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Teacher Online Learning Management Effectiveness In Higher Education in Guangzhou, China.

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Abstract

Higher education institutions today have made efforts and inroads in integrating effective online learning mechanisms into their respective institutions. These include developing a teaching quality assurance mechanism and building a high-level teaching team for online education. Also not forgetting developing new and efficient teaching management and service delivery systems. This study will zoom into Guangzhou, China to investigate whether perceived ease of use and perceived usefulness have a significant impact on the effectiveness of online learning management for teachers. The study focused on higher education in Guangzhou, China. Using the quantitative approach, surveys were distributed to 400 respondents via the WeChat online platform using a non-probability sampling technique. Findings reveal that perceived usefulness has a substantial impact on teacher online learning management efficacy. However, perceived ease of use is not statistically significant and has no influence on teacher online learning management efficacy in Guangzhou higher education. Consequently, it is vital to strengthen and develop instructors' perceived usefulness, as it has a substantial impact on their online learning management efficacy.

Keywords

Teacher Online learning management effectiveness, Higher education, China, Perceived Ease of Use, Perceived Usefulness

Introduction

Online learning is a popular hotbed for research in education today. The global pandemic changed the learning landscape and provided solutions to learning

continuity , efficiency and outcomes. (Ibrahim et.al,2021; Adedoyin and Soykan (2020) The impact of technology can be seen in almost every sector, nothwithstanding education. Over the years massive open online courses are being promoted by Chinese educational institutions who are bent on building a robust online infrastructure to keep pace with learning trends (Chen and Li, 2020; Miranda and Wang, 2020). Information communication and technology acts as an impetus and supports academicians in lesson preparation and delivery (Ali, 2020). A deeper understanding of online learning is important as the best learning and education management method will assist students to effectively reap the benefits of online learning. (Ganimian, Hess and Vegas,2020). Aligning one's pursuits in higher education with the needs of the business world is crucial (Barberos, Gozalo and Padayogyog,2018). As Akbarilakeh et al. (2019) stated, due to technological advancements, educational management must adapt to local and global changes in teaching and learning which include aligning the curriculum which includes pedagogyand assessment techniques. The right alignment on the management of pedagogy, assessment, infrastructure and student needs will positively impact student learning.

A direction for change management in technological implementation requires institutions to adapt to change swiftly for Higher education is the critical level or final stop before students embark on their professional careers. (Analin and Empaynado, 2020). This management of online education could be done through several education management models among which one of the more popular models is the formal model (Bush,2018). The formal model is highly suitable in the current research domain as China’s higher education is currently managed in a formal manner in which the central government manages the provincial governments. Overarching these is the tightly regulated central government and the Chinese Communist Party (Gu et.al., 2019).

Problem statement

Management effectiveness is related to learning outcomes. The learning outcomes are influenced by the teacher preparation, teacher delivery, course design, teacher-student interaction, and student engagement. (Dhawan,2020; Martin 2020). To improve the online learning management efficiency, studies indicate that facilitating management for effective online learning adoption will assist in improving teacher effectiveness. This will include professional development training, evaluation and motivation. (Anthony et.al.,2019). Stakeholders’ attitudes towards technology adoption are particularly important to guide and hasten the change from traditional face to face instruction to online learning (Landrum, 2020).

As such, the purpose of this study is to investigate the efficacy of online teacher management in Guangzhou's higher education institutions through the Technology Acceptance Model (TAM) model components of perceived ease of use and perceived usefulness.

Factors under the study

The Technology Acceptance Model (TAM), proposed by Davies (1989) is usually used to describe how information systems are accepted.. Ibrahim et al. (2021) assert that adoption of e-learning should take into account environmental elements in addition to other factors, and that it is essential to comprehend users' needs and characteristics in order to boost the usage and popularity of e-learning. The TAM model states that perceived usefulness and perceived ease of use are what influence people' readiness to accept technology. Users must believe that a technology is useful in order for them to believe that using it will be beneficial to them. Users' readiness to adopt is positively influenced by both perceived usefulness and perceived simplicity of usage. Rosly and Khalid (2018) echoed that by highlighting the value of TAM and discovered that perceived usefulness and ease of use are crucial determinants of whether a technology system is adopted.

