learning. A survey in the form of a questionnaire was utilized to collect data information from 227 college students who were chosen through the convenience sampling method. This study has

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been undertaken to compare the factors that affect e-learning satisfaction between a sample of 106 local university students and a sample of 121 private university students from the questionnaire survey. The gathered data were analyzed by the Statistical Package for the Social Sciences (SPSS). The demographic characteristics of the participants were determined using frequency distribution and percentages, and the reliability of the data was evaluated through a consistency test. To explore the relationship between the six independent variables and e-learner satisfaction, this research utilized multiple linear regression. Findings show that the private university students in the sample are more tolerant than public university students in their e-learning process, and are satisfied of the e-learning barrier during the COVID-19 pandemic. The results from this study are consistent with previous cushion theory and other empirical findings. Alternative explanations such as a lack of knowledge about the relationship between perceived ease of use and self-efficacy with e-learning satisfaction among the current generation of students during the pandemic period are also explored. The theoretical and practical implications of this study are discussed. By addressing these factors and providing a positive e-learning experience, institutions can encourage greater adoption and engagement with e-learning platforms in the future.

Keywords: higher education institution, e-learning satisfaction, COVID-19 pandemic

摘　要： 近期的研究表明，特定领域的电子学习在塑造用户对电子学习的满意度方面发挥了重要作用。总的来说，本研究旨在考察系统设计、使用感知易度（PEOU）、机构支持和自我效能对用户对电子学习的满意度的影响。通过方便抽样方法选择227名大学生，利用问卷调查收集数据信息。本研究比较了影响电子学习满意度的因素，对106名地方大学生和121名私立大学生进行了问卷调查。所收集的数据由SPSS进行分析。利用频数分布和百分比确定参与者的人口特征，并通过一致性测试评估数据的可靠性。为探索六个独立变量与电子学习者满意度之间的关系，本研究利用多元线性回归。研究结果表明，在COVID-19大流行感期间，样本中的私立大学生比公立大学生更容忍电子学习过程和电子学习障碍的满意度。这项研究的结果与先前的缓冲理论和其他实证研究一致。还探讨了其他解释，例如当前一代学生在流行期间对感知易用性和自我效能与电子学习满意度之间关系的缺乏了解。本研究讨论了理论和实践意义。通过解决这些

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因素并提供积极的电子学习体验，机构可以鼓励未来更广泛的电子学习平台的采用和参与。

关键词：高等教育机构，电子学习满意度，COVID-19大流行

1. Introduction

The spread of COVID-19 pandemic has brought numerous changes around the world including the learning process in higher learning institutions. The explosion of information and communication technology through the internet allows students to continue their study with online learning platforms at home via virtual classroom. Online learning is defined as e-learning experience using a range of technological tools (Turnbull et al., 2021; Khogali, Davies, Kaur, & Dwidevedi, 2020; Singh,2019; Donnan, Gray, Harden & McDonald, 2011; Wheeler, 2012). Online delivery courses provide cost-effective and convenient accessible learning process across rural, urban and all remote areas via steady internet connection (Al-Samarraie, Selim, & Zaqout, 2016; Dhawan, 2020). The government of Malaysia had initiated the Movement Control Order (MCO) on 18 March 2020 next after World Health Organization (WHO) formally declared the outbreak as a pandemic on 11 March in the same year. Ministry of Education of Malaysia imposes emergency educational policy to ensure students continue their studies and learning through online instruction.

Preliminary studies highlight the crucial role that the way to determine the success level of e-learning education is by measuring students' satisfaction (Kuo et al., 2014; Rabin et al., 2019; Gopal et al., 2021). According to Kuo et al. (2014), some researchers found that learners' satisfaction with e-learning is closely linked to their perception of the learning process and their overall experiences. Similarly, Hew et al. (2020) suggested that student satisfaction with this new mode of learning is an indication of the quality of instructional design in a given course. On the other hand, Jung and Lee (2018) shown that academic learners' self-efficacy is positively associated with their engagement in online studies.

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Specifically, students with higher academic self-efficacy tend to be more engaged in their online learning activities.

Stimulated by the gaps, the dominant aim of this research was to certify the student's online learning satisfaction model to discover the corresponding determinants of university students' satisfaction with e-learning platforms in the context of higher learning education in Malaysia during the COVID-19 pandemic. Consequently, this study validates the model among public and private university students and studies the university system differences. Many parties including educators, course developers, online platform designers, universities, and governments, can refer the findings of study as the basis to enhance the online system service quality of e-learning. Subsequently, this will help to improve university students' learning satisfaction. Thus, this study acts as a significant and new perspective to the policy makers to increase possibility capacities in order to implement effective online learning in the future.

