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A Study on Factors Impacting Satisfaction and Continuance Intention of E-Learning Among Undergraduates in Chengdu, China

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Abstract

This study examines the key factors impacting e-learning satisfaction and continuance intention among undergraduates with a major in dance performance in three private universities in Chengdu, China. The conceptual framework demonstrates the interrelationships among confirmation, system quality, service quality, perceived usefulness, satisfaction, information quality, satisfaction, and continuance intention. The researcher used a quantitative survey strategy to distribute questionnaires to a sample of 500 undergraduate students selected from three target universities. Three sampling techniques were employed in this survey, utilizing judgmental, quota and convenience sampling to collect data. The collected data was analyzed using validated factor analysis (CFA) and structural equation modeling (SEM), with model goodness-of-fit, correlation validity, and reliability tests conducted for each component. All exogenous variables were found to significantly impact the endogenous variable of interest, with perceived usefulness exhibiting the strongest on satisfaction. Additionally, satisfaction demonstrated a highly significant influence on continuance intention. In conclusion, system developers and educational institutions should actively collaborate to enhance the quality of learning resources. Besides instructing with self-made teaching materials, the online education system should leverage the advantages of the internet and network technology to develop e-learning resources effectively.

Keywords: e-learning, perceived usefulness, satisfaction, information quality, continuance intention

Introduction

E-learning is a novel educational paradigm in the Internet era, which fully leverages the unique features of websites, including temporal and spatial flexibility, diverse modes of expression, and extensive dissemination. It harnesses the benefits of the Internet to offer a joyful learning experience. The social influence generated by e-learning should be considered a distinctive form of network communication. Owing to its accessibility, feasibility, and affordability, electronic learning (e-learning) is increasingly gaining popularity as an educational modality (Shevchenko et al., 2021).

As information technology advances and develops, e-learning has become widely utilized in undergraduate education and a mainstream component of group programs. Due to its brilliance and benefits, it overcomes time and space constraints. In other words, as long as one possesses the necessary tools and network infrastructure (Hew & Syed Abdul Kadir, 2016; Wang & Jou, 2016), e-learning can be embraced and leveraged.

China places great importance on the modernization of education and has continuously promoted it through active policy documents, such as those related to the development of online education. By integrating computerized information into educational guidance applications such as "Internet + guidance," China aims to improve its underlying education system and accelerate the major strategic project of modernizing education. The government has also strongly promoted the arrangement of MOOCs in 985 universities. The input of this substance and the introduction of guidelines show the authorities' determination to develop e-learning in China, which has also become a major advantage for the development of e-learning (Jiang & Wang, 2015).

Student satisfaction evaluates the effectiveness and quality of the learning management system (LMS) application based on students' expectations and experience with the LMS (Hussein & Hilmi, 2021). A review of relevant literature indicates a need for more research on the satisfaction and continued willingness to engage in online learning among undergraduate dance performance students in private universities in Chengdu. Given their significance within undergraduate education, the satisfaction and continued willingness to participate in e-learning among undergraduate dance majors can significantly impact the development of undergraduate dance teaching.

Sørebø et al. (2009) stated that the intention to continue using e-learning technology is a critical indicator of a teacher's preparedness for sustained usage beyond initial adoption. Therefore, it is imperative to conduct quantitative research on five potential variables that impact the e-learning satisfaction of undergraduate dance performance students and six potential variables of continuance intention at private universities in Chengdu, China. This will provide valuable insights into the underlying satisfaction and continuance intention mechanisms. Drawing on previous research findings, this study examines the salient characteristics that significantly impact e-learning among undergraduates with a major in dance performance. Simultaneously, a questionnaire tailored to the specific context of e-learning satisfaction and continuance intention in the region under investigation is developed.