Perceived Ease of Use

Perceived ease of use, according to McConnell (2017), is the extent to which a user thinks they can use a particular technology without much difficulty. It is more likely that a user will accept a system if they believe it to be easier to use. Stephen and Alice (2020); Reddy (2020) arrived at the conclusion that people's attitudes regarding new technologies are more upbeat and result in a higher willingness to employ them the more practicable and simple they are to use. Perceived ease of use (PEOU), one of TAM's two belief constructs, is employed to describe the user's perception of the effort required to use the system. It demonstrates the user's perception of how simple it is to utilise any installed system (Grover et.al 2019; Olushola et. al., 2017) According to Hasanah et al. (2019), perceived ease of use is the degree to which potential users think the system is easy to use. The variable is measured using easy-to-use, implementable metrics. According to research from the US Department of Education, increasing instructors' attitudes toward using technology incorporated in management takes a lot of work, but the result is an increase in motivation for using technology in institutions (Tech.ed.gov, 2017). According to Rashid et al. (2021), educators' acceptance of technology in the education sector as a whole and their perceptions of its use have improved over time.

Perceived usefulness

Perceived usefulness, the study's other independent variable, illustrates the independent construct in the Technology Acceptance Model (TAM). The adoption of online learning tools by students for accessing course materials and communicating with instructors is significantly influenced by their perception of their usefulness (Rizun and Strzelecki, 2020). Alhamad (2020) discovered that users' desire to utilise information technology in education is increased by perceived utility because

students believe that using network technology to learn will help them perform better academically. It's interesting to note that Hong et al. (2018) investigated the connection between college students' purchasing intentions and online comments and perceived value. The findings indicated that college students' purchasing intentions were positively influenced by the quantity, calibre, reliability, and validity of online comments.

This demonstrates that researchers can use the TAM as a jumping off point to discover additional factors that affect users' perceptions and behavioural intentions in a learning environment. In 2020, Chen and Li.

According to a study by Weng et al. (2018), teachers' knowledge of and acceptance of technology is crucial since it allows them to take advantage of effective teaching strategies, the sharing of online resources, and priceless professional development. The catalyst that aids instructors in class planning and delivery is information and communication technology. Teo, Huang, and Hoi (2018) found that teachers' behaviour intention to use technology was significantly preceded by their perception of perceived utility, which was one of the important predictors of attitude toward use.

Gaps in Literature

Even though online learning management is crucial, research like those by (Alfarsi, 2020; Alhamad, 2020; Ibrahim et al., 2017) solely focus on online learning, leaving out online learning management. When it comes to higher education and the incorporation of the idea of online learning management into it, there is a dearth of conclusive evidence in the literature (Hariguna and Akmal, 2019). In contrast to traditional education, online learning places more demands on teachers' and students' information literacy (experience) (Li, Zhou, Wu et.al., 2021; Goodsett, 2020). The ability of instructors to learn from, adapt to, and adopt to real-time situations, however, depends on how well they manage online education, which is a fact that these studies underappreciate (Lin, Schwartz, and Hatano, 2018). Therefore, conducting research is crucial.

Grounded Theory

Technology Acceptance Model (TAM)

When describing how an information system is adopted, the Technology Acceptance Model (TAM) is utilised (Landrum, 2020). Perceived utility and perceived ease of use are two essential ideas that TAM utilises to assess how well information technologies are being adopted by people (Ahmed, 2021). Rosly and Khalid (2018) claim that Davis' (1989) TAM theory, which primarily serves to show consumers' adoption of information systems or technologies, was founded on the Theory of Reasoned Action (TRA). The behaviour of technology acceptance under the variables of perceived ease of use, perceived utility, attitudes, and behavioural intention was then described by Davis (1989) using this theory.

