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Measuring Determinants of Satisfaction with Online Courses of Adult Higher Education Among Junior College Students in Chengdu, China

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Abstract

Purpose: This study aims to investigate adult higher education junior college students' levels of satisfaction with online course instruction in Chengdu. The method of quantitative survey research is used in this study. Perceived ease of use, perceived usefulness, service quality, information quality, system quality, self-efficacy, and satisfaction were chosen to build the conceptual framework. **Research design, data, and methodology:** The reliability and validity of constructs are evaluated by item-objective consistency study units of adult education distributed to 498 junior college students at one university. Confirmatory factor analysis and structural equation modeling are employed to assess the data, the accuracy of the matrix, the impact of the key factors, the validity of the hypotheses, and the path coefficients. Data analysis techniques include structural equation modeling (SEM) and confirmatory factor analysis (CFA). **Results:** Perceived ease of use, perceived usefulness, service quality, information quality, system quality, and self-efficacy significantly impact satisfaction. **Conclusions:** Consequently, for adult higher education junior college students to acknowledge the effectiveness of online courses, the administrators and teaching staff of continuing education schools in public universities should emphasize the latent variables which have exerted a significant effect on satisfaction with online courses and design relevant teaching reforms according to the results of this quantitative research.

Keywords : Online Course, Perceived ease of use, Perceived usefulness, Self-efficacy, User satisfaction.

JEL Classification Code: E44, F31, F37, G15

1. Introduction

Online courses fully utilize the benefits of rapid information updating, wide network distribution, and convenience. Wu (2006) believed that online courses are mainly asynchronous autonomous learning courses implemented through the network under the guidance of curriculum theory, learning theory, and teaching theory, and it is the sum of teaching contents and activities in the online learning environment designed to achieve the curriculum objectives of a certain discipline field.

Online courses with adult learners as the teaching object often transfer the online teaching content and form of general education to adult learners, which results in the low effectiveness of adult online teaching (Zhang, 2022). The curriculum content design is guided by theoretical knowledge and a need for practical courses (Yang & Yang, 2022). Online courses lack communication and emotional interaction, and data security and privacy protection are not guaranteed (Zhou & Xia, 2022). Online courses of adult higher education often follow the online course teaching mode of general education, ignoring the characteristics and needs of adult learners.

Despite the growing popularity of online course instruction in adult higher education junior colleges, there remains a gap in understanding the levels of satisfaction

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among students in Chengdu. This study aims to address this gap by investigating the factors influencing satisfaction with online course instruction in this demographic.

While there is a substantial body of research on online course satisfaction in various educational contexts, there is a lack of specific studies focusing on adult higher education junior college students in Chengdu, particularly regarding their satisfaction levels with online instruction. Furthermore, there is a need to explore the interplay of factors such as perceived ease of use, perceived usefulness, service quality, information quality, system quality, self-efficacy, and satisfaction in this specific context.

With the increasing use of online courses, there is a growing concern about how well users learn. User satisfaction is an important factor affecting online course learning effect. Studying the influence factors of online course satisfaction helps improve adult learners' effective learning. The structural equation model and confirmatory factor are used to analyze the findings of this study. Based on prior research, perceived usefulness, perceived simplicity of use, service quality, information quality, system quality, and self-efficacy play an important role in satisfaction with online courses.

2. Literature Review

2.1 Perceived Ease of Use

The term "an individual's assessment of how simple a system is to execute" describes perceived ease of usage. This is implied by "ease," which is "freedom from hardship or excessive effort." Individuals can allocate limited energy to the other tasks they are responsible for (Zhong et al., 2022). We assert that other things being equal, users like to adopt an application that they find easier to use than other applications. Namely, the definition of perceived ease of use is the proportion of students who think adopting online learning tools will not need any cognitive effort (Davis, 1989). It indicates to what extent someone believes utilizing a particular system would be simple (Cho et al., 2009). It also demonstrates how someone feels that applying the suggested technique will be straightforward (Hussein et al., 2020). The psychological burden and ease of learning brought on by technology were, to some extent, related to perceived ease of usage.