Literature Review

Confirmation

Confirmation is a psychological phenomenon where students actively seek evidence or cues that align with their preconceived notions and experiences related to e-learning (Halilovic & Cicic, 2013). Confirmation is a crucial determinant of satisfaction that has been widely acknowledged (Chiu et al., 2005). According to Thong et al. (2006), persistent intentions can be indirectly influenced by continuously intervening in e-learning users' perceived usefulness and service satisfaction. Additionally, post-adoption opinions were found to regulate confirmation and satisfaction. Lee (2010) explicitly stated in the paper that satisfaction is robust predictors of confirmation in the proposed model. Lee and Kwon's

(2011) investigation further confirmed that the variable of confirmation naturally represents experience. The extent to which the actual user experience validates an individual's initial expectations is confirmation. In previous literature, the terms "confirmation" and "disconfirmation" have been used interchangeably to describe this phenomenon (Oghuma et al., 2016).

Hypothesis 1: Confirmation has a significant impact on satisfaction.

System Quality

According to the DeLone and McLean model, system quality encompasses the qualities and attributes users expect to encounter while utilizing such systems (Bessadok, 2022). System quality refers to the technical requirements of an e-learning system, including its usability, stability, security, speed, and interactivity (Ching et al., 2021). In this study, system quality (SQ) refers to the functionality, speed, features, and content of the university's LMS (Mailizar et al., 2021). Incorporating high system quality in e-learning platforms is crucial for fostering a positive and productive learning experience. A robust and user-friendly system enhances students' ability to navigate, access, and interact with course materials, ultimately contributing to their satisfaction with the e-learning environment (Chang, 2013). System quality plays a crucial role in shaping the students' overall e-learning experience and has a significant impact on their satisfaction levels (Cheng, 2014; Lee, 2010).

Hypothesis 2: System quality has a significant impact on satisfaction.

Service Quality

Related researchers in information system research progressively incorporate service quality as a success metric (Chang, 2013). The level of service quality will positively impact e-learners' satisfaction with e-Learning (Ozkan et al., 2009). Student loyalty is positively associated with reputation and service quality (Dehghan et al., 2014). One potential solution to this future challenge is to reflect on academics' evaluation of their research value through service quality outcomes in a specific context (Hennig-Thurau et al., 2001). Specifically, service quality refers to the consistency with which organizations deliver customer service (Rughoobur-Seetah & Hosanoo, 2021). Service quality plays a critical role in shaping students' overall satisfaction with the e-learning environment, as it directly influences their sense of engagement, confidence, and well-being (Hussein & Hilmi, 2021), which can be evaluated by comparing customers' expectations with actual performance (Chiu et al., 2005). Ultimately, a positive service quality experience contributes to the development of motivated, confident, and satisfied e-learners (Sørebø et al., 2009).

Hypothesis 3: Service quality has a significant impact on satisfaction.

Perceived Usefulness

Perceived usefulness is a key construct in the expectation-confirmation model (ECM), which focuses on usage-related assumptions. According to Halilovic and Cicic (2013), perceived utility is the most significant retrospective anticipation that affects users' post-acceptance effect, such as satisfaction. The reason perceived usefulness directly impacts satisfaction is that the perception of usefulness after use can be regarded as performance perception (Hsu & Chiu, 2004). When students perceive that the e-learning platform and its

resources are useful in facilitating their learning process and helping them attain their academic objectives, their satisfaction levels increase (Ouyang et al., 2017). The proposed research model posits that the perceived benefits of e-learning will positively impact students' satisfaction and continuance (Rughoobur-Seetah & Hosanoo, 2021).

Perceived usefulness is a key construct in the expectation-confirmation model (ECM), which solely focuses on usage-related assumptions (Oghuma et al., 2016). Perceived utility, as the most significant retrospective anticipation, is predicted to substantially impact users' post-acceptance effect (satisfaction) (Halilovic & Cicic, 2013). The reason perceived usefulness directly impacts satisfaction is that the perception of usefulness after use can be regarded as performance perception (Hsu & Chiu, 2004). The perceptions of what users gain from using an information system are perceived usefulness (Ouyang et al., 2017). The proposed research model posits that the perceived benefits of e-learning will positively impact students' perceived pleasure, usage, and advantages. (Rughoobur-Seetah & Hosanoo, 2021).

Hypothesis 4: Perceived usefulness has a significant impact on satisfaction.

Hypothesis 7: Perceived usefulness has a significant impact on continuance intention.