Formal Model of Educational Management

. The formal model is tightly controlled, highly procedural, and dogmatic due to its fixed inflexible hierarchy and top-down approach (Bush, 2018). (Qutub, 2021). Since the advent of educational management theory, the formal model has given educational organisations solid theoretical grounding and had a big impact on the education sector (Bush, 2018). The formal model accurately and successfully defines the participants in Chinese higher education, including professors and administrators at all levels of designation. According to Dorczak (2019), teachers, coordinators, and senior management in the educational system would benefit greatly from the outcomes of the application and practise of a formal model. The Technology Acceptance Model (TAM) hypothesis places more emphasis on the process than the Formal model, which offers teachers more room for advancement. The long-term strength of the education management is strengthened by the synergy between the teaching and learning process (Bush, 2018).

Conceptual Framework

The conceptual framework of this research is described as follows, based on the explanation presented previously

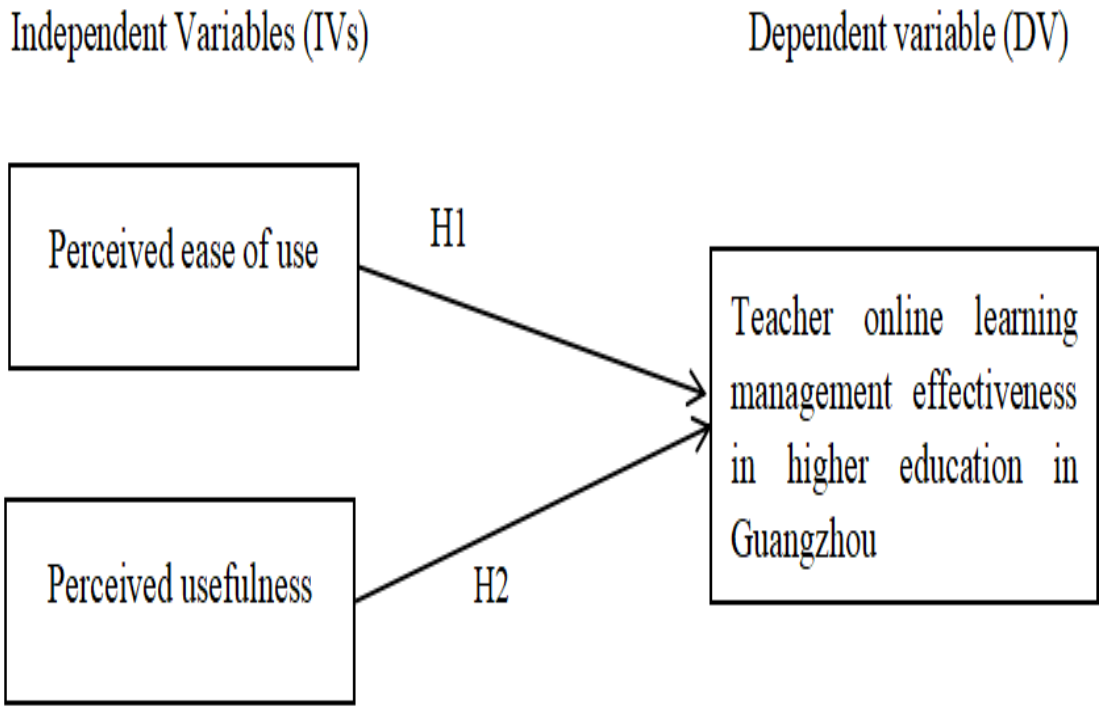

Figure 1: Conceptual Framework

The conceptual framework is depicted in Figure 1 along with the link between independent and dependent variables. The perceived usefulness and simplicity of use are the research's independent factors, while the effectiveness of the teacher online learning management system in higher education in Guangzhou is its dependent variable.

Hypotheses 1: Perceived ease of use of TAM has significant influence on teacher online learning management effectiveness in higher education in Guangzhou.