Moreover, they believed using the Google Application would be simple. It related to the degree to which the operator thought using a particular specific technique was not tough (Davis, 1989). According to prior research, user likes to use the new system driven by perceived ease of use (Kim et al., 2008). Hence, below hypotheses are set:

H1: Perceived ease of use has a significant impact on perceived usefulness.
H2: Perceived ease of use has a significant impact on user satisfaction.

2.2 Perceived Usefulness

Adopting the system to explain perceived usefulness would positively enhance a person's ability to behave (Davis, 1989). This is specified as the subjective likelihood that a prospective user would find a certain application beneficial and that it would increase work efficiency in the setting of an organization (Lee, 2006). According to the definition provided, perceived usefulness relates to how much a person thinks adopting new technology will enhance productivity during work (Almarashdeh, 2016). This notion is "the amount to which a person feels employing a given technology would improve his or her ability to execute a task" (Shao, 2018). The extent to which people believe something will assist them in accomplishing a job is known as perceived usefulness. Furthermore, one's capacity for invention is significantly influenced by their perception of benefit (Alsabawy et al., 2016). Thus, a hypothesis is set:
H3: Perceived usefulness has a significant impact on user satisfaction.

2.3 Service Quality

The assessment of the service quality by a user of the overall caliber of services offered by an IS (Kim et al., 2008). It entails having a variety of contact channels available to assist clients in quickly resolving information system usage issues (Bhattacherjee, 2001). In order to quickly assist consumers in resolving IS usage of difficulty, the availability of many communication channels is referred to as service quality (Ahn et al., 2004). Service quality comprises trust, responsiveness, and personalization and gauges the website's total level of support (Lin, 2007). Service quality is essential for information systems, a major concern for E-learning systems. The user's assessment of the system's total level of service is referred to as the quality of service (Alsabawy et al., 2016). Accordingly, a hypothesis is indicated:
H4: Service quality has a significant impact on user satisfaction.

2.4 Information Quality

Information quality is assessed using users' opinions of a piece of information's correctness, completeness, and timeliness (Lee et al., 2007). A gauge of the information's accuracy is how much teachers' instruction approaches advance after using what they learn from the LMS (Hussein et al., 2020). The standard of information that online services

provide is known as information quality. Its evaluation criteria consider information completeness, timeliness, correctness, and form (Lin, 2007). It is called user assessment of the overall quality of the content provided by a particular network service (Wu & Chen, 2015). The perceived result of using information systems is called information system performance. Performance is one of the first factors considered when gauging user happiness (Montesdioca & Maçada, 2015). Consequently, this study hypothesizes that:

H5: Information quality has a significant impact on user satisfaction.

2.5 System Quality

Website is evaluated as information processing systems under system quality, which draws on engineering-focused performance characteristics like aesthetics and operational efficiency (Ahn et al., 2004). The availability of various contact channels for promptly supporting users in resolving information system usage issues is called system quality (Bhattacherjee, 2001). Multiple communication channels must be available for users to receive timely assistance resolving problems during IS use. The system's actual performance determines its system quality (Ahn et al., 2007). Based on response speed, system dependability, adaptability, accessibility, utility, simplicity of use, and easy learning, it defined system quality as "the amount to which the system will have the defining qualities of the information system itself" (Eom, 2012). A web-based information system's system quality evaluates a website's usability. Users prize characteristics such as system dependability, accessibility, response time, and adaptability (Lin, 2007). Subsequently, a hypothesis is suggested:

H6: System quality has a significant impact on user satisfaction.

