pISSN: 1906 - 6406 The Scholar: Human Sciences
eISSN: 2586 - 9388 The Scholar: Human Sciences
http://www.assumptionjournal.au.edu/index.php/Scholar

Factors Impacting Satisfaction and Continuance Intention with E-Learning of Students Majoring in Radio and Television Director at Private Art Schools in Western China

Wang Zhuan*

Received: October 20, 2023. Revised: February 19, 2024. Accepted: February 18, 2025.

Abstract

Purpose: This study aims to explore the factors impacting student satisfaction and continuance intention to use online learning among Radio and Television Directing majors in private art schools in western China. The key variables are perceived ease of use, perceived usefulness, informative quality, service quality, system quality, satisfaction and continuance intention. **Research Design, Data, and Methodology:** A quantitative approach was employed in this study. Data was collected from students majoring in Radio and Television Directing at three private art schools in western China. Confirmatory factor analysis (CFA) was used to assess the reliability and discriminant validity of the conceptual framework model. Structural equation modeling (SEM) was utilized to examine the relationships and influences among the different variables. **Results:** The research findings indicate that service quality is the most significant factor influencing student satisfaction with online learning, followed by usefulness, ease of use, information quality, and system quality. Furthermore, perceived satisfaction has a positive and significant impact on students' continued intention to use online learning. **Conclusions:** Educational institutions should focus on improving their electronic learning platforms, while policymakers should develop targeted policies and measures. Additionally, educational content can be tailored based on these research findings to cater to the diverse needs of students.

Keywords : E-learning, Service Quality, System Quality, Satisfaction, Continuance Intention

JEL Classification Code: E44, F31, F37, G15

1. Introduction

Higher education serves as both an economic driver and a core component of lifelong learning, and its importance in modern society is steadily increasing (UNESCO, 1996). With the development of educational technology, E-learning has been widely integrated into higher education, reshaping the landscape of higher education by breaking the barriers of fixed and predetermined locations (Yuan & Powell, 2013). Initiatives like the National Educational Technology Program (Higher Education Edition) (NETP, 2017) aim to redefine the role of technology in higher education, while the core objective of EU Digital Education Action Plan (2021) is to develop a high-performance digital education ecosystem, enhancing both the quality and quantity of technology-enhanced teaching.

Over the past decade, E-learning has made significant progress in China, with the Ministry of Education of China acknowledging that online education has transformed the roles of teachers, students, schools, and the educational landscape. It is considered a new teaching modality to help China's higher education leap into the future (Wu, 2021). In 2022, the Chinese Ministry of Education initiated a digitalization strategy for higher education, stating that modern education in the new era must be built upon digital education (Wu, 2022). The "National Higher Education Smart Education Platform" was established in the same year, offering over 20,000 high-quality courses across 13 disciplines and 92 majors, freely accessible to learners

1*Wang Zhuan, Sichuan Film and Television University, China. Email: 5971091@qq.com

worldwide (Wu, 2022). As of February 2022, China had over 52,500 MOOCs available on various online education platforms, with over 364 million registered users.

Traditionally, online education has been seen as more suitable for theoretical subjects, with limited applicability in practical education. In China's education system, the Radio and Television Directing major is divided into research-oriented and applied tracks, with the former emphasizing theoretical learning and the latter focusing on practical education. Among the top-ranked Radio and Television Directing programs in China, those offered by public universities primarily follow the research-oriented track. In contrast, applied programs are predominantly offered by private art schools. This study focuses on students majoring in applied Radio and Television Directing at three private art schools in western China. It aims to investigate their acceptance of E-learning, satisfaction with its use, and the factors influencing their adoption. The goal is to meet better the needs of teaching reforms and professional development in this field.

2. Literature Review

2.1 Perceived Ease of Use

Perceived Ease of Use refers to users' perceptions and beliefs regarding the ease of operating a specific entity, including their judgment of the ease of use of a particular system or technology (Davis, 1989). Therefore, emphasizing usability is crucial in developing system platforms as a fundamental design factor. Creating a user-friendly and intuitive platform can enhance the overall user experience and promote user acceptance and widespread adoption. Emphasizing PEU in developing system platforms can establish a positive feedback loop, increasing user satisfaction, higher engagement, and improved learning outcomes.