Hypotheses 2: Perceived usefulness of TAM has significant influence on teacher online

learning management effectiveness in higher education in Guangzhou

Research Methodology

Research Design

. The research design shows the general approach taken to logically and cogently integrate various study components (Cooper,2019). Since there are 114,700 professors in Guangzhou's colleges and universities, a sample size of 384 is considered sufficient for this study with a 95% margin of error. Through the online Wechat platform, 400 people received questionnaires.

There are three components in this research questionnaire. The teachers' demographic information, including gender, age, higher education level, and teaching courses, is found in Section A. Section B contains four items from the crucial section that emphasises dependent variables like the efficiency of online learning management for teachers. Eight questions make up Section C's independent variables, perceived utility and perceived ease of use. The questionnaire will be constructed using a five-point Likert scale (1 being strongly disagree to 5 being agree). SPSS Version 27 was used to analyse the data that had been gathered.

Research Findings

Pilot Test

Factor Analysis

Table 1: KMO and Bartlett”s Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.758
Bartlett's Test of Sphericity	Approx. Chi-Square	451.473
	df	66
	Sig.	.000

Table 1 illustrates that the KMO value of independent variable for pilot test is 0.758 which the value is more than the threshold of factor analysis at 0.6, so the KMO value of independent variable is acceptable (Korkmaz et.al., 2017). Besides, the BTS value is lesser than 0.05 of the significance levels indicates the factor

analysis may be valuable with the data (Othman et.al., 2019). Hence, the items in questionnaire are adequate to be used for further analysis.

Factor Loadings/Communalities

Table 2: Communalities

	Initial	Extraction
Perceived ease of use [No difficulties comprehending.]	1.000	.708
Perceived ease of use [No trouble getting the what I want.]	1.000	.713
Perceived ease of use [Easy and straightforward to interactive.]	1.000	.571
Perceived ease of use [Simple to learn using online learning system.]	1.000	.893
Perceived usefulness [Completes educational activities more quickly.]	1.000	.703
Perceived usefulness [Enhance teaching effectiveness.]	1.000	.846
Perceived usefulness [Simplifies the process of teaching course content.]	1.000	.892
Perceived usefulness [Maximizes the teaching productivity.]	1.000	.814

Extraction Method: Principal Component Analysis

According to Table 2, the factor loadings for all independent variable terms are greater than 0.6 except for 1 of the independent variables which has a value of 0.571. The one-dimensional criterion is satisfied when the factor loading value is equal to or greater than 0.6 (Nasir et.al., 2020). However, for pilot tests, factor loading values less than 0.6 but between 0.5 and 0.6 are acceptable (Zyphur and Pierides,2019). Therefore, the items in the questionnaire are acceptable and can be used for further analysis.

Eigenvalues

Table 3: Total Variance Explained

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.424	53.535	53.535	6.424	53.535	53.535
2	2.170	18.087	71.622	2.170	18.087	71.622
3	1.115	9.293	80.915	1.115	9.293	80.915
4	.641	5.342	86.257			
5	.490	4.082	90.339			

6	.321	2.679	93.018			
7	.254	2.116	95.134			
8	.192	1.602	96.736			
9	.136	1.131	97.867			
10	.103	.857	98.724			
11	.085	.708	99.432			
12	.068	.568	100.000			

Extraction Method: Principal Component Analysis

Table 3 presents the eigenvalues of the pilot test of the variable. All components with eigenvalues greater than 1 are retained using the Kaiser criterion (Reynolds et.al., 2020). Therefore, factors with eigenvalues less than 1 should be excluded from the study (Ghasedi et.al.,2021). According to Table 4, three eigenvalue components are retained, which correspond to the number of variables in the study.

Reliability Analysis

As stated by Aslam et.al. (2020), the role of Cronbach's alpha coefficient is to assess the questionnaire's reliability for both internal consistency and corrected item-total correlations. Analysis of the consistency within the questionnaire items based on the 40 questionnaires collected for the pilot test.

