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An Investigation on Factors Impacting Satisfaction and Continuance Intention to Use E-Learning Among University Lecturers in Zhejiang, China

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Abstract

Purpose: This study aims to investigate factors contribute to the satisfaction and continuance intentions to use e-learning among university lecturers in Zhejiang, China. This conceptual framework was developed based on a review of previous theoretical frameworks of research, proposing a causal relationship among course attributes, system attributes, instructor attributes, interactive attributes, social influence, user satisfaction, and continuance intention. **Research design, data, and methodology:** The research was conducted quantitative method (n=500), with questionnaires distributed to lecturers in five universities in Zhejiang, China. The sampling procedures involve purposive, stratified random and convenience sampling. An expert rating of the item-objective congruence (IOC) index and a pilot test for 30 respondents were conducted to confirm reliability and validity before the data collection. Structural Equation Modeling and Confirmatory Factor Analysis were used to evaluate construct fit, reliability, and validity. **Results:** The results explicate that course attributes, system attributes, instructor attributes significantly impact satisfaction. Continuance intention is significantly impacted by social influence and satisfaction. However, interactive attributes have no significant impact on user satisfaction. **Conclusions:** Educational institutions, universities, and lecturers are suggested to provide assessments to measure the level of influence and development programs to enhance the e-learning system.

Keywords: System Attributes, Social Influence, User Satisfaction, Continuance Intention, E-Learning

JEL Classification Code: E44, F31, F37, G15

1. Introduction

Information and communication technology (ICT) has radically changed how we teach and learn today. E-learning is a technological innovation that enables learners to be flexible and adaptable. In the beginning, computer-based learning was called "Computer-based teaching," which meant replacing traditional classroom materials with electronic communication and computer programming (Kirkup & Kirkwood, 2005). Instead of teaching a course four to six times, lecturers can record videos once, resulting in greater efficiency. Due to this, they do not have to spend as much energy on repetitive work, allowing them to focus on more important tasks.

E-learning includes the convenience of taking classes from wherever you are. Due to this, schools are not limited by geographical boundaries and can reach a larger audience. Moreover, e-learning lectures can be recorded, archived, and accessed in the future. Technological advancements allow students to access personalized learning progress services through e-learning platforms. The system will create a personalized learning plan based on their individual information. Higher education institutions have adopted a technology-based integrated model to impart education and skills to students so that they may benefit from these advantages in the future. Learning and teaching have become

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more collaborative, interactive, and effective using Google Docs, Meeting Words, Google Hangouts, Skype, Zoom, and Wikis. With the advancement of technology, education no longer remains confined to classrooms; rather, as long as a computer and the internet are available, education can be conducted anywhere in the world (Strayer, 2012).

The research problem at the core of this study revolves around understanding the factors that influence the satisfaction and continuance intentions of university lecturers in Zhejiang, China, in relation to e-learning. Despite the growing prevalence of e-learning, there is a gap in knowledge regarding the specific attributes and influences that contribute to lecturers' satisfaction with the e-learning environment and their intentions to continue using it. Addressing this gap is crucial for enhancing the effectiveness and sustainability of e-learning initiatives in the context of higher education in Zhejiang.

The significance of this study lies in its potential to provide valuable insights into the factors influencing the satisfaction and continuance intentions of university lecturers using e-learning in Zhejiang, China. By uncovering these factors, the study aims to contribute to the improvement of e-learning systems, the design of relevant courses, and the enhancement of instructor support. Ultimately, the findings could inform strategies that promote the successful integration and sustained use of e-learning in higher education institutions, fostering a more conducive learning environment for both lecturers and students. Therefore, the research question is that “How does the use of personalized learning platforms affect student performance in online courses?”. In summary, this study could measure engagement metrics such as participation in discussions, online activity levels, and collaborative project outcomes.