Perceived ease of use (PEU) is often considered one of the critical factors in assessing whether users are willing to use an e-learning system (Al-Gahtani, 2016). In an e-learning environment, perceiving e-learning as easy to use significantly impacts users' attitudes and interactions with the system. A positive impression of system usability can foster a favorable attitude toward technology, thus influencing subsequent use (Al-Hawari & Mouakket, 2010).

A wealth of research evidence underscores the positive correlation between perceived ease of use (PEU) and user satisfaction. Researchers like Almarashdeh (2016) and Najmul Islam (2015) have all substantiated this relationship in their respective studies. Thus, this study hypothesizes that:
H1: Perceived ease of use has a significant impact on perceived usefulness.

H3: Perceived ease of use has a significant impact on satisfaction.

2.2 Perceived Usefulness

Perceived Usefulness is a critical concept representing users' subjective judgments and beliefs regarding how much a specific application system can enhance their work performance or task execution (Davis, 1989). Before adopting new technology or systems, users typically form expectations and anticipations that it will improve their job or task performance (Rui-Hsin & Lin, 2018). For example, consider an Educational Learning System (ELS) - its effectiveness in enhancing learning outcomes directly shapes the PU students or employees have for the system. Their belief in how the ELS enhances their learning or work directly influences their perception of its usefulness (Al Natour & Woo, 2020). It is worth noting that PU plays a significant role in shaping users' attitudes, intentions, and behaviors regarding the adoption and continued use of a specific technology or system.

Perceived Usefulness (PU) has been extensively studied, and from various analytical perspectives and research contexts, multiple studies consistently establish PU as a key indicator of the success of learning systems. Lee and Lee (2008) emphasized; PU significantly impacts user engagement when using electronic learning systems. PU improves students' attitudes toward system usage, subsequently affecting their inclination to continue learning through the electronic learning system (Arbaugh, 2000a). In the context of online learning platforms, PU is positively correlated with online learners' satisfaction. Thus, this study hypothesizes that:
H2: Perceived usefulness has a significant influence on satisfaction.

2.3 Information Quality

Tam and Oliveira (2016), Information Quality involves comprehensively assessing various information characteristics. Information accuracy is a key indicator used to evaluate the precision and correctness of information, while information completeness examines whether information includes relevant and detailed content. Information relevance measures the degree of association between information and user needs and topics. Timeliness of information is another crucial feature, assessing whether information is provided to users promptly, allowing them to access the latest and most relevant information when needed. Information comprehensibility considers whether the information is presented concisely and clearly to ensure that users can easily understand and digest it. Finally, information accessibility involves whether information is easy to access

and use, including transmission channels and access methods. On online platforms, Information Quality relates to users' evaluation and perception of the information the website provides (McKinney et al., 2002).

A substantial body of research has consistently emphasized the close relationship between Information Quality and user satisfaction (Seddon & Kiew, 1996). When assessing users' SAT levels, ELS's effectiveness, and willingness to continue using it, INFQ has become a critical factor (Alsabawy et al., 2016). Freeze et al. (2010) stress that users pay more attention to information accuracy, completeness, relevance, timeliness, and appropriateness of content. High-quality information can enhance users' learning experiences, elevate their SAT levels, and strengthen their trust and willingness to use ELS. Thus, this study hypothesizes that:

H4: Information quality has a significant influence on satisfaction.

2.4 System Quality

System Quality is a comprehensive assessment of system functionality and one of the key factors in meeting users' expectations of improving work performance when utilizing the system (Alsabawy et al., 2016). In the context of e-learning platforms, SYSQ primarily involves the quality of features related to learner control (Farid et al., 2018; Lin, 2010). Additionally, research has shown that the quality of website structure and user-friendliness positively correlate with the SYSQ of e-learning systems (Zheng et al., 2013).