Satisfaction

Student satisfaction evaluates the effectiveness and quality of the learning management system (LMS) application based on students' expectations and experiences (Hussein & Hilmi, 2021). Satisfaction refers to an individual's sense of contentment or dissatisfaction resulting from comparing their perceived impression of a particular product or service and their expectations (Hsu & Chiu, 2004). Intention to continue can be directly influenced by perceived value, but satisfaction can mitigate this effect (Nugroho et al., 2019). Many e-learning researchers have conducted empirical studies that support the relationships among usage perceptions, satisfaction, usefulness, and information quality (Rughoobur-Seetah & Hosanoo, 2021). Consumer satisfaction and post-purchase behavior are commonly evaluated in the marketing field through the Expectation Confirmation Theory (ECT), which is based on the underlying theory of the expectation-confirmation model (Oghuma et al., 2016). Research has shown that customer satisfaction is crucial in determining whether they will repurchase a product or service (Halilovic & Cicic, 2013).

Hypothesis 5: Satisfaction has a significant impact on continuance intention.

Information Quality

The quality of information derived from the Learning Management System is evaluated based on how much instructors' teaching methods have been enhanced through its utilization (DeLone & McLean, 1992). The foundation of a successful information system model lies in providing high-quality information and a seamless, enjoyable user experience (Rughoobur-Seetah & Hosanoo, 2021). Information quality is a crucial predictor of student satisfaction and net benefits (Ching et al., 2021). Information quality enhances users' satisfaction and perception of its value (Chang, 2013). High information quality in a report refers to both its content and structure. Information quality measures encompass accuracy, completeness, currency, efficiency, relevance, scope, and timeliness (Cheng, 2014). Information quality pertains to issues with e-Learning content (Kim et al., 2022).

Hypothesis 6: Information quality has a significant impact on satisfaction.

Continuance Intention

Li and Kitcharoen (2022) posted that continuance intention can promote actual behavior. The user's intention to continue using the product is influenced by their perceived usefulness, information quality, confirmation, service quality, system quality, perceived usability, and cognitive absorption (Roca et al., 2006). The results indicate that users' enjoyment significantly impacts their persistent intention to use the product, which is jointly determined by perceived usability, quality, value, and discomfort (Chiu et al., 2005). The perceived value and well-being of e-learning systems in higher education libraries significantly impact users' intention to continue learning, as demonstrated by the strong predictive validity of the expectation-confirmation model of information system/information technology continuation (Cheng, 2014).