2.6 Self-efficacy

The original concept of self-efficacy is typically used to describe a person's beliefs and perceptions about their abilities to use techniques and objects, such as computers and the internet. The phrase "computer self-efficacy" is later coined by management information systems (MIS) researchers as a crucial MIS research construct (Eom, 2012). The degree of task difficulty one believes is feasible is called self-efficacy magnitude. People with high self-efficacy have more confidence than those with low self-efficacy in completing challenging tasks. Self-efficacy in IT refers to a person's perception of their ability to use a computer to achieve tasks rather than simple component skills (Compeau & Higgins, 1995). The word "self-efficacy" relates to a student's belief in their capacity to execute particular learning tasks in an online learning environment (Tarhini et al., 2017). It is described as "evaluating one's abilities to implement the essential steps to deal with impending change" (Davis, 1989). It evaluates a person's ability to do a certain job per the intended aims (Fokides, 2017). Based on the assumptions, this study can put forward a hypothesis:

H7: Self-efficacy has a significant impact on user satisfaction.

2.7 User Satisfaction

Since satisfaction is "finally a sensation felt inside of the per Since satisfaction is "finally a sensation felt inside of the person's head," their early definition of user satisfaction noted that a response to it "may be both intellectual and emotional." User satisfaction is a term used to describe how well consumers feel that the information systems they use to satisfy their information needs (Almarashdeh, 2016). According to the D&M model, user satisfaction refers to how much a user likes or approves of an information system and its results. The net benefits are increased when users are more satisfied. It is often used to evaluate its effect on working behaviors, perceived utility, and organizational effectiveness (Ramirez-Correa et al., 2017). The extent of a user's perceived utility and desire to utilize a system once more is known as user satisfaction (Xinli, 2015). User satisfaction measures a user's satisfaction with a system's caliber, quantity, speed, and format (DeLone & McLean, 2016). This study defines user satisfaction as network users' contentment with their choice to utilize the net and how well it meets their goals (Wang et al., 2007). According to marketing research, client retention and repurchase intentions are greatly influenced by satisfaction. The comparison of product quality following a purchase with expectations prior to purchase can be made (Lee et al., 2007).

3. Research Methods and Materials

3.1 Research Framework

Blaxter et al. (2010) claimed that theories help researchers understand how variables are connected. Perceived usefulness is determined by perceived ease of use due to usability being necessary for information technology to function effectively (Goodwin, 1987). Devaraj et al. (2002) found that customer satisfaction is impacted by perceived ease of use as the change of electronic products expanded. According to the results of Alraimi et al. (2015), perceived usefulness and user satisfaction greatly influence the user's online courses. The service quality indirectly influences the user's satisfaction (Oktal et al., 2016). The satisfaction of the user is affected by information quality, and

it also affects the user's decision to utilize E-learning systems going forward (Alsabawy et al., 2016). According to AL-Sabawy (2013), several researchers study how the system quality affects the user's satisfaction when assessing the efficacy of E-learning systems. Numerous studies have discovered strong positive correlations between user satisfaction and self-efficacy (Hong et al., 2016).

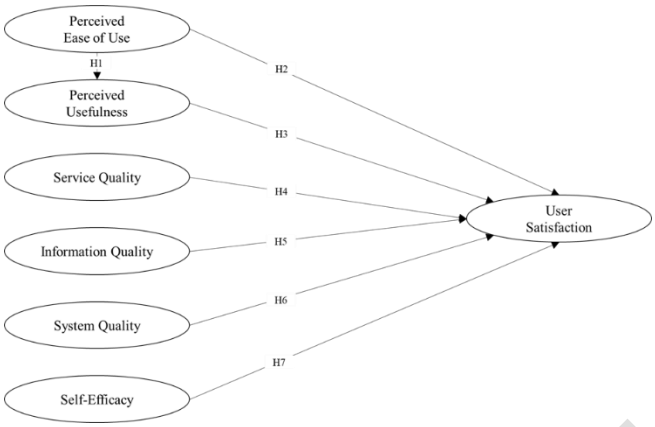

Figure 1: Conceptual Framework

H1: Perceived ease of use has a significant impact on perceived usefulness.
H2: Perceived ease of use has a significant impact on user satisfaction.
H3: Perceived usefulness has a significant impact on user satisfaction.
H4: Service quality has a significant impact on user satisfaction.
H5: Information quality has a significant impact on user satisfaction.
H6: System quality has a significant impact on user satisfaction.
H7: Self-efficacy has a significant impact on user satisfaction.