2. Literature Review

2.1 Courses Attributes

As Kabir (2016) outlined, course attributes include the conciseness and organization of lectures, the sufficiency of contents, and assessment methods. In order to remain competitive, educational institutions must offer high-quality online courses. Lee (2010) argued that referenced course content quality includes content extravagance and normal recharging practices. This implies that the e-learning framework's course content quality reflects the nature of its learning content. Various factors need to be considered, such as content quality, course design quality, and confirmation (DeLone & McLean, 2003).

Consequently, obvious content and course configuration influence clients' perceptions of e-learning (Liu et al., 2010). Among the three aspects of e-learning that understudies are crucial to, Goh et al. (2017) noted course design, communication within the group, and collaboration with instructors. Students' intent to use the e-learning experience in a new direction once they finish their current course is determined by the types of courses offered in online learning (Wiggins, 1998). In their study, Goh et al. (2017) found that students were concerned about three aspects of e-learning: course design, peer interaction, and instructor interaction. Accordingly, this study concludes a hypothesis:

H1: Course attributes have a significant impact on user satisfaction.

2.2 System Attributes

E-learning systems rely on three quality dimensions: the system quality, the information quality, and the level of service, according to Chopra et al. (2019). Students will likely adopt and use a system if it is useful for learning. Thus, a successful e-learning system facilitates teaching and learning quickly, enhances the user's performance, and enhances the effectiveness of learning courses. According to most studies, an easy-to-use system, a navigation system, a usable system, and a system that allows flexible interaction are all characteristics associated with system quality.

In addition, Islam (2012) highlighted four aspects of e-learning system quality: accessibility, simplicity of use, navigation, and dependability. An e-learning system is defined as all interactions between lecturers and students within this environment, according to Castillo and Serradell (2014). Using e-learning systems can reduce the time required for users to complete a course and prevent their computer systems from being overloaded due to transferring a large amount of data, according to Hew and Kadir (2016). Further, Gunesekera et al. (2019) found that the usability of e-learning systems enhances user engagement and subjective satisfaction. As a result, a user's ability to accept or reject the demands of a system determines whether he or she is satisfied with that system. Accordingly, this study concludes a hypothesis:

H2: System attributes have a significant impact on user satisfaction.

2.3 Instructor Attributes

Varela et al. (2015) argues that instructors' characteristics can help learners confirm their identity. As a result, learners and instructors are affected (Ozkan & Koseler, 2009). Many studies suggest that instructor quality is related to teacher attitudes and teaching styles. This may influence students' excitement, involvement, and perception of e-learning. Quality of service is determined by functionality and technicality, according to Grönroos (1984). Users' expectations can negatively impact service quality. As a

result of studying how lecturer attributes contribute to learners' responses, Byrne (1971) identified two key characteristics of learning: skill and positive feelings.

A student's affirmation of their learning ability was seen as an affirmation of their ability by Makransky et al. (2016). Instructors can measure performance and teaching quality using e-learning outcomes and indicators of students' learning results. Based on Cohen (2016), it is the major criterion for evaluating teaching quality and students' learning outcomes. Learning outcomes are influenced by curriculum design, teaching methods, and learners' behavior. The higher education sector is transitioning from a teacher-centered model to a learner-centered model in which instructors explore students' interests and help them achieve their learning objectives. This evolution is making higher education a more effective learning environment for students. Accordingly, this study concludes a hypothesis:

H3: Instructor attributes have a significant impact on user satisfaction.

2.4 Interactive Attributes

Typically, interactive attributes prevent real-time interaction, such as data entry, text input, touch screen interaction, voice command, or video capture. Discussion forums, video conferencing, and threaded discussions are interactive features in Web-based learning environments for collaboration, creation, and sharing (Chopra et al., 2019). These learning portals promote learning through sociolect-emotional discussion groups and educational information exchange. By contrast, exchanging educational information improves the perception of satisfaction with learning.

A study conducted by Boud and Prosser (2002) found that mature students may be able to meet their needs when technology-based learning programs are woven into teaching activities. When students can self-diagnose, internet technology supports the livery of courses (Knowlton, 2000) and knowledge construction (Barab et al., 2001). Due to their focus on integrating instructional strategies into classrooms rather than concentrating on the technology itself, integrated instructional strategies are highly effective since they integrate them into classrooms. Accordingly, this study concludes a hypothesis:

H4: Interactive attributes have a significant impact on user satisfaction.