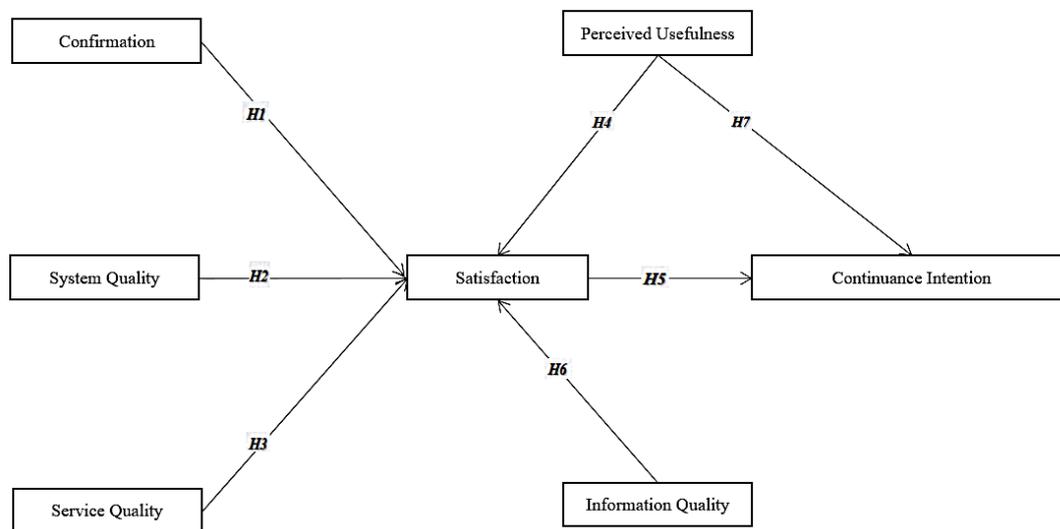
Research Methodology

Conceptual Framework

The present study's conceptual framework was established based on prior research findings, incorporating three theories (ECM, TAM, and ISSM) and three antecedent theoretical frameworks to enhance its construction. Cheng (2020) proposed the initial theoretical framework that explicated the interrelationships among three key variables in the extended ECM: confirmation, satisfaction, and continuance intention. Chang (2013) proposed a theoretical framework that elucidates the influence of System Quality (SYQ), Information Quality (IQ), and Service Quality (SQ) on customer satisfaction. Cheng (2014) proposed the third theoretical framework, which examines the impact of perceived usefulness - a core variable in TAM - on satisfaction and continuance intention. Figure 1 presents a comprehensive conceptual framework for this study.

Figure 1

Conceptual Framework



Note: Constructed by author

Research Design

The researchers personally administered questionnaires to undergraduate dance performance students who had experienced e-learning at three private universities: Sichuan University of Media and Communications (SUMC), Sichuan Technology and Business University (STBU), and Sichuan Film and Television University (SFTU). A probability sampling method was employed to gather, summarize, and analyze survey data to identify fundamental characteristics that significantly impact users' satisfaction and willingness to continue with e-learning. The initial section of the questionnaire consisted of screening questions. According to Cooper and Schindler (2011), screening questions facilitate the determination of whether respondents possess the necessary information. The second section pertains to Demographic Information, which Salkind (2017) identifies as a fundamental category of data that includes gender, age, socioeconomic status, and political affiliation. This information is essential for initial analysis in survey research. The final section employs a five-point Likert scale to evaluate participants' responses, which indicates their level of positive or negative endorsement of the topic at hand, according to Zikmund's (2003) definition.

Four experts with doctoral degrees and expertise in e-learning were enlisted to undertake a research project to validate the content validity of the Objective Alignment (IOC). The accuracy of objectives proposed by tool developers in this study was analyzed through their validation. As a result, all items are approved at a score of 0.6 or over. The objective of the pilot study is to evaluate the measure's validity after its development (Clark-Carter, 2010), and a sample size ranging from 25 to 100 is recommended for conducting the pilot test. (Cooper & Schindler, 2011). Therefore, 40 students participated in the pilot test, and Cronbach's Alpha scores were utilized to assess the internal consistency reliability of the questionnaire. Subsequently, the results show that all items were passed at a score of 0.7 or above (Nunnally, 1978).

The researchers established the instrument's validity and reliability through preliminary work, followed by administering paper questionnaires to 500 undergraduate dance performance students across four academic years (freshman to senior) at three targeted institutions. Moreover, the researchers employed confirmatory factor analysis (CFA) to evaluate factor loadings, t-values, composite reliability (CR), average variance extraction (AVE), and discriminant validity.

Research Population and Sample

Cooper and Schindler (2011) stated that the target population refers to the individuals, records, and events specifically selected for study to draw meaningful conclusions from the intervention. The study population consisted of undergraduate dance performance students from three representative private universities in the Chengdu area of China, namely Sichuan University of Media and Communications (SUMC), Sichuan Technology and Business University (STBU), and Sichuan Film and Television University (SFTU). Carefully considering sample size, a study may notice the presence of effects by chance, compromising its replicability or cross-validation potential (Zhang & Liu, 2018). Consequently, the researchers conducted screening, filtering, and quota selection to identify a final sample of 500 out of 2,820 students in total.

Data Analysis

The researcher opted for a multi-stage sampling approach as the sampling strategy for this study. Utilizing judgmental sampling, the selection is 2,820 undergraduates with a major in dance performance, and have at least one month of e-learning experience from the three selected private universities. A quota sampling method was ultimately employed to select 500 participants from the three universities. Convenience sampling was conducted by distributing an online questionnaire, resulting in a valid sample of 497 and an invalid sample of 3. The data collection period was between January to March 2023.