2. Literature Review

2.1 E-learning Satisfaction and Covid-19 pandemic

Many research studies have highlighted factors influencing satisfaction on e-learning. In recent Covid-19 pandemic, e-learning has turned into a common teaching and learning tool. As a result, the emergence of studies from academic researchers to measure the effectiveness of the e-learning and the application of the new technology tools or methods in the online platforms utilized for the e-learning process.

Research findings showed that facilitation of technical matters, attitude of student and instructor, their computer efficacy, teacher support during e-learning, friendly interface of the e-learning environment were the dominant factors that influence student satisfaction towards e-learning. According to Ahmed (2010) and Ang, Jedi and Lohgeshwary (2021), the acceptance and satisfaction of e-learning could be determined through few variables i.e., information technology

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infrastructure, learner self-preparation, instructor characteristics and organizational technical support.

Furthermore, highly developed technologies facilitating a new environment of higher education towards e-learning have been investigated in such as the adoption of smart phones and tablets which also known as mobile learning or e-learning (Chanchary & Islam, 2011; Ang et al., 2021). These studies outcome prevailing that these technologies positively relate to the acceptance and satisfaction level of e-learning. Therefore, these findings demonstrated that technological related factors such as perceived ease of use and self-efficacy were critical determinants of students' satisfaction follow by accept e-learning process.

2.2 The relationship between e- learning satisfactions and system design

System design refers to the design of the e-learning platform itself, including its layout, navigation, functionality, and features. A well-designed e-learning system can enhance the user's learning experience and lead to more positive satisfaction of e-learning. During the Covid-19 period, technology played a critical role in delivering learning outcomes because learners interact more in e-learning environments than with traditional face to face instruction (Webster & Hackley, 1997). System design helps formative interactions, manages organizational activities, and provides accurate information to reduce ambiguity (Daft & Lengel, 1986). System quality is the common perception of a system, where it is related to its performance and this is reflected by numerous system features (Lee et al., 2009; Chen 2020). In education, it is termed as educational quality with features and characteristics that facilitate users learning and training activities (Hassanzadeh et al., 2012). There are abundance of system quality factors, like accessibility, flexibility and ease of use (Lee et al., 2009; Panyajamorn et al., 2018; Shahzad et al., 2021). The role of system quality in information system's success has been widely studied in the context of e-learning. Several studies, such as Chopra et al (2019) found that system quality has a positive effect on user satisfaction and net benefits, while other studies proposed that system quality benefits system usage and user satisfaction (Kurt, 2018; Lee & Chun, 2018; Ammenwerth, 2019). In

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this study, system design and quality are inferred as to have a positive influence on individuals' satisfaction to use e-learning during the pandemic period. Finally, based on the above discussions a hypothesis is formed to answer what extent does the e-learning system design influence the e-learning satisfaction? Following the evidence discuss on top, this study assumes following hypothesis:

H₁: Lack of system design may be a barrier to e-learning satisfaction in private and public universities.

2.3 Relationship between e-learning satisfactions and perceived ease of used (PEOU)

Perceived ease of use (PEOU) refers to the user's perception of how easy or difficult it is to use the e-learning system. If the user finds the system easy to use, they are more likely to have a positive satisfaction of e-learning. PEOU has been one of the dominant factors that shape behavioral intention to use e-learning technology. According to Davis (1989), perceived ease of used is defined as a measurement of the existence of prospective (good expectations) that comes from an individual view when they using a certain application system. This will help to improve the quality of work or quality of life, self-belief in handle the application, and improve his or her performance. According to Pituch and Lee (2006), perceived usefulness is the level to which a person who believes that using a certain system will improve their work ability. The definition of perceived usefulness according to Alomary and Woollard (2015) is to what extent people believe that they able to use information technology and lead the improvement and the workability of users. This definition significantly with the outcome of another research (Abu-Salim et al., 2020).