2.5 Social Influence

E-learning has become a rescuer, providing education to users (learners) through technology and the Internet during the COVID-19 pandemic catastrophe, according to Daultani et al. (2020). The psychological and behavioral impacts of both social distances have been demonstrated through research (Maglio et al., 2013). Baber (2022) defines a type of social connection as 'social closeness' in which individuals can communicate easily with one another about their thoughts and ideas. As Cialdini and Trost (1998) explain, social influence is establishing and adhering to social norms within a group utilizing social influence. E-learning has been proven to be a more effective learning environment than an offline learning environment, according to Navarro and Shoemaker (2000). This type of learning may also be more satisfying for students. Along with the relationship between social influence and intention to use behavior (Cheng et al., 2017), the study examined whether social influence is positively associated with performance expectancy and intention to use behavior.

Using team leader boards to enhance learner-learner interaction, Baydas and Cicek (2019) found that learners' interaction improved by enhancing competition. Several studies have examined the benefits of e-learning on learners' autonomy. Students' engagement with social activities was influenced by peer interaction online or classroom discussions and games. Taking part in e-learning helps learners interact with each other as they compete against one another and compete against one another. In order to motivate and enhance the performance of a student from both a cognitive and behavioral perspective, it has been shown that engaging the student in the learning process from a social viewpoint is more effective when involving him or her in the learning process from a social perspective. Accordingly, this study concludes a hypothesis:

H5: Social influence has a significant impact on continuance intention.

2.6 User Satisfaction

The definition of satisfaction offered by Aref and Okasha (2020) states that satisfaction is a result that meets a person's expectations. Oliver (1980) stated that satisfaction is the acknowledgment of expectations. Some students were satisfied with using online videos to enhance their learning. According to Sun et al. (2008), although technology plays a significant role in determining the level of user satisfaction with e-learning, the program's design (such as the use of interactive components) has an even greater impact.

It has been found by Huang (2002) that learners are more satisfied with their online courses if the challenges are relevant and realistic, allowing them to acquire new information that can help them overcome difficulties in their professional lives. The lack of e-learning systems leads to a decrease in repeat users, which is directly related to a decrease in user relationships and satisfaction due to the lack of e-learning systems (Gunesekera et al., 2019). Even though multimedia-assisted teaching materials can be visualized very effectively, and since the materials' elements can be

reused, multimedia-assisted teaching materials are very effective at improving students' learning outcomes and satisfaction. The results of several studies have indicated that combining technology-supported teaching with face-to-face teaching can significantly improve the learning outcomes of students as well as increase their satisfaction with the teaching process when these two teaching methods are combined. Accordingly, this study concludes a hypothesis:
H6: User satisfaction has a significant impact on continuance intention.

2.7 Continued Intention

An individual's continuity intention is determined by whether or not they will continue to use e-learning services, as defined by Ismail et al. (2011). Continuance intentions were associated with satisfaction and perception of the usefulness of the information in Bhattacherjee (2001) study, which was influenced by confirmation of prior expectations. A behavior-intention-action model has essentially the same underlying concepts and relationships as usage intention, derived from the broader concept of behavioral intention (Im et al., 2011).

According to Ifinedo (2006), there is a positive correlation between the actual use of e-learning systems and a desire to use them continuously. Chiu et al. (2007) found that satisfaction with e-learning contributes to continued use. Researchers Rui-Hsin and Lin (2018) investigated factors influencing police education and learning's intentional learning. Users. Users who are retained and have positive intentions can perform well and have a good financial performance (Dabholkar et al., 2000). There are two types of intentions: intentions based on behavior and intentions based on attitude. A thorough investigation of the variables involved is necessary to determine what factors influence a user's desire to continue. Several factors, including education characteristics, instructor characteristics, technical features, and social influences, contribute to the success of e-learning, according to Yassine et al. (2017). In previous research (Baturay, 2010), contentment is key to determining e-learning's effectiveness and future use. The effectiveness of an e-learning system depends on how students perceive its usefulness (Cheng, 2020).