Demographics of Participants

Table 1 presents a comprehensive overview of the demographic profile information for the 497 respondents, with male participants comprising 20.7% and female participants accounting for 79.3%. The universities attended by respondents were distributed as follows: 36% at Sichuan University of Media and Communications (SUMC), 34.8% at Sichuan Technology and Business University (STBU), and 29.2% at Sichuan Film and Television University (SFTU). The distribution of years of study among students is as follows: 25.6% for first-year, 30.8% for second-year, 21.3% for third-year, and 22.3% for fourth-year.

Table 1

The demographic data

Demographic and General Data (n=497)	Category	Frequency	Percentage
Gender	Male	103	20.7%
	Female	394	79.3%
University Belong	SUMC	179	36%
	STBU	173	34.8%
	SFTU	145	29.2%
Grade Level	Freshman	127	25.6%
	Sophomore	153	30.8%
	Junior	106	21.3%
	Senior	111	22.3%

Results and Discussion

In CFA, factor analysis is a technique used to evaluate how a measurement instrument developed in different cultures fits various samples (Akkaya et al., 2022). It is also a method with a theoretical support for assessing how well factors composed of multiple variables fit actual data. For Cronbach's alpha reliability (CA) test, the results show that all items were passed at a score of 0.7 or above (Nunnally, 1978). The average variance extracted (AVE) is a numerical indicator ranging from 0 to 1, with a recommended threshold of 0.50 or higher for ensuring convergent validity. Based on the data presented in Table 5, it can be concluded that all average extracted variance (AVE) values exceeded 0.50, composite reliability (CR) was greater than 0.70, and factor loading values were higher than 0.50, as shown in Table 2.

Table 2

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

Variables	Source of Questionnaire	No. of Item	CA	Factors Loading	CR	AVE
Confirmation (CON)	Cheng (2020)	3	0.894	0.851-0.873	0.894	0.739
System Quality (SYQ)	Chang (2013)	5	0.885	0.760-0.799	0.885	0.607
Service Quality (SQ)	Chang (2013)	3	0.844	0.763-0.832	0.845	0.646
Information Quality (IQ)	Chang (2013)	6	0.885	0.725-0.772	0.885	0.563
Perceived Usefulness (PU)	Cheng (2020)	4	0.857	0.719-0.828	0.861	0.608
Satisfaction (SAT)	Cheng (2020)	4	0.888	0.809-0.827	0.888	0.665
Continuance Intention (CI)	Cheng (2020)	4	0.885	0.789-0.827	0.885	0.658

Based on the discriminant validity results presented in Table 3, it can be concluded that any two potential variables are connected by a coefficient less than 0.80. Therefore, discriminant validity is established through these quantitative measures.

Table 3

Square roots of AVEs and correlation matrix

	CON	SYQ	SQ	IQ	PU	SAT	CI
CON	0.860						
SYQ	0.299	0.779					
SQ	0.336	0.278	0.804				
IQ	0.315	0.330	0.234	0.750			
PU	0.267	0.249	0.264	0.194	0.780		
SAT	0.350	0.344	0.425	0.330	0.505	0.815	
CI	0.346	0.341	0.331	0.284	0.488	0.585	0.811

Note: The diagonally listed value is the AVE square roots of the variable

Table 4 compares the cardinal values for the entire range of degrees of freedom, including CMIN/DF, GFI, AGFI, CFI, NFI, TLI, and RMSEA, for the characteristics under investigation. The indices above of model fit are all appropriate for evaluating the goodness-of-fit in the CFA analyses conducted in this scientific study.

Table 4

Goodness of Fit for Measurement Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	< 3.00 (Hair et al., 2010)	1.123
GFI	≥ 0.90 (Bagozzi & Yi, 1988)	0.948
AGFI	≥ 0.85 (Schermelleh-Engel et al., 2003)	0.936
RMSEA	< 0.08 (Pedroso et al., 2016)	0.016

Fit Index	Acceptable Criteria	Statistical Values
CFI	≥ 0.90 (Hair et al., 2010)	0.995
NFI	≥ 0.80 (Wu & Wang, 2006)	0.952
TLI	≥ 0.90 (Hair et al., 2010)	0.994
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, RMSEA = Root mean square error of approximation, CFI = Comparative fit index, NFI = Normed fit index, and TLI = Tucker–Lewis index.