Mahande, Jasruddin, and Nasir (2019) stated that people intention to use the application depends on the level of trust that the application can help them do a better job or not. Based on the modelling concepts of Shah and Attiq (2016), PEOU has direct influence on individual behavior intention (BI) to use e-learning

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technology. The existence of PEOU straight effects on user's satisfaction and intentions behavior to use. PEOU has an express effect on behavioral intentions for using technology for academic purposes (Pham et al., 2019; Salimon et al., 2021; Heng et al., 2021). Stavros A. Nikou (2021), Yeap et al. (2022), and Jyoti Chahal (2022) showed that positive overall attitude of University's students about online learning is related to the high levels of perceived ease of use. Hence, the above literature established the facts that PEOU may influence e-learning satisfactions of individual learners. Thus, our study focuses on how the perceived ease of use (PEOU) among learners influences their satisfaction with the e-learning platform? Based on the above literature we can propose following hypothesis:

H_2: Lack of perceived ease of used may be a barrier to e-learning satisfaction in private and public universities.

2.4 The relationship between e- learning satisfactions and institution support

Institutional support refers to the support and resources provided by the user's institution, such as technical support, access to training materials, and opportunities for collaboration with other students or faculty. Institutional support can help users overcome any difficulties they may encounter while using the e-learning system and enhance their perception and satisfaction of e-learning. Institutional support can be defined as the level of support effectiveness as provided by a service provider referring to Higher Education Institutes (HEI) (Wang & Lin, 2012; Jin et al., 2021). Service quality in the context of offline and online services has received attention in various academic fields. Normally, service support has been described as the result of evaluation process, where students compare their expectation and the support performance (Satuti, 2020). Good support quality can give an organization a competitive edge over their competitors. This is because institutional support would positively impact student value and satisfaction, which then boost student's intention and willingness to continue their e-learning (Wang & Lin, 2012). In the context of e-learning, e-learning service quality can

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be referred to as a detailed evaluation of the strengths and quality of e-learning support, which are determined by learners. Thus, e-learning service quality can be understood as the measurement of the quality of a specific e-learning service from institution, based on the learners' expectation (Al-Maroof et al., 2020).

The importance of service quality can be seen in previous literatures, such as Lee (2010), who pointed out that learners' perception of online support service quality could be considered as a vital role in aiding their behavioral intention toward e-learning acceptance and further explained that perceived service quality had significantly impacts on Perceived Usefulness and Perceived Ease of Use of e-learning systems. Additionally, there are studies shown that service quality has an impact on students' loyalty (Al-Mushasha et al., 2012; Pham et al., 2019; Muqtadiroh et al., 2020). From the above arguments, this study predicts that institutional support is a missing link among e-learning and learner satisfaction. Therefore, our research tends to answer how does the institutional support affect the level of self-efficacy among e-learners, and how does this relationship influence their satisfaction with e-learning? Based on theoretical predictions, we can hypothesize that:

H₃: Lack of institution support may be a barrier to e-learning satisfaction in private and public universities.

2.5 The relationship between e- learning satisfactions and self-efficacy

The concept of self-efficacy is central to Bandura's (1977) Social Cognition Theory. Self-efficacy is defined as an individual's belief in their own abilities and skills to achieve the desired results (Bandura 1986). Bandura's (1997) expectations of self-efficacy are based on four major sources of information: (1) performance accomplishments (also known as inactive mastery experience), (2) vicarious experience, (3) verbal persuasion, and (4) physiological states. These four principles are regarded as essential components in the development of self-efficacy in general, as well as in the learning context. Students' self-efficacy, is

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students' belief inability to perform academically well with online platform, has been accounted to be the one of the most predictor factor of students' satisfaction (Shen et al., 2013; Yavuzalp and Bahcivan, 2020; Ali et al., 2021). Adnan Aldholay et al. (2018) demonstrated that self-efficacy has a positive impact on user satisfaction and actual usage; that actual usage significantly predicts user satisfaction; and that user satisfaction and actual usage both have a positive impact on student performance. There is a shortage of studies investigating the mechanisms of institutional support, self-efficacy, system design and PEOU on students' overall satisfaction. Hence, the extension of the existing research is needed. Lila Bismala et al. (2022) demonstrated that self-efficacy and e-learning quality are important factors in e-learning user satisfaction. Hence, above literature established the facts that self-efficacy may influence e-learning satisfaction of university students. Thus, our research aims to answer the question on how the use of e-learning systems impacts self-efficacy beliefs among learners, and how does this relate to their satisfaction with e-learning. Following the theoretical and empirical predictions, we can expect a relationship between self-efficacy and e-learning satisfaction:

H4: Lack of self-efficacy may be a barrier to e-learning satisfaction in private and public universities.