As emphasized by Chopra et al. (2019), System Quality (SYSQ) plays a crucial role in determining the overall success of information systems. The traditional dimensions of SYSQ include system availability, flexibility, accessibility, sustainability, and timeliness (Farid et al., 2018). Other researchers have proposed richer indicators for assessing SYSQ. However, regardless of the perspective or specific indicators used to measure SYSQ, the overall goal remains to evaluate whether these measures enhance the convenience of learning, streamline operational efficiency, and promote faster and more effective learning outcomes (Lin, 2010). By focusing on and optimizing different SYSQ indicators, individual learning experiences can be enriched, leading to improved learning outcomes and overall satisfaction. Thus, this study hypothesizes that:

H5: System quality has a significant influence on satisfaction.

2.5 Service Quality

Service Quality is a key concept introduced by Zeithaml et al. (1996) that revolves around aligning users' service expectations and their actual experiences. Sharma et al. (2017) contributed to the understanding of SERQ by emphasizing factors such as the responsiveness of the system platform, operational efficiency, reliability, and the ability to facilitate effective communication with service providers. Optimizing these aspects plays a crucial role in enhancing the overall SERQ of the system platform, subsequently leading to improved user experiences and higher SAT.

Cheng (2012) proposed five key dimensions to assess SERQ: tangibles, responsiveness, reliability, assurance, and empathy. Tangibles involve specific elements like equipment quality and visibility. Responsiveness assesses the system's ability to address user needs promptly. Reliability pertains to the credibility and stability of the service. Assurance includes providing a secure learning environment, while empathy reflects the platform's understanding of user needs and emotions. Other scholars, like DeLone and McLean (2003), suggest evaluating SERQ from seven dimensions, adding functionality and interactivity to the previous five dimensions. Thus, this study hypothesizes that:

H6: Service quality has a significant influence on satisfaction.

2.6 Satisfaction

Bhattacherjee (2001) suggests that satisfaction (SAT) is an emotional state, while Oliver (1980) posits that SAT represents users' overall impression or evaluation of a product or service after their usage experience. Users assess their SAT based on the gap between their expectations and actual usage experience (Bhattacherjee, 2001). SAT is important for evaluating whether an Electronic Learning System (ELS) meets user needs (Bokhari, 2001). A deeper understanding of users' SAT levels can be gained by assessing users' experiences in terms of system speed, quality, functionality, design, and interest and sense of achievement in online learning systems.

Shee and Wang (2008) regard user satisfaction (SAT) as a key indicator for evaluating the effectiveness of an e-learning platform's services, as it directly influences users' attitudes and behaviors toward the platform. In the context of ELS usage, researchers like Mirabolghasemi et al. (2021) emphasize the user SAT's critical role in such systems' success. Regarding metrics for assessing SAT, the user experience is crucial, including the system's usability, appealing interface design, and the convenience of interaction with the system (Chiu et al., 2007). Thus, this study hypothesizes that:

H7: Satisfaction has a significant impact on continuance intention.

2.7 Continuance Intention

Continuous Intention (CI) refers to the tendency of users to continue using a service platform after their initial use of the system (Bhattacherjee, 2001). Cho et al. (2009) pointed out that User Satisfaction (SAT) is critical in determining whether users are inclined to continue using a service. If users are satisfied with their interactions, they are more likely to persist in using the service, as SAT enhances user loyalty and engagement. Simultaneously, suppose users perceive a service as easy to use or beneficial. In that case, they are also more inclined to continue using it because they see it as meeting their needs and providing value to them. In conclusion, one fundamental factor in measuring the success of a system service platform is the intention to continue using it.

Continuous Intention (CI) is the inclination of users to continue using a system platform in the future, influenced by various direct and indirect factors. These factors include User Satisfaction (SAT) (Bhattacherjee, 2001), Attitude (Shih, 2004), Perceived Usefulness (PU) (Davis et al., 1989), Perceived Ease of Use (PEU) (Liao et al., 2007), System Quality (Chiu et al., 2005), and Negative Critical Incidents (Lin et al., 2010). User satisfaction is a critical indicator of users' emotional attachment to the system, and satisfied users are more likely to use it consistently. Whether individuals will continue using a system platform depends on its quality. High quality can ensure users' continued engagement, while low overall quality may diminish their intention to continue use (Sharma et al., 2017).