3. Research Methods and Materials

3.1 Research Framework

This conceptual framework was developed based on a review of previous theoretical frameworks of research. Adapted from three different theoretical models, it is based on three different theoretical models. Daultani et al. (2020) studied how course, system, instructor, and interactive attributes affected user satisfaction in higher education institutions using e-learning. Additionally, Wang et al. (2017) found that social influence (Si) positively impacts innovation continuance intentions. Final research was conducted by Cheng (2020), investigating satisfaction and continuance intentions. As shown in Figure 1, this study is conceptually structured. This study examines the factors that impact university lecturers from Zhejiang, China's satisfaction with e-learning, and their intention to continue using it. Based on this conceptual framework, the following causal relationships are proposed: Course Attributes (CA), System Attributes (SA), Instructor Attributes (InsA), Interactive Attributes (IntA), Social Influence (SI), User Satisfaction (US), and Continuance Intention (CI). Furthermore, the study examines the causal relationship between each variable to identify the factors influencing satisfaction and continuation intentions.

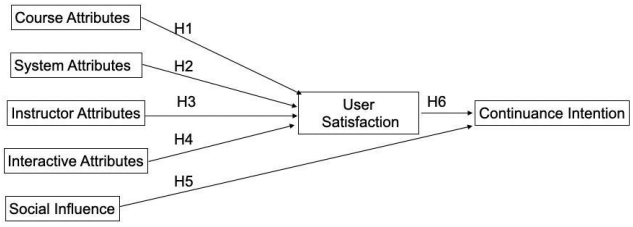

Figure 1: Conceptual Framework

H1: Course attributes have a significant impact on user satisfaction.
H2: System attributes have a significant impact on user satisfaction.
H3: Instructor attributes have a significant impact on user satisfaction.
H4: Interactive attributes have a significant impact on user satisfaction.
H5: Social influence has a significant impact on continuance intention.
H6: User satisfaction has a significant impact on continuance intention

3.2 Research Methodology

To conduct the quantitative approach, the researcher used nonprobability sampling and distributed a questionnaire online and in paper form to the target groups of the selected five universities in Zhejiang. A thorough analysis of the data was conducted to identify key influences that significantly impact lecturers' satisfaction and continuance intentions. The survey is composed of three parts. In order to identify the characteristics of respondents, screening questions are used first. Second, all six hypotheses were analyzed using a 5-point

Likert scale (strong disagreement - 5) that ranged from strong agreement - to weak disagreement. Last, demographic questions include gender, age, and educational background. An expert rating of the item-objective congruence (IOC). According to the IOC results, all scores were greater than 0.67. Cronbach's alpha and a pilot test for 30 respondents have been conducted with the approved results of all constructs are passes at equal or greater than 0.7 (Nunnally & Bernstein, 1994).

It was tested for validity and reliability using Cronbach's Alpha. Following the reliability test, 500 responses were received from the target respondents. Using statistical software, the researcher analyzed the collected data. Confirmatory Factor Analysis (CFA) was then used to test convergence accuracy and validation. Model validity and reliability were determined by calculating the model fit measurement with the given data. The researcher used the Structural Equation Model (SEM) to examine the effect of variables.

3.3 Population and Sample Size

The target population in this paper is lecturers who work in selected five universities in Zhejiang. The sample size for Structural Equation Models suggested that at least 200 respondents (Kline, 2015) should participate in the study. The survey was given to 500 respondents. After the data screening process, 500 responses were used in this study.

3.4 Sampling Technique

The researcher used nonprobability sampling and judgmental sampling to select lecturers from five universities in Zhejiang. The quota sampling method was applied to use the market capitalization number 500, shown in Table 1. As a result, convenience sampling was used for online and offline questionnaire distribution.