3. Research Methodology

In this study, the samples were students from both public and private higher education institution in Malaysia. In Malaysia, there are both public and private higher education institutions, which offer undergraduate and postgraduate programs. Public universities are funded by the government and are generally larger in size, while private universities are usually smaller and rely on tuition fees for funding. Its operation and achievement on e-learning might differ between these two types of organisations, due to the distinct of institutional ability and resources. Research studies may include students from both types of institutions

to obtain a more diverse sample of the student population in Malaysia. For example, a study by Prodanova, et al. (2021) on the intention of Spanish students in e-learning included participants from both public and private universities. The study found that there are different determinants to explain the e-learning intention of students from public and private universities.

Another reason for including students from both public and private institutions in research studies is to examine the impact of different educational systems on student outcomes. For example, a study by Ibáñez, et, al. (2020) on the academic motivation of students in Maxico university, compared students from public and private universities. The study found students from private university reported higher levels of motivation compared with those from public university when using the technology learning environment. On top of that, by including students from both public and private higher education institutions in Malaysia can provide a more diverse and representative sample of the student population, as well as help to examine the impact of different educational systems on student outcomes.

This study applied convenience sampling and survey questionnaire carried out from May 2021 to March 2022 to collect the research data. The questionnaire enclosed variety aspects of socio-demographic characteristics and some potential factors like perceived ease of use, self-efficacy, self-equipment, institutional support and satisfaction of the students towards e-learning during the MCO period. The dependent variable in this research referred to the e-learning satisfaction of the university students. While the independent variables in this research covered perceived ease of use, self-efficacy, system design and institutional support. All variables were measured by Likert scale range of 1 -5 from 'strongly disagree' to 'strongly agree to measure all the adopted questionnaires. A total of 227 university students participated in this study. Descriptive statistics, independent sample T-test and multiple regression analysis were employed as the statistical methods to analysis data obtained from the questionnaires. In addition, discrimination of personnel student's perceptions of public and private university

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students is an extra important comparison that makes this study important. Demographic characteristics of these people are shown in Table 1.

Table 1: Demographic Characteristic of Respondents

Demographic Features	Categories	Frequency (Total N=227)			
		Public University (n = 106)		*Private University (n = 121)*	
Gender	Male	25	23.6%	56	46.3%
	Female	81	76.4%	65	53.7%
Program Enroll	Business Studies	84	79.3%	64	52.9%
	Other Program	22	20.7%	57	47.1%
Education Level	Diploma	74	69.8%	89	73.6%
	Degree	32	30.2%	32	26.4%
Age	18-20	56	52.8%	63	52.1%
	21-23	44	41.5%	51	42.1%
	24-26	5	4.7%	5	4.1%
	27-29	1	1%	2	1.7%

As shown in Table 1, majority of the students were female (76.4% and 53.7%), most of the students (79.3% and 52.9%) were came from business studies program, most participant were diploma (69.8% and 73.6%) in terms of education status, more than 90% of the respondents from public and private university are come from age category of 18-20 and 21-23.

4. Results and Discussion

The reliability of the scale was ascertained by applying a Cronbach's Alpha coefficient. Cronbach's Alpha coefficient results from public and private university indicated in table 2 of this research respectively. Cronbach's Alpha coefficient was used to measure 20 observation items in the survey. The scale Cronbach's Alpha coefficient of the entire construct for both universities is greater than 0.70, which interpreted that all latent variables are said to be reliable.

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Table 2: Reliability Analysis

Constructs	Public University	Private University
	Cronbach's Alpha	*Cronbach's Alpha*
System Design	0.76	0.70
PEOU	0.80	0.73
Institutional Support	0.71	0.75
Self-Efficacy	0.74	0.75
Satisfaction	0.77	0.81

The validity test was carried out to determine validity of the research questionnaire content. According to Kaiser (1974) and Bartlett (1954), when Kaiser–Meyer–Olkin's value is above 0.5 with the significance level of the Bartlett's test assembles the significance level, it is considered that the research questionnaire meets the level of sampling competence. The results of the validity test are presented in Table 3 below. It can be seen that the test values of the KMO and Bartlett's test meet the requirements (0.721) for Public University and (0.896) for Private University at significant 0.000.