3. Research Methods and Materials

3.1 Research Framework

This study is primarily grounded in three theoretical frameworks: the Technology Acceptance Model (TAM) by Davis (1986), the Updated Information System Success Model (UISSM) by DeLone and McLean (2003), and the Post-Acceptance Model of Information System Continuance (ECM) by Bhattacherjee (2001). Additionally, the conceptual framework of this study draws from three research initiatives conducted by other scholars. The first theoretical framework, proposed by Singh and Sharma (2021), encompasses three variables: Perceived Usefulness, Perceived Ease of Use, and Satisfaction. The second theoretical framework, introduced by Chang (2013), includes four variables: System Quality, Information Quality, Service Quality, and Satisfaction. The final theoretical framework, presented by Cheng (2020), comprises two variables: Satisfaction and Continuance Intention.

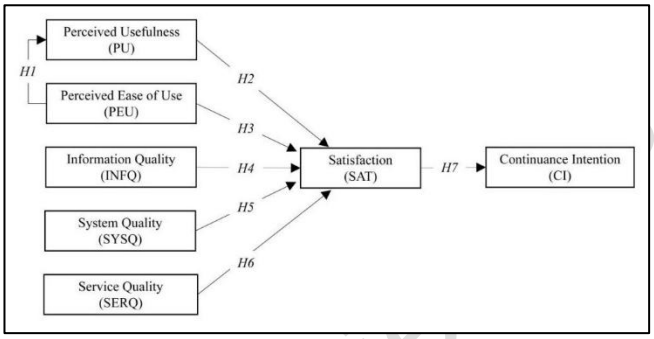

Figure 1: Conceptual Framework

H1: Perceived ease of use has a significant impact on perceived usefulness.
H2: Perceived usefulness has a significant influence on satisfaction.
H3: Perceived ease of use has a significant impact on satisfaction.
H4: Information quality has a significant influence on satisfaction.
H5: System quality has a significant influence on satisfaction.
H6: Service quality has a significant influence on satisfaction.
H7: Satisfaction has a significant impact on continuance intention.

3.2 Research Methodology

This study utilized E-learning to survey students majoring in radio and television directing from three private art colleges in western China. The questionnaire consisted of screening questions, demographic questions, and measurement variables. The measurement variables section employed Likert's five-point scale (Likert, 1932).

To ensure content validity, the researchers assessed the questionnaire using the Item Objective Consistency Index (IOC) before conducting a large-scale survey. A pilot test was conducted by distributing questionnaires to 40 target respondents, and the reliability of the questionnaire was confirmed through Cronbach's Alpha coefficient. The IOC assessment was performed by a panel of three experts, and all items surpassed the acceptable threshold of 0.6. The pilot test results confirmed the questionnaire's reliability through Cronbach's Alpha coefficient at over 0.7.

Subsequently, the researchers distributed the questionnaires to 1,000 radio and television directing students, resulting in 855 valid responses. From these responses, a random sample of 500 was selected for the study. The research findings were analyzed using AMO software (version 26) through Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM).

3.3 Population and Sample Size

The target population in the research refers to a group of individuals who share common characteristics and exhibit similar behaviors related to specific elements of the study (Zikmund et al., 2013). The target population for this study consists of students majoring in broadcast television directing from three private art colleges in western China who have used E-learning. The sample size refers to the number of respondents the researchers will survey (Kotler, 2000). According to Tanaka (1987), the suitable sample size for a model depends on various factors, such as the model's complexity, the number of parameters, the number of indicators, the number of factors, and so on. Therefore, in this study, the researchers used a calculator Soper (2015) developed to calculate the appropriate sample size, with a recommended minimum sample size of 425. In the end, 1000 questionnaires were distributed to the target population, and 855 valid responses were received, from which 500 were randomly selected to complete this study.