3.2 Research Methodology

The researcher employed the probability sampling methodology for research and administered the questionnaire in person to junior college students from adult higher education in Chengdu, China. This empirical study's target sample demographics are the entire junior college students in accounting, preschool education, automobile engineering, and civil engineering majors from adult higher education at Xihua University, China. Observational data are aggregated and investigated to determine the fundamental characteristics affecting the participant's satisfaction with the online course. Particularly in social science research, the questionnaire is one of the most popular tools to gather data. The questionnaire aims to collect data (Taherdoost, 2016). We believe there is a trade-off between the accuracy of the demographic information acquired and the amount of work necessary (Pazzani, 1999). The five-point Likert scale is used to identify the beneficial and satisfying factors influencing the students with the Ph.D. thesis. Likert (1932) developed a scale and method for measuring attitudes. Several different types of Likert scale-based attitude measurement methodologies are in use (Göb et al., 2007).

To analyze the accuracy of objectives proposed by the instrument developer for this research, four experts with appropriate competence in online courses are invited to undertake the item-objective congruence (IOC) for content validity. To verify the instrument's reliability, 40 students participated in the pilot experiment; Cooper and Schindler (2013) stated that the ideal sample size is between 25 and 100. The ratings obtained from three experts by the IOC exceeded a score of 0.6, indicating approval. Additionally, the pilot test demonstrated Cronbach's alpha coefficient values that surpassed the acceptable threshold of 0.7, as specified by Nunnally and Bernstein (1994).

Cronbach's Alpha score assesses the internal consistency reliability of the questionnaire. After establishing the instrument's validity and reliability, 500 junior college students from the target institutions were given paper-based surveys. IBM SPSS and AMOS evaluate the data. Additionally, the discriminant validity confirmatory is evaluated by factor analysis (CFA), average variance extracted (AVE), composite reliability (CR), factor loading, and t-value. The structural equation model (SEM) verifies the relationship between latent constructs.

3.3 Population and Sample Size

The demographic of the empirical study's target sample is the junior college students of adult higher education from accounting, preschool education, automobile engineering, and civil engineering at Xihua University, China. Sample size needs to be carefully considered because it substantially impacts statistical approaches (Rahi, 2017). According to the computed conclusions, the minimal sample size for this empirical research should be at least 425 for undergraduate and junior college students. In order to cope with the possible invalid data, the researcher selected more than 75 students as insurance. According to the equation modeling statistical technology, 500 students as a sample size are suitable and sufficient to obtain significant results.

3.4 Sampling Technique

The researchers employ a two-stage multistage sampling method. First, the researchers use the judgment sampling

method to select students with online education experience from the higher adult education units cooperating with Xihua University. Second, through the quota selection method, 500 respondents were selected from the majors of accounting, preschool education, civil engineering, and automotive service engineering as the final sample. Sample units and sample sizes are shown in Table 1. Convenience sampling is to distribute online questionnaire to the target group.

Table 1: Sample Units and Sample Size

Educational Background	Subjects	Population Size	Proportional Sample Size
Undergraduate Students	Accounting	804	82
	Preschool Education	743	76
	Automobile Engineering	1912	196
	Civil Engineering	1431	146
Total		**4890**	**500**

Source: Constructed by author

4. Results and Discussion

4.1 Demographic Information

The demographic profile is shown in Table 2. Male respondents comprised 65.66% of all respondents, while female respondents comprised 34.34%. According to the enrollment of adult education majors in the university, 16.07% of accounting majors participated in the activity, and 15.86% of students majored in preschool education. 40.56% of the students majored in automotive engineering and 27.51% in civil engineering. Regarding age distribution, 59.04% were aged 18 to 21, 9.04% were aged 22 to 25, 11.64% were aged 26 to 29, 4.62% were aged 30 to 33, and 15.56% were over 34.