Table 3: KMO and Bartlett's Test-Meyer-Olkin Measure

KMO and Bartlett's Test		
	Public University	Private University
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.721	.896
Bartlett's Test of Sphericity	.000	.000

Furthermore, the variance of dependent variable can be explained by observed factors tested from the multiple regression analysis. Regression weights (beta) and squared multiple correlations (R2) estimates analysis from the SPSS was also summarized towards generalize ability of experimental factors that could challenge learning via electronic technology in the developing countries such as Malaysia. However, lack of system design path on student satisfaction not supported on both university's student satisfaction model and it can be removed from the attention, H1 has been rejected. Table 4 presented the final absolute equation

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with the path coefficients and the coefficient of determination of R-squares on the model for both universities. All path coefficients for this study supported and justify at p-values < 0.05, approximate 57% of variance explained of the highlighted factors that could influence-learning satisfaction in the case of public University and 74% achieved in the case of private university. An overview of the result from regression analysis is presented in table 4 of this study. The findings of table 4 support hypothesis 2, 3 and 4. In other words, the relationship between perceived ease of use, self-efficacy and institutional support with student satisfaction has been accepted. The factor that strongly influences student e-learning satisfaction is the institutional support like technology services and academic support from institute (Ayuni & Mulyana, 2019; Heng et al., 2022). Moreover, the two main motivation items in the TAM, perceived ease of use and self-efficacy on e-learning technology consider directly impacts students' satisfaction with using e-learning platform (Liao & Huang, 2009; Thakkar, 2018; Yeap et al., 2022).

Table 4: Coefficient from Regression Analysis

			Beta		Supported	
			Public	Private	Public	Private
System Design	→	E-learning Satisfaction	0.072	0.021	No	No
PEOU	→	E-learning Satisfaction	0.333	0.384	Yes	Yes
Institutional Support	→	E-learning Satisfaction	0.158	0.143	Yes	Yes
Self Efficacy	→	E-learning Satisfaction	0.168	0.165	Yes	Yes
Coefficient of determination (R2)					57.2%	73.5%

The results of this study highlight the importance of various factors in e-learning satisfaction. Learners in institutions prioritize their personal ease of use and self-efficacy on the process of e-learning. These results support the theory of PEOU and self-efficacy, which suggests that individuals' belief in their ability to succeed influences their motivation and satisfaction. The study also emphasizes

the importance of institutions' support including the engagement from institution instructor. Institutional support from the aspect of e-learning platforms that offer high-quality content are likely to be more successful in engaging learners. Learners value opportunities to interact with instructors and receive feedback on their progress. Instructors can provide regular feedback and support to students to help them build their confidence and belief in their ability to succeed in the learning process. Additionally, institution instructors can design learning activities that challenge and engage students, thereby enhancing their sense of control over their learning outcomes. The findings regarding e-learning platform satisfaction are also important for educators and institutions offering e-learning programs. Higher Education Institutions (HEIs) of Malaysia may need to focus on improving learner satisfaction to increase retention and completion rates.

Furthermore, current study also highlights the need for educators to consider cultural differences in public and private university when designing and delivering e-learning programs. Understanding how different learners approach e-learning can help instructors tailor their approach and meet learners' expectations. Additionally, e-learning developers can provide technical support and resources to help students navigate the platform and troubleshoot technical issues. Finally, the study was conducted with a sample of students enrolled in e-learning courses from various universities, which may achieve the generalizability of the findings.

5. Conclusion

Comparison study on potential barriers that affecting an e-learning satisfaction of university students in Malaysia has been done in this research. Implication of the finding from this study expected to help the public and private Higher Education institute in Malaysia to identify the key aspect to improve the quality of e-education which can shape character of the students. The finding revealed that student learning satisfaction toward e-learning has significantly associated and correlated with different determinants predictor which included institutional support, PEOU

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and self-efficacy of students. Moreover, powerful, and strong institutional support needs to improve to achieve the desired level of online education as well as student satisfaction. This is the significant element that is going to improve perceived ease of use and self-efficacy of students in the new norm of learning environment. An improved institutional support could be an important instrument to encourage perception of perceived ease of use and self-efficacy towards e-learning in Malaysian universities. However, the finding shows that satisfaction level differs among students in public and private university. Public university students are less satisfied compared to students who come from private university toward e-learning during this pandemic period. The feeling of university students towards new learning environment relies on their internal consistency which highly correlated to the e-academic experiences (Aguilera, 2020).