Table 4: Reliability test of Pilot test

Variables	**Cronbach's Alpha**	**Number of items**
Teacher online learning management effectiveness (Dependent Variable)	0.796	4
Perceived Ease of use (Independent Variable)	0.867	4
Perceived Usefulness (Independent Variable)	0.907	4

According to Table 4, the Cronbach Alpha value for the pilot test variable is between 0.796 and 0.907. Since the reliability test results of the pilot test met the minimum requirements (>0.7), the questionnaire was considered reliable and accepted for further study.

Response Rate

Table 5: Response Rate of the study

Description	**Number Questionnaires**
Total Questionnaire Received	400
Usable Questionnaires	386
Response Rate	96.5%

Table 5 shows that a total of 400 responses were received from the respondents. There were 14 unusable responses, because the respondents did not complete the questionnaire truthfully, as they asnwered the questionnaire with all the same answers. Therefore, there were 386 usable questionnaires collected for the study. This makes the response rate of the study to be 96.5%. Although the targeted number of students is 400, nevertheless, a response rate of 96.5% is considered quite high and is sufficient to proceed with further analysis (Leedy and Ormrod,2015).

Demographic Profile of Respondents

Table 6: Demographic profile of respondents(N=386)

Demographic	**Categories**	**Frequency**	**Percentage(%)**
Gender	Male	234	60.6
	Female	152	39.3
Age	20-30 years old	153	39.6
	31-40 years old	149	38.6
	41 years and above	84	21.7
Higher lever of education	Bachelor	159	41.1
	Master	154	39.8
	PhD or over	73	18.9
Teaching courses	Theory courses	247	63.9
	Practice courses	139	36.0

Based on Table 6, from the 386 responses received, 60.6% (n=234) of the respondents were male, while the remaining 39.3% (n=152) of the respondents were female. Most of the respondents in the study were in the age group of 20-30 years old (39.6%, n=153), followed by respondents aged 31-40 years old (38.6%, n=149), 41 years and above (21.7%, n=84). A majority of the respondents held a Bachelor's Degree (41.1%, n=159), followed by respondents with Master's Degree (39.8%, n=154) and PhD holders (18.9%, n=73). Participants who teaches theory courses in the study (63.9%, n=247) and Practice courses (36%, n=139).

Actual Analysis

Actual analysis is the actual test of the study held after pilot test. In the actual test, both factor analysis and reliability tests were conducted. Just like in the pilot test, before reliability testing, a factor analysis was performed to verify that any items or constructs that did not follow the rule of thumb were removed or changed for future research (Zyphur and Pierides, 2019).

Factor Analysis

Table 7: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.806
Bartlett's Test of Sphericity	Approx. Chi-Square	14028.770
	df	120
	Sig.	.000

Table 7 shows that the KMO statistic is equal to 0.806 > 0.6, which indicates that sampling is sufficient and factor analysis is appropriate for the data. Bartlett's test of sphericity was also highly significant at p < 0.000, suggesting that the correlation matrix has a significant relationship between perceived usefulness and perceived ease of use in online learning. Therefore, it can be concluded that the data are robust enough to accept further analysis.

Table 8: Factor loading/CommunalitiesCommunalities

	Initial	**Extraction**
Perceived ease of use [No difficulties comprehending.]	1.000	.924
Perceived ease of use [No trouble getting the what I want.]	1.000	.925
Perceived ease of use [Easy and straightforward to interactive.]	1.000	.874
Perceived ease of use [Simple to learn using online learning system.]	1.000	.938
Perceived usefulness [Completes educational activities more quickly.]	1.000	.976
Perceived usefulness [Enhance teaching effectiveness.]	1.000	.941
Perceived usefulness [Simplifies the process of teaching course content.]	1.000	.950
Perceived usefulness [Maximizes the teaching productivity.]	1.000	.933
Teacher online learning management effectiveness in higher education [Reduces working time.]	1.000	.729
Teacher online learning management effectiveness in higher education [Completes the teaching of learning objectives.]	1.000	.712
Teacher online learning management effectiveness in higher education [Intends to utilize online teaching in the future.]	1.000	.939
Teacher online learning management effectiveness in higher education [Intends to use online learning in the future to supplement my research on e-learning.]	1.000	.706