Table 2: Demographic Profile

Demographic and General Data (N=498)		Frequency	Percentage
Gender	Male	327	65.66%
	Female	171	34.34%
Major Direction	Accounting	80	16.07%
	Preschool Education	79	15.86%
	Automobile Engineering	202	40.56%
	Civil Engineering	137	27.51%
Age	Age 17 and under	0	0
	18-21years	294	59.04%
	22-25 years	45	9.04%
	26-29years	58	11.64%
	30-33 years	23	4.62%
	Over 34 years	78	15.66%

4.2 Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis (CFA) is used to verify the statistical technique. Researchers using CFA can test the null hypothesis that there is no relationship between the observable variables and their underlying components. Table 3 demonstrated that the composite reliability (CR) and factor loading value exceed 0.70 and 0.5, respectively. The average extracted variance (AVE) exceeds 0.50 (Bagozzi & Yi, 1988; Hulland, 1999).

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

Variables	Source of Questionnaire (Measurement Indicator)	No. of Item	Factors Loading	CR	AVE
Perceived Ease of Use (PEOU)	Singh and Sharma (2021)	3	0.758-0.770	0.808	0.583
Perceived Usefulness (PU)	Singh and Sharma (2021)	4	0.713-0.832	0.862	0.611
Service Quality (SEQ)	Chopra et al. (2019)	4	0.768-0.838	0.877	0.642
Information Quality (IQ)	Chopra et al. (2019)	6	0.693-0.771	0.882	0.555
System Quality (SYQ)	Chopra et al. (2019)	4	0.737-0.845	0.868	0.623
Self-efficacy (SE)	Eom (2012)	4	0.727-0.820	0.862	0.611
User Satisfaction (SAT)	Chopra et al. (2019)	5	0.668-0.786	0.858	0.547

Additionally, as presented in Table 4, all of the applicable thresholds for the absolute fit indicators, such as CMIN/DF, GFI, AGFI, and RMSEA, as well as the incremental fit measurements as CFI, NFI, and TLI, match the requirements. Consequently, all of these measurements for the goodness of fits employed in the CFA examination were acceptable.

Table 4: Goodness of Fit for Measurement Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	<5.00 (Awang, 2012)	1.871
GFI	≥ 0.80 (Doll et al., 1994)	0.912
AGFI	≥ 0.80 (Sica & Ghisi ,2007)	0.894
RMSEA	< 0.08 (Pedroso et al., 2016)	0.042
CFI	≥ 0.90 (Hair et al., 2010)	0.955
NFI	≥ 0.80 (Wu & Wang, 2006)	0.908
TLI	≥ 0.90 (Hair et al., 2010)	0.949
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.

The discriminant validity is shown in Table 5. The diagonally designated quantity is the AVE square root of AVE, and neither of the correlations crossing any two latent variables is larger than 0.80 (Liu et al., 2020; Schmitt & Stults, 1986). Therefore, the validity of the discriminant is established by quantitative measurement.

Table 5: Discriminant Validity

	PEOU	PU	SEQ	IQ	SYQ	SE	SAT
PEOU	**0.764**						
PU	0.353	**0.782**					
SEQ	0.149	0.209	**0.801**				
IQ	0.222	0.28	0.137	**0.745**			
SYQ	0.087	0.23	0.255	0.135	**0.789**		
SE	0.562	0.242	0.349	0.188	0.177	**0.782**	
SAT	0.51	0.42	0.35	0.328	0.291	0.475	**0.740**

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

4.3 Structural Equation Model (SEM)

The structural equation model (SEM) is verified after CFA evaluation. In order to establish whether or not the hypothesized causality explanation fits, a particular combination of linear coefficients is evaluated using the SEM methodology. The proposed research hypotheses are validated using SEM, and the strength of the causal association among the choice factors was determined (Hair et al., 2010). Table 6 shows that the combined value of CMIN/DF, GFI, AGFI, CFI, NFI, TLI, and RMSEA are all over allowable limits after being adjusted by AMOS version 30. The SEM's goodness of fit is established, as the result demonstrates.