Table 1: Sample Units and Sample Size

Universities	Population Size	Proportional Sample Size
Jiaxing University	1700	129
Jiaxing Nanhu University	430	77
Wenzhou University	1199	92
Taizhou University	1500	113
Lishui University	1100	89
Total	**5929**	**500**

Source: Constructed by author

4. Results and Discussion

4.1 Demographic Information

The demographic profile targets 500 participants and is summarized in Table 2. Male respondents represent 41.20%, and female respondents account for 58.80%. Among the respondents, the 30-39-year-old segment comprised 35.20% of the sample, followed by 31.40% of 40-49-year-olds, 17.60% of 50-plus-year-olds, and 15.80% of 21-29-year-olds. According to the data, 69.60% of respondents had a doctorate, 31.4% had a master's degree, and 0% had a bachelor's degree. In terms of the year in which respondents began their e-learning, the major group was 2018-2019 at 63.20%, followed by 2016-2017 at 13.40%, 2020-2021 at 12.80%, and pre-2015 at 10.60%. Of the respondents, 42% of the courses offered in universities were traditional courses, 30% were e-learning courses, and 28% were hybrid courses in 2016-2017.

Table 2: Demographic Profile

Demographic and General Data (N=500)		Frequency	Percentage
Gender	Male	206	41.20%
	Female	294	58.80%
Education Background	Bachelor	0	0.00%
	Master	157	31.40%
	Doctorate	348	69.60%
Age	Under 20 years old	0	0.00%
	21-29 years old	79	15.80%
	30-39 years old	176	35.20%
	40-49years old	157	31.40%
	More than 49 years old	88	17.60%
E-Learning Experience	Pre-2015	53	10.60%
	2016-2017	67	13.40%
	2018-2019	316	63.20%
	2020-2021	64	12.80%
Type of Courses	Cloud-based e-learning	150	30.00%
	Traditional courses	210	42.00%
	Hybrid courses	140	28.00%

Source: Constructed by author

4.2 Confirmatory Factor Analysis (CFA)

CFA was conducted in this study as a confirmation factor analysis. A factor loading test of discriminant validity is performed on all items in each variable. The significance of factor loading and acceptable values in Hair et al. (2010) indicates the goodness of fit. The factor loading is greater than 0.30 with a p-value less than 0.05. In Table 3, the average variance extracted exceeds the cut-off point of 0.5 for construct reliability (Fornell & Larcker, 1981). There is significant significance in all estimates.

Table 3: Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Variables	Source of Questionnaire (Measurement Indicator)	No. of Item	Cronbach's Alpha	Factors Loading	CR	AVE
Courses Attributes (CA)	(Daultani et al., 2020)	6	0.925	0.747-0.802	0.902	0.606
System Attributes (SA)	(Daultani et al., 2020)	4	0.898	0.750-0.801	0.860	0.607
Instructor Attributes (InsA)	(Daultani et al., 2020)	7	0.920	0.750-0.797	0.908	0.585
Interactive Attributes (IntA)	(Baber, 2022)	3	0.834	0.767-0.814	0.833	0.625
User Satisfaction (US)	(Venkatesh et al., 2003)	4	0.880	0.726-0.797	0.843	0.574
Social Influence (SI)	(Tsai et al., 2007)	4	0.969	0.744-0.793	0.856	0.598
Continuance Intention (CI)	(Chang, 2013)	3	0.924	0.718-0.799	0.816	0.596

As shown in Table 4, all the correlations are greater than the corresponding correlation values for that variable based on the square root of the average variance extracted. CFA testing also uses GFI, AGFI, NFI, CFI, TLI, and RMSEA as model fit indicators.

Table 4: Goodness of Fit for Measurement Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	< 5.00 (Al-Mamary & Shamsuddin, 2015; Awang, 2012)	512.329/413 or 1.241
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.940
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.928
NFI	≥ 0.80 (Wu & Wang, 2006)	0.937
CFI	≥ 0.80 (Bentler, 1990)	0.987
TLI	≥ 0.80 (Sharma et al., 2005)	0.985
RMSEA	< 0.08 (Pedroso et al., 2016)	0.022
Model Summary		**In harmony with empirical data**

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, NFI = Normed fit index, CFI = Comparative fit index, TLI = Tucker-Lewis index, and RMSEA = Root mean square error of approximation.