Extraction Method: Principal Component Analysis

Table 8 indicate that factor loading value in actual test for both independent variables and dependent variables were more than 0.6 and met the minimum value of 0.6 for factor loading. Hence, all items in the questionnaire were accepted for further analysis

Table 9: Eigenvalues

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.084	44.275	44.275	7.084	44.275	44.275
2	4.104	25.650	69.926	4.104	25.650	69.926
3	1.998	12.484	82.410	1.998	12.484	82.410
4	0.999	6.303	88.713			
5	0.761	4.756	93.469			
6	0.601	3.756	97.225			
7	0.315	1.964	99.189			
8	.070	.441	99.630			
9	.038	.221	99.851			
10	.022	.101	99.952			
11	.015	.030	99.982			
12	.006	.018	100.000			

Extraction Method: Principal Component Analysis

Table 9 shows that there were 3 Eigenvalues >1. These eigenvalues greater than 1 is similar to the number of independent variables and dependent variables in the study. Therefore, the independent variables and dependent variables for the study were accepted and applicable.

Reliability Analysis

Cronbach's Alpha is a measure of internal consistency, or how closely a group of things are related to one another (Okello et.al., 2018; Aslam et.al., 2020).

Table10: Summary of Reliability Analysis results

Variables	**Cronbach's Alpha**	**Number of items**
Teacher online learning management effectiveness (Dependent Variable)	0.796	4
Perceived Ease of use (Independent Variable)	0.945	4
Perceived Usefulness (Independent Variable)	0.939	4

According to Table 10, the Cronbach's Alpha values for both independent and dependent variables meet the minimum requirements for reliability analysis (>0.7). Therefore, all variables and items in the questionnaire of this study were accepted and reserved for further study

The two hypotheses that have been proposed in this research. Based on the literature review, following hypotheses were established. Multiple Linear Regression was used to test these

hypotheses

Table 11: Multiple Linear Regression

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.782[a]	.611	.586	.50302	2.360
a. Predictors: (Constant), Perceived ease of use, Perceived usefulness					
b. Dependent Variable: Teacher online learning management effectiveness in higher education in Guangzhou					

Based on Table 11, R-square is 0.611. This means that 61% of the variation of the independent variables that is Perceived-ease of use of TAM and Perceived usefulness of TAM has significant influence on the dependent variable (teacher online learning management effectiveness). Adjusted R-squared is frequently used to account for the increase in R-squared as variables are added to the model, as it can account for small sample sizes and models with multiple predictors (Olsen et.al., 2020). Furthermore, Table 11 below reveals that the Adjusted R-square value is 0.586, implying that the three independent variables used in this study adequately characterized 58.6% of the variance in teacher online learning management effectiveness.

Table 12: Multiple Regression ANOVA

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1095.947	3	365.316	2107.401	.000[b]
	Residual	66.219	382	.176		
	Total	1162.166	385			
a.Dependent Variable: Teacher online learning management effectiveness in higher education in Guangzhou						
b. Predictors: (Constant), Perceived ease of use, Perceived usefulness						

Based on Table 12, p-value is < 0.001. This is a significant value for ANOVA. Therefore, the variance between respondents was significant.

Table 13: Results of Coefficients and Collinearity of Multiple Regression

Model	UnstandardizedCoefficients		StandardizedCoefficients Beta	t	Sig.	Collinearity statistics	
	B	Std.Error				Tolerance	VIF
1(Constant)	.819	.362		2.262	0.028		

Perceived ease of use	.131	.104	.161	3.856	0.213	.605	1.654
Perceived Usefulness	.319	.100	.405	2.843	<0.001	.334	2.997

As shown in Table 13, there were two factors found to be significant. Perceived usefulness had a p-value <0.001which was significant. The other factor Perceived-ease of use had a p-value of 0.213. Since the p-value is > 0.05, the factor Perceived-ease of use was non-significant. Therefore, the factors Perceived usefulness was accepted. The factor Perceived-ease of use was rejected. Hence, the factors Perceived usefulness have an influence on teacher online learning management effectiveness. All the 2 independent variables have VIF values lesser than 10. This means that there was no evidence of multicollinearity among the variables. Therefore, the 2 factors were not related to one another.