Table 6: Goodness of Fit for Structural Model

Index	Acceptable	Statistical Values
CMIN/DF	<5.00 (Awang, 2012)	2.479
GFI	≥ 0.80 (Doll et al., 1994)	0.876
AGFI	≥ 0.80 (Sica & Ghisi ,2007)	0.856
RMSEA	< 0.08 (Pedroso et al., 2016)	0.055
CFI	≥ 0.90 (Hair et al., 2010)	0.921
NFI	≥ 0.80 (Wu & Wang, 2006)	0.874
TLI	≥ 0.90 (Hair et al., 2010)	0.913
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.

4.4 Research Hypothesis Testing Result

It can be seen from Table 7 that PEOU can affect satisfaction. This relationship's standardized path coefficient (β) is 0.386 (T-value = 4.640***). The β is 0.352 (T-value 6.486***), indicating that PEOU is the second greatest interaction with perceived usefulness.

In addition, self-efficacy significantly affects satisfaction with β is 0.219 (T-value =4.640***), perceived usefulness significantly affects satisfaction with β is 0.196 (T-value =5.716***), and service quality significantly affects satisfaction with β is 0.186 (T-value =3.991***). In addition, information quality substantially impacts satisfaction with β at 0.176 (T-value = 3.785***). Therefore, system quality impacts the satisfaction in a quantifiable survey at β is 0.159 (T-value =3.412***).

Table 7: Hypothesis Results of the Structural Equation Modeling

Hypothesis	(β)	t-Value	Result
H1: PEOU→PU	0.352	6.486***	Supported
H2: PEOU→SAT	0.386	4.640***	Supported
H3: PU→SAT	0.196	5.716***	Supported
H4: SEQ →SAT	0.186	3.991***	Supported
H5: IQ →SAT	0.176	3.785***	Supported
H6: SYQ →SAT	0.159	3.412***	Supported
H7: SE→ SAT	0.219	4.640***	Supported

Note: *** p<0.001
Source: Created by the author

Researchers suggest the following extensions depending on the research findings in Table 7. **H1** demonstrates that PEOU has a significant on perceived usefulness. The standardized path coefficient threshold in this structural technique is 0.352. Previous studies' findings demonstrate a favorable correlation between perceived usefulness and perceived usability in the services sector (Hong et al., 2001).

According to **H2** analysis findings, PEOU is one of the crucial components of satisfaction, with a standardized path coefficient value is 0.386. PEOU is one significant indicator of user satisfaction by Devaraj et al. (2002) as the variety of electronic products expanded.

The statistical results of **H3** support the hypothesis that perceived usefulness considerably impacts satisfaction. User satisfaction is influenced by how well expectations are met and how beneficial they believe it to be. However, according to the expectancy-confirmation paradigm, user satisfaction with information technology is impacted by perceived usefulness because it offers a standard for comparison with affirmation judgments (Lee, 2010).

Furthermore, **H4** demonstrates that service quality significantly influences students' satisfaction, with a standard coefficient of 0.186. According to AL-Sabawy (2013), research has been carried out to determine how user satisfaction and service quality affect the efficiency of e-

learning systems.

Additionally, **H5**, which indicates this study's lowest standard coefficient value at 0.176, shows that information quality influences satisfaction. According to AL-Sabawy (2013), much research has been done to examine how the quality of the content influences users' satisfaction when evaluating the efficiency of E-learning systems. It only briefly examines how the quality of the information influenced users' satisfaction with the LMS.

H6 indicates that system quality significantly affects pleasure. According to AL-Sabawy (2013), several researchers study how system quality affects user satisfaction when assessing the efficacy of E-learning systems.

Finally, self-efficacy significantly impacts satisfaction, for the standardized path coefficient value at 0.219 in the **H7.** Our hypothesis suggests that SE directly influences the US because it is an intrinsic element. Studies on self-efficacy have been conducted about several student outcomes, including course satisfaction, as shown by the evidence in the body of literature (DeWitz & Walsh, 2002; Lee & Mendlinger, 2011).