By recognizing the key factors that drive student e-learning satisfaction, the study grants some new insights on evaluation dimensions of student satisfaction towards online learning. Nevertheless, this study tried to achieve research objective with concern to the private and public university environment. Future research in this field could be conducted to identify the dimension of students' satisfaction in different contexts. Further research also can explore other factors that influence e-learning satisfaction and the effectiveness of interventions aimed at enhancing personal ease of use and self-efficacy in e-learning.

References

Abu-Salim, T., Barachi, M. E., Onyia, O. P., & Mathew, S. S. (2020). Effects of smart city service channel- and user-characteristics on user satisfaction and continuance intention. *Information Technology & People, 34*(1), 147–177.

Adnan Aldholay et al. (2018). An extension of Delone and McLean IS success model with self-efficacy: Online learning usage in Yemen. *International Journal of Information and Learning Technology, 35*(4): 285-304.

Ahmed, H. M. S. (2010). Hybrid E-Learning Acceptance Model: Learner Perceptions. *Decision Sciences Journal of Innovative Education, 8*(2), 313–346.

Ali, J., Azeem, M., Marri, M. Y. K., & Khurram, S. (2021). University Social Responsibility and Self Efficacy as Antecedents of Intention to Use E-Learning: Examining Mediating Role of Student Satisfaction. *Psychology and Education*, *58*(2), 4219-4230.

Al-Maroof, R. S., Alhumaid, K., & Salloum, S. A. (2020). The Continuous Intention to Use E-Learning, from Two Different Perspectives. *Education Sciences, 11*(1), 6.

Al-Mushash, N. F., & Nassuora, A. B. (2012). Factors Determining e-learning Service Quality in Jordanian Higher Education Environment. *Journal of Applied Sciences*, *12*(14), 1474–1480.

Alomary, A., & Woollard, J. (2015). How is technology accepted by users? A review of technology acceptance models and theories.

Ammenwerth, E. (2019). Technology acceptance models in health informatics: TAM and UTAUT. *Stud Health Technol Inform*, *263*, 64-71.

Ang, W., Jedi, A., & Lohgheswary, N. (2021). Factors affecting the acceptance of open learning as e-learning platform by technical course students. *Journal of Engineering Science and Technology (JESTEC)*, *16*(2), 903-918.

Ayuni, D., & Mulyana, A. (2019). Applying service quality model as a determinant of success in E-learning: The role of institutional support and outcome value. *Review of Integrative Business and Economics Research, 8*, 145-159.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191–215.

Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory*. Englewood Cliffs, NJ: Prentice Hall, (23-28).

Bandura, A. (1997). *Self-efficacy*: The exercise of control. New York: W.H. Freeman.

Bartlett, M. S. (1954). A Note on the Multiplying Factors for Various χ2 Approximations. *Journal of the Royal Statistical Society: Series B (Methodological), 16*(2), 296–298.

Chaw, L. Y., & Tang, C. M. (2018). What Makes Learning Management Systems Effective for Learning? *Journal of Educational Technology Systems, 47*(2), 152–169.

Chen, H. J. (2020). Clarifying the impact of surprise in e-learning system design based on university students with multiple learning goals orientation. *Education and Information Technologies, 25*(6), 5873–5892.

Chopra, G., Madan, P., Jaisingh, P., & Bhaskar, P. (2019). Effectiveness of e-learning portal from students' perspective. *Interactive Technology and Smart Education*, *16*(2), 94–116.

Daft, R. L., & Lengel, R. H. (1986). Organizational Information Requirements, Media Richness and Structural Design. *Management Science, 32*(5), 554–571.

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Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly, 13*(3), 319.

Dhawan, S. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis. *Journal of Educational Technology Systems, 49*(1), 5–22.

Efiloğlu Kurt, Z. (2018). Examining an e-learning system through the lens of the information systems success model: Empirical evidence from Italy. *Education and Information Technologies, 24*(2), 1173–1184.

F.H. Chanchary & S. Islam. (2011). Mobile learning in Saudi Arabia – prospects and challenges, in: Paper Presented at the *International Arab Conference on Information Technology (ACIT'2011)*, Zarqa University, Jordan.

Gopal, R., Singh, V., & Aggarwal, A. (2021). Impact of online classes on the satisfaction and performance of students during the pandemic period of COVID 19. *Education and Information Technologies, 26*(6), 6923–6947.

Hassanzadeh, A., Kanaani, F., & Elahi, S. (2012). A model for measuring e-learning systems success in universities. *Expert Systems with Applications, 39*(12), 10959–10966.