3.4 Sampling Technique

In this research, three different non-probabilistic sampling techniques were chosen for the data collection process: purposeful sampling (or judgmental sampling), stratified random sampling, and convenience sampling. To begin with, the study defined its target sample by applying three specific criteria: students currently enrolled in broadcasting and television directing programs at three privately owned art colleges located in Western China and who possess prior experience with E-learning. Following this, a stratified proportional sampling method was employed to collect data from the three educational institutions, adhering to the distribution ratios outlined in Table 1. Subsequently, upon securing students' consent, an online questionnaire survey was conducted across the three schools.

Table 1: Sample Units and Sample Size

Discipline	Population Size	Proportional Sample Size
Communication University of China, Nanjing (CUCN)	929	115
Hebei Institute of Communications (HEBIC)	2684	331
Hebei Academy of Fine Arts (HBAFA)	439	54
Total	**4052**	**500**

Source: Constructed by author

4. Results and Discussion

4.1 Demographic Information

As shown in Table 2, among the 500 respondents, 31.6% were male, while 68.4% were female. Regarding their academic year, 19% were first-year undergraduate students, 30.2% were second-year students, 30.8% were third-year students, and 20% were fourth-year students. Concerning their experience with E-learning, 31.6% of the students had less than one year of experience, 43.8% had 1-2 years of experience, and 24.6% had over two years of experience. Regarding usage frequency, 27.8% of students used E-learning for less than one hour per week, 30.4% for 1-5 hours per week, and 41.8% for more than 5 hours per week. Regarding the courses they used E-learning for, 40.4% of the students studied elective courses, while 59.6% studied courses related to their majors.

Table 2: Demographic Profile

Demographic and General Data (N=500)		Frequency	Percentage
Gender	Male	158	31.6%
	Female	342	68.4%
Grade	Freshman	95	19.0%
	Sophomore	151	30.2%
	Junior	154	30.8%
	Senior	100	20.0%
Duration of use	Within one year	158	31.6%
	One to two years	219	43.8%
	More than two years	123	24.6%
Frequency of Study	Less than 1 hour per week	139	27.8%
	1-5 hours per week	152	30.4%
	More than 5 hours per week	209	41.8%
Main Study Courses	General Elective Courses	202	40.4%
	Major Courses	298	59.6%

4.2 Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) is primarily used to assess the overall model's fit, reliability, convergent validity, and discriminant validity (Siriphat, 2016). Cronbach's Alpha was used to assess the questionnaire's reliability. Table 3 demonstrates that the alpha coefficient values for each variable exceed 0.7, indicating the reliability of all constructs. Construct validity reflects the relationship between research instruments and existing theories or conceptual frameworks (Peter, 1981) and can be confirmed using CFA. This study used Factors Loading, average variance extracted (AVE), and composite reliability (CR) to examine the research framework. In this study, all variables have Factors Loading greater than 0.5, p-values less than 0.05, CR values exceeding 0.7, and AVE values greater than 0.5, indicating appropriate convergent validity.

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
Perceived Usefulness (PU)	Cheng (2020)	4	0.893	0.796-0.856	0.894	0.678
Perceived Ease of Use (PEU)	Lin and Lee (2006)	3	0.775	0.724-0.750	0.777	0.537
Information Quality (INFQ)	Chang (2013)	4	0.876	0.774-0.874	0.878	0.644
System Quality (SYSQ)	Cheng et al. (2013)	4	0.877	0.786-0.812	0.877	0.642
Service Quality (SERQ)	Cheng et al. (2013)	3	0.863	0.789-0.854	0.864	0.680
Satisfaction (SAT)	Cheng (2020)	3	0.884	0.834-0.858	0.885	0.719
Continuance Intention (CI)	Cheng (2020)	4	0.899	0.807-0.862	0.900	0.692

Schermelleh-Engel et al. (2003) suggest using the Goodness-of-Fit (GoF) to determine how closely the model matches the observed data. As shown in Table 4, the GoF values are CMIN/DF = 1.568, GFI = 0.940, AGFI = 0.923, NFI = 0.949, CFI = 0.981, TLI = 0.977, and RMSEA = 0.034.