5. Conclusion and Recommendation

5.1 Conclusion and Discussion

This paper aims to determine the influence factors of online courses for adult higher education students in Chengdu, China. The conceptual framework shows that the seven hypotheses validate the interaction between perceived ease of use, perceived usefulness, service quality, information quality, system quality, self-efficacy, and satisfaction. In order to determine any interaction among these variables, 498 Junior College students with experience in online courses participated in answering the survey questionnaire. SEM assesses the relationship between observed and latent variables that can influence satisfaction and test hypotheses. CFA determines whether the data fit the specified theory-derived measurement model.

The results show that perceived usability and ease of use have a significant direct relationship. The strongest factor influencing satisfaction is PEOU, followed by self-efficacy. Additionally, perceived usefulness, service quality, information quality, and system quality substantially influence satisfaction.

5.2 Recommendation

From the investigation of quantitative, the following practical recommendations for subsequent online courses in adult higher education can be concluded.

First, optimize the operation process of the online course platform. PEOU is the most significant factor affecting online course satisfaction of college adult education students. It can be seen from the survey age group that adults under 21 years old and those over 34 years old in junior college are afraid of using online courses. Therefore, enhancing students' confidence in online course platforms is conducive to students' better learning of online courses. Therefore, adult teaching institutions in colleges and universities should combine the actual situation of adult education students, simplify the operability of the platform, and focus on effectively reducing the technical difficulty of students' online courses. The specific performance is further to optimize the program design of the online learning platform and provide corresponding tutorial documents and manuals to assist students in clearly understanding this point. Encourage more students to embrace this learning platform.

Second, reshape learning objectives and enhance self-efficacy. An adult education, online course is a teaching method using the platform; teachers and students have little knowledge of students' learning through the network; students are passive in learning and lack real-time communication with teachers, resulting in an unsatisfactory learning effect, which aggravates adult education students' neglect of their studies. In this study, the underlying self-efficacy variable significantly affects students' satisfaction. Therefore, according to the technical characteristics of online teaching, students should adapt to the network teaching environment, actively give feedback on learning problems, and urge themselves to adjust the pace of learning. The school also analyzes students' learning situations according to the backstage detection data of online courses. It actively makes adjustments, which helps solve students' learning problems and makes students realize that online education can promote effective learning.

In addition, teachers should observe the characteristics of students and optimize the curriculum structure. Most adult higher education students, from on-the-job practitioners in high school and technical school, need more urgent practical ability. According to the characteristics of adult education junior college students, teachers should lessen the learning of theoretical courses and increase the content of practical courses. This will help students better understand the job skills they will need in the future, which will help them better position or adjust their career development goals and develop their practical vocational skills.

Finally, make full use of the advantages of online courses, and improve the quality of online courses. In this paper, service, information, and system quality play an important role in satisfaction. Adult education students' work and life burden is heavy, their learning time is limited, and their learning pressure is great. Some adult education students have not received formal higher education, their professional theoretical and basic cultural knowledge is weak, and they are not enough to master the Internet technology required by online courses. Based on this, online courses can take advantage of their advantages and characteristics to improve service quality, information quality, system setting, etc., to better meet the learning characteristics of this group, students' attitudes towards online courses will be positively improved, thus leading to their satisfaction with the learning platform.

5.3 Limitation and Further Study

In this paper, the sample size of adult education students in a university in Chengdu is limited, so the conclusions have certain limitations. In the future, if conditions permit, we can go deep into different regions and types of adult colleges and universities to do comparative studies to make the conclusion more general. In addition, the conceptual framework only had seven possible variables, and the Technology Acceptance Model (TAM) and Information System Success Model (ISSM) are used in this article. It is important to investigate additional technological acceptance theories like the Theory of Reasoned Action (TRA) and the Theory of Planning Behavior (TPB) to enhance the conceptual framework further.

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