Structural Equation Modeling (SEM)

As anticipated in this study, the confirmation of structural equation modeling (SEM) was conducted following the CFA assessment. SEM, a statistical technique used to establish linear causal relationships between latent and observable variables and examine causal links across different domains, was employed. According to Jaruwanakul (2021), the purpose of SEM is to validate the causal relationships between latent and observable variables in a given study matrix, which also includes assessing the accuracy or precision of the relevant argument. As shown in Table 5, the total values of CMIN/DF, GFI, AGFI, CFI, NFI, TLI, and RMSEA were above the reasonable parameters after correction by SPSS AMOS version 24. Thus, the SEM fit was validated.

Table 5

Goodness of Fit for Structural Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	< 3.00 (Hair et al., 2010)	1.849
GFI	≥ 0.90 (Bagozzi & Yi, 1988)	0.903
AGFI	≥ 0.85 (Schermelleh-Engel et al., 2003)	0.885
RMSEA	< 0.08 (Pedroso et al., 2016)	0.041
CFI	≥ 0.90 (Hair et al., 2010)	0.961
NFI	≥ 0.80 (Wu & Wang, 2006)	0.919
TLI	≥ 0.90 (Hair et al., 2010)	0.957
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, RMSEA = Root mean square error of approximation, CFI = Comparative fit index, NFI = Normed fit index, and TLI = Tucker–Lewis index.

Hypothesis Outcomes

Based on the measurements in Table 6, it was found that perceived usefulness had the strongest direct impact on satisfaction, with a final standardized path coefficient (β) of 0.451 (t-value of 8.871***). Service quality had the second strongest impact on satisfaction with a β of 0.303 (t-value of 6.460***), followed by information quality with a β of 0.177 (t-value of 3.953***), system quality with a β of 0.150 (t-value of 3.395***), and confirmation with a β of 0.132 (t-value of 3.021**). The highest impact on Continuance Intention was satisfaction, with a β of 0.507 (t-value of 9.381***), making it the most significant factor in this quantifiable survey. Perceived usefulness followed closely behind with a β of 0.254 (t-value of 5.042***), indicating its strong influence.

Table 6*Summary of hypothesis tests*

Hypothesis	Standardized path coefficient (β)	t-value	Testing result
H1: Confirmation has a significant impact on user satisfaction.	0.132	3.021**	Supported
H2: System Quality has a significant impact on satisfaction.	0.150	3.395***	Supported
H3: Service Quality has a significant impact on satisfaction.	0.303	6.460***	Supported
H4: Perceived Usefulness has a significant impact on satisfaction.	0.451	8.871***	Supported
H5: Satisfaction has a significant impact on continuance intention.	0.507	9.381***	Supported
H6: Information Quality has a significant impact on satisfaction.	0.177	3.953***	Supported
H7: Perceived Usefulness has a significant impact on continuance intention.	0.254	5.042***	Supported

Note: *** $p < 0.001$, ** $p < 0.01$

Discussion

Based on the findings in Table 6, researchers suggest that H1 has demonstrated confirmation's contribution to satisfaction. This structural technique's standardized path coefficient threshold is 0.132, the lowest value found in this study. Tan and Kim (2015) argue that confirmation is a more significant concept for motivating satisfaction.

In the case of H2, the analysis indicates a marginally stronger influence of system quality on satisfaction with a standardized path coefficient value of 0.150. As Ching et al. (2021) suggested, student satisfaction is an important mediator between system effectiveness and e-learning outcomes. Therefore, the stability of an e-learning system can potentially affect students' perceived expectations regarding their level of satisfaction with that particular instructional platform.

The statistical results of H3 confirm the hypothesis that service quality significantly impacts satisfaction, with a standardized coefficient value of 0.303. From an educational perspective, the level of e-learning service quality explains the extent to which teachers impart knowledge to students (Kim et al., 2022). Therefore, service quality is a key determinant of overall satisfaction (Abu Seman et al., 2019).