Heng, H. K., Wang, R. X., Peng, F. G. S., Z Abidin, I.S., Vejaratnam, N., Abdullah, N.& Abdullah, A. S. (2022). The Mediating Role of Institutional Support on Relationship between Technology Acceptance Model (TAM) and Student Satisfaction to Use ELearning during Covid-19 Pandemic: The Study of Private University in Malaysia. *International Journal of Special Education (IJSE), 37*(3): 742-752.

Heng, H. K., Md. Ithnan, I. H., Yeap, C. K., & Lai, P. Y. (2021). Identification factors influencing e-learning satisfaction during covid-19 pandemic period among students at a Malaysia private institution. *Social and Management Research Journal, 18*(2), 153–171.

Hew, K. F., Hu, X., Qiao, C., & Tang, Y. (2020). What predicts student satisfaction with MOOCs: A gradient boosting trees supervised machine learning and sentiment analysis approach. *Computers & Education, 145*, 103724.

Jin, Y. Q., Lin, C. L., Zhao, Q., Yu, S. W., & Su, Y. S. (2021). A Study on Traditional Teaching Method Transferring to E-Learning Under the Covid-19 Pandemic: From Chinese Students' Perspectives. *Frontiers in Psychology*, 12.

Jung, Y., & Lee, J. (2018). Learning Engagement and Persistence in Massive Open Online Courses (MOOCS). *Computers & Education, 122*, 9–22.

Jyoti Chahal and Neha Rani (2022). Exploring the acceptance for e-learning among higher education students in India: combining technology acceptance model with external variables. J*ournal of Computing in Higher Education, 34*, 844–867.

学习研究

Ibáñez, M. B., Portillo, A. U., Cabada, R. Z., & Barrón, M. L. (2020). Impact of augmented reality technology on academic achievement and motivation of students from public and private Mexican schools. A case study in a middle-school geometry course. *Computers & Education*, *145*, 103734.

Kaur, N., Dwivedi, D., Arora, J., & Gandhi, A. (2020). Study of the effectiveness of e-learning to conventional teaching in medical undergraduates amid COVID-19 pandemic. *National Journal of Physiology, Pharmacy and Pharmacology, 10*(7), 1.

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika, 39*(1), 31–36.

Kuo, Y. C., Walker, A. E., Schroder, K. E., & Belland, B. R. (2014). Interaction, Internet self-efficacy, and self-regulated learning as predictors of student satisfaction in online education courses. *The Internet and Higher Education, 20*, 35–50.

Lee, J. W. (2010). Online support service quality, online learning acceptance, and student satisfaction. *The Internet and Higher Education*, 13(4), 277–283.

Lee, S., Shin, B., & Lee, H. (2009). Understanding Post-adoption Usage of Mobile Data Services: The Role of Supplier-side Variables. *Journal of the Association for Information Systems, 10*(12), 860–888.

Li, C., He, L., & Wong, I. A. (2021). Determinants predicting undergraduates' intention to adopt e-learning for studying english in chinese higher education context: A structural equation modelling approach. *Education and Information Technologies, 26*(4), 4221–4239.

Liao, C. H., & Huang, W. L. (2009). Community adaptability, computer and internet self-efficacy, and intention of blended e-learning. *International Journal of Society Systems Science, 1*(3), 209.

Lila Bismala et al. (2022). The Impact of E-Learning Quality and Students' Self-Efficacy Toward the Satisfaction in the Using of E-Learning. *Malaysian Online Journal of Educational Technology, 10*(2), 141–150.

Patricia Aguilera-Hermida, A. (2020). College students' use and acceptance of emergency online learning due to COVID-19. *International Journal of Educational Research Open, 1*, 100011.

Pham, L., Limbu, Y. B., Bui, T., Nguyen, H. D., & Pham, H. (2019). Does e-learning service quality influence e-learning student satisfaction and loyalty? Evidence from Vietnam. *International Journal of Educational Technology in Higher Education, 16*(1).

Muqtadiroh, F. A., Herdiyanti, A., & Puspitasari, N. (2020). The e-learning quality model to examine students' behavioral intention to use online learning platform in a higher education institution. Khazanah Informatika: *Jurnal Ilmu Komputer dan Informatika, 6*(2).