Summary of Findings

Among the two hypotheses proposed, it was found that Perceived usefulness of TAM had a positive impact on teacher online learning management effectiveness in higher education in Guangzhou. The other proposed hypotheses Perceived-ease of use of TAM does not have a positive impact on teacher online learning management effectiveness in higher education in Guangzhou.

Table 14: Summary of Findings

Hypotheses	**Accepted/Rejected**
H1: Perceived ease of use of TAM has significant influence on teacher online learning management effectiveness in higher education in Guangzhou.	Rejected
H2: Perceived usefulness of TAM has significant influence on teacher online learning management effectiveness in higher education in Guangzhou.	Accepted

Conclusion

Hypotheses

Hypotheses

Perceived-ease of use of TAM has significant influence on teacher online learning management effectiveness in higher education in Guangzhou.

The results of the study showed a p-value of 0.21 for the perceived ease of use factor. Hypothesis 1 is not significant. As the p-value for the perceived ease of use factor was greater than 0.05 (> 0.05), Hypothesis 1 was found to be insignificant. Hence, hypotheses1 was rejected in this study. However, this finding contradicts with

earlier research (Rashid et.al., 2021; Yang and Zhang, 2020; Zhou and Li, 2020) that teachers perceive that use of technology in online management requires effort and also it was arduous to grasp online learning Technology. However, in the current study, perceived ease of use was not a significant factor in the effectiveness of teachers' online learning management. This is similar to the study by Nugroho, Dewanti, and Novitasari (2018) Hussein(2017) , which concluded that perceived ease of use does not affect teachers' online management, as teachers felt they were familiar with the system and therefore had no effect on them.

Hypotheses

Perceived usefulness of TAM has significant influence on teacher online learning management effectiveness in higher education in Guangzhou.

According to the findings, beta coefficient value and p-value for relations with superior were 0.41 and <.001 respectively. The results show that perceived usefulness has a positive impact on the effectiveness of teachers' online learning management. The findings are consistent with previous studies in the field of technology acceptance (Ali, 2020; Teo, Huang and Hoi, 2018; Akinde and Adetimirin, 2017). This shows that faculty at the university see technology as a good option to increase the effectiveness in conducting online education management processes, and it shows that teachers find TAM useful in their online learning management. Therefore, hypotheses 2 is accepted.

Sustainable Education Management Model

After analyzing the findings, the current formal management model used in Chinese universities is sustainable as it aligns with a systematic, organized model of education. The course is about goals, content, and methods, which provide a feasible implementation plan for teachers' online learning management (Dorczak ,2019). Despite the limitations of the formal management model, it provides clarity and order in the running of educational organizations and managements (Qutub, 2020). More importantly, with its clear structure and top-down leadership, it is considered central to the concept of effective management (Qutub, 2021) and has the potential to effectively improve management efficiency (Dorczak, 2019).

Recommendations

Enhancing teachers' Perceived usefulness involves incorporating an effective and reliable online learning platform and building a high-quality online resource library. Building a high-quality online resource library can reduce teachers' workload and enhance teachers' confidence in online teaching (Daumiller et.al,2021). Many platforms available today, and universities these days have the liberty of selecting good and reliable platforms whose functions their functions are relatively comprehensive (Guermazi, 2020). Therefore, teachers currently need to

improve the effectiveness of online learning management to perform on these robust platforms to take teaching and learning to a higher level. Creating a high-quality online resource library is one way for teachers to build bridges with other teaching personnel and improve the effectiveness of their online learning management (Adeoye and Arome, 2019) . To recap, a strategic change management in technological implementation necessitates a functional management that can adapt to change effectively especially to uplift the effectiveness of online teaching and learning.

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