Perceived usefulness is the most significant retrospective expectation influencing users' post-acceptance effect, particularly satisfaction (Halilovic & Cicic, 2013). Therefore, in line with H4, the results confirm that perceived usefulness exerts the strongest impact on learner satisfaction, with a standardized coefficient of 0.451.

Relevant studies H5, (Nugroho et al., 2019) have confirmed that satisfaction directly impacts persistence intention. The data reveals a critical effect of satisfaction on continuance intention, with a standardized value of 0.507, as the highest in this study.

When students encounter high-quality, accurate, and reliable information within the e-learning platform, their learning experience is enriched. This enhanced learning experience leads to a greater sense of achievement and satisfaction (Ching et al., 2021). Regarding H6, it has been determined that information quality contributes to satisfaction and ultimately reaches a standardized coefficient value of 0.177.

The perceived usefulness of the learning system constitutes a critical success factor for e-learning (Ozkan et al., 2009). Perceived usefulness ultimately exerts a more pronounced impact on the intention to continue using, as evidenced by a normalized path coefficient value of 0.254 for H7.

Conclusion and Recommendations

Conclusion

This research aimed to validate the determinants that impact e-learning satisfaction and continuance intention among undergraduate dance performance students enrolled in three private universities in China's Chengdu region. A conceptual framework was utilized to formulate seven hypotheses to verify the causal relationships among acknowledgment, system quality, service quality, information quality, perceived usefulness, satisfaction, and continuance intention. As part of the research methodology, a set of scale items were developed and administered to 500 undergraduate students majoring in dance performance with sufficient e-learning experience. Confirmatory factor analysis (CFA) was utilized to conduct scientific calculations to verify the conceptual framework's validity and reliability. Furthermore, structural equation modeling (SEM) was employed to validate the primary influences on the components that impact satisfaction and continuance intention, with all hypotheses being supported by the results.

The study's findings indicate that satisfaction exerts the most significant impact on continuance intention in this quantitative survey and can directly influence the dependent variable. Perceived usefulness also has a notable effect on continuance intention. Moreover, perceived usefulness demonstrates the strongest association with satisfaction, followed by service quality.

Recommendations

This study examined the satisfaction and continuance intentions of undergraduate dance performance students in private universities in Chengdu regarding e-learning. The researchers have formulated recommendations based on the relevant data that consider the interrelationships among seven variables. The system performance is critical to the entire learning process of users, providing them with direct and effective support services. When introducing e-learning systems, teaching units should maintain close communication with system developers, timely update the system, reduce vulnerabilities, improve operational stability, and ensure system security. Furthermore, system designers ought to fully leverage the benefits of cutting-edge science and technology, gather real-time user demands and feedback based on market conditions, conduct statistical analysis, and enhance each module's functionality accordingly. This will enable users to efficiently accomplish learning tasks, improve learning outcomes, and ultimately heighten user satisfaction.

System developers and educational institutions should actively collaborate to enhance the quality of learning resources. Besides instructing with self-made teaching materials, the online education system should leverage the advantages of the internet and network technology to develop e-learning resources effectively. After carefully screening these resources, they should be sorted and presented according to users' learning goals and interests. In the process of students' engagement in e-learning, enhancing process management and optimizing equipment utilization can improve feedback timeliness. A conducive learning environment is fostered by leveraging technology to deliver standardized, personalized, and innovative resources. Stimulate the subject's emotions and feelings, and fulfill communication needs by incorporating instructional activities. The quality of e-learning services can be enhanced from four aspects: management, resources, environment, and emotion, thereby further elevating student satisfaction levels. Only by continuously improving satisfaction can continuance intention to participate in e-learning be significantly strengthened.

Limitations and Further Study

The present investigation is centered on undergraduates with a major in dance performance from three private universities in the Chengdu, thus limiting the scope of findings to this specific group. A larger sample size would provide a more comprehensive understanding of online learning. Therefore, future studies could enhance the research framework by incorporating theories such as the theory of reasoned action (TRA), and theory of planned behavior (TPB) into existing ones. Additionally, expanding the geographical scope to include other provinces, cities, and autonomous regions while selecting more kilometers and private universities would be beneficial.

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