Table 4: Goodness of Fit for Measurement Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	< 3.00 (Hair et al., 2015)	1.568
GFI	≥ 0.90 (Hair et al., 2006)	0.940
AGFI	≥ 0.85 (Schermelleh-Engel et al., 2003)	0.923
NFI	≥ 0.90 (Hair et al., 2006)	0.949
CFI	≥ 0.90 (Hair et al., 2006)	0.981
TLI	≥ 0.90 (Hair et al., 2006)	0.977
RMSEA	< 0.05 (Hu & Bentler, 1999)	0.034
Model Summary		**Acceptable Model Fit**

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

Rahim and Magner (1995) argue that discriminant validity is achieved when the inter-construct correlations are lower than the AVE. In this study, all AVE values exceed the inter-construct correlations, thus indicating an acceptable measurement model (Table 5).

Table 5: Discriminant Validity

	PU	PEU	INFQ	SYSQ	SERQ	SAT	CI
PU	**0.824**						
PEU	0.525	**0.733**					
INFQ	0.186	0.201	**0.802**				
SYSQ	0.027	0.079	0.165	**0.801**			
SERQ	0.475	0.537	0.241	0.032	**0.825**		
SAT	0.586	0.540	0.293	0.162	0.625	**0.848**	
CI	0.543	0.471	0.249	0.087	0.531	0.646	**0.832**

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

4.3 Structural Equation Model (SEM)

Kaplan (2009) considers Structural Equation Modeling (SEM) one of quantitative social scientists' most effective statistical techniques. SEM aims to provide assumptions about the mean, variance, and covariance of observed variables based on the basic information or a small number of structural variables in the theoretical framework. As shown in Table 6, the statistical values include CMIN/DF = 2.196, GFI = 0.922, AGFI = 0.900, NFI = 0.929, CFI = 0.960, TLI = 0.952, and RMSEA = 0.049. These values confirm the adequacy of the structural models.

Table 6: Goodness of Fit for Structural Model

Index	Acceptable	Statistical Values
CMIN/DF	< 3.00 (Hair et al., 2015)	2.196
GFI	≥ 0.90 (Hair et al., 2006)	0.922
AGFI	≥ 0.85 (Schermelleh-Engel et al., 2003)	0.900
NFI	≥ 0.90 (Hair et al., 2006)	0.929
CFI	≥ 0.90 (Hair et al., 2006)	0.960
TLI	≥ 0.90 (Hair et al., 2006)	0.952
RMSEA	< 0.05 (Hu & Bentler, 1999)	0.049
Model Summary		**Acceptable Model Fit**

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

Schreiber et al. (2006) posit that Structural Equation Modeling (SEM) comprises two fundamental components: Confirmatory Factor Analysis (CFA) (Measurement Model) and the Structural Model. The Measurement Model within SEM assesses the associations between latent constructs and their observable indicators, while the Structural Model examines the relationships between endogenous and exogenous constructs.The hypothesis testing results indicate that H1, H2, H3, H4, H5, H6, and H7 are all supported.The elucidation of the hypothesis testing in this study is presented as follows (Table 7):

Table 7: Hypothesis Results of the Structural Equation Modeling

Hypothesis	(β)	t-value	Result
H1: PEU→PU	0.645	10.860*	Supported
H2: PU→SAT	0.417	6.976*	Supported
H3: PEU→SAT	0.469	3.317*	Supported

Hypothesis	(β)	t-value	Result
H4: INFQ→SAT	0.125	3.252*	Supported
H5: SYSQ→SAT	0.138	3.155*	Supported
H6: SERQ→SAT	0.484	11.082*	Supported
H7: SAT→CI	0.699	13.772*	Supported

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

H1: Perceived Ease of Use has a significant positive effect on Perceived Usefulness, with a standardized path coefficient of 0.645 and a T-value of 10.860*. This indicates that when students perceive the online learning system as easier to use, it enhances their perception of its usefulness in learning, consistent with previous research (Arteaga Sánchez et al., 2013; Robey & Farrow, 1982; Wu & Chen, 2005).