学习研究

2023年6月
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JOURNAL OF EDUCATION AND TEACHING

June 2023
Vol.5, No.1

Panyajamorn, T., Suanmali, S., Kohda, Y., Chongphaisal, P., & Supnithi, T. (2018). Effectiveness of E-Learning Design in Thai Public Schools. *Malaysian Journal of Learning and Instruction, 15*(1), 1-34.

Pham, L., Limbu, Y. B., Bui, T. K., Nguyen, H. T., & Pham, H. T. (2019). Does e-learning service quality influence e-learning student satisfaction and loyalty? Evidence from Vietnam. *International Journal of Educational Technology in Higher Education, 16*(1).

Pituch, K. A., & Lee, Y. K. (2006). The influence of system characteristics on e-learning use. *Computers & Education, 47*(2), 222–244.

Prodanova, J., San Martín, S., & Sánchez-Beato, E. J. (2021). Quality Requirements for Continuous Use of E-learning Systems at Public vs. Private Universities in Spain. *Digital Education Review, 40*, 33-50.

Rabin, E., Kalman, Y. M., & Kalz, M. (2019). An empirical investigation of the antecedents of learner-centered outcome measures in MOOCs. International *Journal of Educational Technology in Higher Education, 16*(1).

Salimon, M. G., Sanuri, S. M. M., Aliyu, O. A., Perumal, S., & Yusr, M. M. (2021). E-learning satisfaction and retention: a concurrent perspective of cognitive absorption, perceived social presence and technology acceptance model. *Journal of Systems and Information Technology, 23*(1), 109–129.

Satuti, J. R., Sunaryanto, S., & Nuris, D. M. (2020). Does Student Satisfaction Mediate the Correlation between E-learning Service Quality, Academic Engagement and Academic Achievement? Jabe *(Journal Of Accounting And Business Education), 5*(1), 38.

Shah, H. J., & Attiq, S. (2016). Impact of technology quality, perceived ease of use and perceived usefulness in the formation of consumer's satisfaction in the context of e-learning. *Abasyn J. Soc. Sci, 9*(1), 124-140.

Shahzad, A., Hassan, R., Aremu, A. Y., Hussain, A., & Lodhi, R. N. (2021). Effects of COVID-19 in E-learning on higher education institution students: the group comparison between male and female. *Quality & Quantity, 55*(3), 805–826.

Shen, D., Cho, M. H., Tsai, C. L., & Marra, R. (2013). Unpacking online learning experiences: Online learning self-efficacy and learning satisfaction. *The Internet and Higher Education, 19*, 10–17.

Singh, V., & Thurman, A. (2019). How Many Ways Can We Define Online Learning? A Systematic Literature Review of Definitions of Online Learning (1988–2018). *American Journal of Distance Education, 33*(4), 289–306.

学
习
研
究

Sokolovskaya, I. E. (2020). Socio-psychological factors of students` satisfaction in the context of digitalization of education during the COVID-19 pandemic and self-isolation. *Digital Sociology, 3*(2), 46–54.

Stavros A. Nikou (2021). A Snapshot of University Students' Perceptions About Online Learning During the Covid-19 Pandemic. Smart Innovation, *Systems and Technologies, 249*, 123-134.

Thakkar, S. R. (2018). Impact of Technology Availability and Self-Efficacy on E-learning Usage. *International Journal for Research in Applied Science and Engineering Technology, 6*(4), 2956–2960.

Turnbull, D., Chugh, R., & Luck, J. (2021). Issues in learning management systems implementation: A comparison of research perspectives between Australia and China. *Education and Information Technologies. 26*(4), 3789-3810.

Webster, J., & Hackley, P. (1997). Teaching Effectiveness in Technology-Mediated Distance Learning. *Academy of Management Journal, 40*(6), 1282–1309.

Wang, K., & Lin, C. (2012). The adoption of mobile value-added services. Managing Service Quality: *An International Journal, 22*(2), 184–208.

Yavuzalp, N., & Bahçivan, E. (2020). The Online Learning Self-Efficacy Scale: Its Adaptation into Turkish and Interpretation According to Various Variables. *The Turkish Online Journal of Distance Education*, 31–44.

Yeap, C.K., Hoe, F.T., Ira, S.Omar., Eng, S.B., & Heng, H.K. (2022). Identification Factors Affecting E-learning Satisfaction during Pandemic Period among Students at UiTM Melaka Malaysia. *International Journal of Innovation, Creativity and Change, 16*(1), 416-430.

学习研究