This study's convergent and discriminant validity were verified as the values in Table 5. are greater than acceptable. Thus, convergent validity and discriminant validity are assured. Validation of the subsequent structural model estimation was conducted using these model measurement results to measure discriminant validity.

Table 5: Discriminant Validity

	CA	SA	InsA	IntA	SI	US	CI
CA	**0.778**						
SA	0.204	**0.779**					
InsA	0.265	0.283	**0.765**				
IntA	0.239	0.123	0.217	**0.791**			
SI	0.283	0.279	0.242	0.210	**0.733**		
US	0.266	0.329	0.296	0.083	0.277	**0.758**	
CI	0.259	0.340	0.310	0.151	0.326	0.268	**0.772**

Note: The diagonally listed value is the AVE square roots of the variables
Source: Created by the author.

4.3 Structural Equation Model (SEM)

Structural Equation Modeling (SEM) validates the causal relationship among variables in a proposed model and includes measurement inaccuracies in the structure coefficient, according to Hair et al. (2010). Table 6 shows the goodness of fit indices for the structural equation model (SEM). According to Greenspoon and Saklofske (2001), the Chi-square/degrees-of-freedom (CMIN/DF) ratio should not exceed 3, and GFI and CFI should be greater than 0.8. The calculation in SEMs and adjusting the model by using SPSS AMOS version 26, the results of the fit index were presented as a good fit, which was CMIN/DF = 1.835, GFI = 0.902, AGFI = 0.886, NFI = 0.903, CFI = 0.953, TLI = 0.949 and RMSEA = 0.041, which are listed in Table 5.2 according to acceptable values.

Table 6: Goodness of Fit for Structural Model

Index	Acceptable	Statistical Values
CMIN/DF	< 5.00 (Al-Mamary & Shamsuddin, 2015; Awang, 2012)	785.482/428 or 1.835
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.902
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.886
NFI	≥ 0.80 (Wu & Wang, 2006)	0.903
CFI	≥ 0.80 (Bentler, 1990)	0.953
TLI	≥ 0.80 (Sharma et al., 2005)	0.949
RMSEA	< 0.08 (Pedroso et al., 2016)	0.041
Model Summary		**In harmony with Empirical data**

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, NFI = Normed fit index, CFI = Comparative fit index, TLI = Tucker-Lewis index, and RMSEA = Root mean square error of approximation.

4.4 Research Hypothesis Testing Result

The research model is calculated from the regression weights and R2 variances of each variable. Table 7 shows that five hypotheses were supported with a significant p-value 0.05. The strongest influence on satisfaction and continuance was Social Influence, which resulted in 0.324, followed by system attributes, instructor attributes, and course attributes, which resulted in 0.304, 0.223, and 0.207,

respectively. As shown in Table 7, the model demonstrated the variance of innovative work behavior.

Table 7: Hypothesis Results of the Structural Equation Modeling

Hypothesis	(β)	t-Value	Result
H1: CA→US	0.207	4.227*	Supported
H2: SA→US	0.304	5.843*	Supported
H3: InsA→US	0.223	4.525*	Supported
H4: IntA→US	-0.033	-0.670	Not Supported
H5: SI→CI	0.324	6.112*	Supported
H6: US→CI	0.262	4.952*	Supported

Note: * p<0.05
Source: Created by the author

As a result of Table 7, the following can be concluded:

H1 reveals that course attributes are one of the key factors driving innovative work behavior, with a standard coefficient of 0.207. The authors of Sun et al. (2008) report course attributes to be essential components of a student's fulfillment in deciding "what drives effective e-realization." The analysis outcome supported **H2**, indicating that System Attributes correlate significantly with satisfaction and continuation intentions. E-learning may also be understood as a system enabling learners to comprehend and learn materials delivered electronically (Cheng et al., 2017). Based on **H3,** 0.223 is the standard coefficient value for the effect of Instructor Attributes on satisfaction and continuation intention. Higher education has shifted from teacher-focused to learner-centered models as instructors help students achieve their learning objectives and explore their interests (Knowlton, 2000). According to **H4,** Interactive Attributes do not significantly influence satisfaction or continuation intentions, resulting in a standard coefficient value of -0.033. Based on **H5,** social influence significantly impacts satisfaction and continuation intentions, resulting in a standard coefficient of 0.223. Baber (2022) describes social closeness as the ability to communicate ideas and thoughts readily with others. **H6,** suggests that user satisfaction significantly impacts satisfaction and continuation intentions, resulting in a standard coefficient of 0.262. Navarro and Shoemaker (2000) assert that e-learning environments are more effective for learning than offline settings, and students are more likely to be satisfied with e-learning.

5. Conclusion and Recommendation

5.1 Conclusion and Discussion

This study aimed to determine what factors contribute to university lecturers from Zhejiang, China, being satisfied with e-learning and their intention to continue teaching in the future when it comes to the e-learning process. This conceptual framework proposes causal relationships between Course Attributes (CA), System Attributes (SA), Instructor Attributes (InsA), Interactive Attributes (IntA), Social Influence (SI), User Satisfaction (US), and Continuance Intention (CI). As a result of the research, the following findings were found. Firstly, course attributes drive satisfaction. According to the analysis, a significant correlation exists between system attributes and satisfaction. Instructor attributes influence satisfaction. Interactive attributes do not significantly influence satisfaction. There is a significant impact of social influence on satisfaction. Continuation intentions are significantly affected by user satisfaction. In conclusion, the study's objectives have been met: course attributes, system attributes, instructor attributes, social influence, user satisfaction, and continuation intentions. In selected universities, lecturers, other than interactive attributes, are key influences on satisfaction and continuation intentions.

5.2 Recommendation

The researcher discovered key factors impacting satisfaction and continuance intention to e-learning of university lecturers. This study considered several factors as antecedents of satisfaction and continuation intention. Those critical factors were course attributes (CA), system attributes (SA), instructor attributes (InsA), interactive attributes (IntA), social influence (SI), user satisfaction (US), and continuance intention (CI).

As a result of the researcher's hypothesis, e-learning system compatibility can be improved. Users need to perceive a higher level of compatibility to leverage a positive attitude and continuance intention towards e-learning. Hence, universities and educational institutions can provide lecturers with training on using e-learning platforms according to their teaching style, acquiring new educational information, and managing their teaching materials correctly. Universities and educational institutions can enhance these by creating a function to promote and develop their service to be more compatible with an individual's personality. Moreover, as social influence also impacts continuance intention, universities and educational institutions can give referrals. In order to build positive word-of-mouth or recommendations from peers, universities, lecturers, and marketing practitioners should focus on delivering a positive experience with online learning platforms. To build close relationships and satisfaction between peers, using an online learning platform that allows interaction, engagement, and appraisal within the platform will enable interaction, engagement, and appraisal among peers. Social influence is the most influential factor in lecturers' behavior towards e-learning platforms.

5.3 Limitation and Further Study

It is important to note that this study has limitations that need further exploration. There are only five selected university lecturers in Zhejiang, China, who are the focus of the study. There will likely be a difference in the university's size, the student's age, and the students' culture. Furthermore, the study can investigate more sample groups in another geographical region to explore similar or different findings. This may result in a different set of findings and recommendations based on the geographical area as a whole. The study should not only be conducted for university lecturers but also for junior and senior high school lecturers, or even for a different group of employees, as the target audience of e-learning platforms is getting wider and wider as a result of social distancing, home isolation, or the new normal of the COVID-19 epidemic.

In addition, other variables were mentioned but have yet to be included in the current study, such as university study, a facility environment, and so on. Furthermore, it would be possible to investigate university lecturers' performance in the field of e-learning to discover how this behavior could be used to generate greater value for the university and contribute to greater satisfaction and continuing the orientation of e-learning in the future.

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