H2: Perceived Usefulness has a significant positive effect on Satisfaction, with a standardized path coefficient of 0.417 and a T-value of 6.976*. This suggests that students' perception of the system's usefulness positively relates to their satisfaction (Sørebø et al., 2009; Stone & Baker-Eveleth, 2013). This finding aligns with previous research by Lin and Wang (2012), Xu et al. (2017), Arif et al. (2017), and others, emphasizing the positive impact of perceived usefulness on user satisfaction.

H3: Perceived Ease of Use has a significant positive effect on Satisfaction, with a standardized path coefficient of 0.469 and a T-value of 3.317*. This indicates that a positive impression of the ease of use of the learning platform can foster a positive attitude toward online learning (Al-Hawari & Mouakket, 2010). This finding is consistent with previous studies by Liaw (2008), Arbaugh and Duray (2002), and Saadé and Kira (2009), suggesting that the perceived ease of use of e-learning technology significantly influences user attitudes, leading to a positive overall experience.

H4: Information Quality significantly positively affects Satisfaction, with a standardized path coefficient of 0.125 and a T-value of 3.252*. This implies that students' assessment of information quality in the online learning platform significantly impacts their satisfaction (Mirabolghasemi et al., 2021; Urbach & Müller, 2012), aligning with research by Seddon and Kiew (1996), Sharma et al. (2017), Al-Samarraie et al. (2017), and others, emphasizing the role of accurate, relevant, and reliable information in enhancing user satisfaction.

H5: System Quality significantly positively affects Satisfaction, with a standardized path coefficient of 0.138 and a T-value of 3.155*. This indicates that as students evaluate online education system quality (SYSQ), their satisfaction with online learning increases (DeLone & McLean, 2003). This finding is consistent with research by Seddon and Kiew (1996), Cheng et al. (2008), and Chopra et al. (2019), emphasizing the positive correlation between SYSQ and user satisfaction.

H6: Service Quality has a significant positive effect on Satisfaction, with a standardized path coefficient of 0.484 and a T-value of 11.082*. A well-designed service system can enhance user satisfaction, fostering positive interaction between the platform and users (Park & Kim, 2003). This aligns with the findings of Al-Hawari and Mouakket (2010), Lee and Lee (2008), Oktal et al. (2016), Al-Busaidi and Al-Shihi (2012), Pitt et al. (1995), and others, emphasizing the positive relationship between perceived service quality and user satisfaction.

H7: Satisfaction significantly positively affects Continuance Intention, with a standardized path coefficient of 0.699 and a T-value of 13.772*. This suggests that satisfied online learning platform users are more likely to continue using it (Danaher & Rust, 1996). Previous research by Chiu and Wang (2008), Anderson and Sullivan (1993), Larsen et al. (2009), and others have also observed that satisfaction is a necessary precondition for continued system usage and directly predicts users' intentions to continue using the system.

5. Conclusion and Recommendation

5.1 Conclusion and Discussion

Online education is increasingly significant in today's higher education landscape. This paper explores online education's role in practical teaching, focusing on students majoring in Radio and Television Directing at three private art colleges in western China. The conceptual framework is derived from three core theories and three previous theoretical frameworks, encompassing key variables such as Perceived Usefulness (PU), Perceived Ease of Use (PEU), Information Quality (INFQ), System Quality (SYSQ), Service Quality (SERQ), Satisfaction (SAT), and Continuance Intention (CI). Additionally, the researcher proposed seven hypotheses to validate the defined research questions. Before the formal large-scale testing, the researcher conducted a small-scale experiment, collecting 40 questionnaire responses and utilizing Item Objective Consistency (IOC) and Cronbach's alpha to validate the effectiveness and reliability of the test questionnaire. Subsequently, electronic questionnaires were employed to gather data from 500 Radio and Television Directing students at three private art colleges in western China. Confirmatory Factor Analysis (CFA) was utilized to assess the reliability and discriminant validity of the framework model. At the same time, Structural Equation Modeling (SEM) was employed to examine the relationships and impacts among various variables.

The findings of this study can be summarized as follows. First and foremost, the research results indicate a positive

correlation between students' perceived ease of use of the online education system and their perceived usefulness. PEU emerges as the primary determinant of PU (Mohammadi, 2015). When students find system operations easy, they are more inclined to perceive online learning as useful. Therefore, when designing online education systems, attention should be paid to ease of use.

Additionally, it was observed that students' satisfaction with online education is positively associated with their intention to continue using it for their studies. Satisfaction is a key indicator of usage intention (Bhattacherjee, 2001). Online learning platforms should focus on satisfaction metrics to cultivate a loyal user base, increasing user retention and continued usage. Secondly, Service Quality (SERQ) exerts the greatest influence on Satisfaction (SAT) and plays a critical role in shaping user satisfaction (Oktal et al., 2016). Effective service provision in online education, featuring multiple service channels, clear service pathways, and high-quality service feedback systems, is crucial for enhancing students' satisfaction with online learning. Thirdly, Perceived Usefulness (PU) ranks second in influencing SAT scores. Research by Lin and Wang (2012) identified PU as a critical factor for SAT. Thus, when students perceive that online learning effectively supports their learning needs, they tend to be satisfied with it. Lastly, the results indicate that Perceived Ease of Use (PEU), Information Quality (INFQ), and System Quality (SYSQ) are all primary factors influencing students' satisfaction. This finding aligns with studies by Arbaugh (2000b) and DeLone and McLean (2003), which consider PEU, INFQ, and SYSQ as critical dimensions affecting user SAT.

In summary, the determinants of students' satisfaction with online education include SERQ, PU, PEU, INFQ, and SYSQ. Furthermore, students' satisfaction with online education is a key factor in predicting whether they will continue to use online learning.

5.2 Recommendation

This study is based on three core theories and constructs a research conceptual framework. The three core theories are the Technology Acceptance Model (TAM), the Updated D&M Information System Success Model (UISSM), and the Expectation-Confirmation Model (ECM).

First, this study confirms TAM, where students' perceived usefulness and ease of use of the e-learning system significantly impact whether students continue to use online learning. This finding is supported by research by Davis et al. (1989) and Cheng (2019). Secondly, UISSM is used to validate the significant impact of INFQ, SYSQ, and SERQ on SAT and CI, with SAT having a significant impact on CI. This has also been confirmed in the research of Hossain (2016) and Almarashdeh (2016). Finally, ECM is used to validate the significant impact of PU on SAT and CI, with SAT having a positive correlation with CI. This viewpoint has been confirmed in prior research by Lee and Lehto (2013) and Arbaugh (2000a).

In terms of practical significance, the findings of this study indicate that students' satisfaction with online learning can predict whether they are willing to continue using the online learning platform for further studies. Furthermore, students' satisfaction with online learning is influenced by multiple factors, including perceived usefulness, ease of use, information quality, system quality, and service quality. The practical significance of this study is reflected in several aspects: Firstly, this research contributes to improving the quality of education by guiding educational institutions to enhance their e-learning platforms and provide higher-quality online educational content and technical support. Secondly, it informs decision-making by helping education policymakers formulate more targeted policies and measures to promote the development of online learning and enhance students' learning experiences. Thirdly, this research provides important insights for implementing personalized education. Future research can continue investigating different countries, regions, or majors by understanding the demands and feedback of Chinese radio and television, directing students regarding various factors. Educational institutions can then customize course content and learning support to meet the diverse needs of students.

In summary, this study has practical implications for enhancing education quality, informing policymaking, and guiding the implementation of personalized education in the context of online learning among radio and television-directing students in China.

5.3 Limitation and Further Study

Despite the considerable effort invested by researchers in designing the research framework and conducting data analysis, this study still has some limitations. For this reason, the following suggestions are provided regarding future research directions: Firstly, future studies may consider conducting cross-cultural comparative research to understand the differences in student satisfaction and continuous intention under different cultural backgrounds. Furthermore, it would be valuable to delve deeper into the impact of cultural factors on e-learning. Secondly, future research can employ various data collection methods, including surveys, observations, and academic performance records, to ensure data diversity and objectivity. Thirdly, future studies could comprehensively explore students' psychological factors, such as learning motivation, attitudes, and emotional states, to understand their influence on satisfaction and continuous intention.

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