A Study on Behavioral Intention and Self-Learning Attitude of Internet Base E-Learning Among Liberal Arts Students in Chengdu, China

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Abstract

Purpose: This study aims to investigate factors impacting students on the behavioral intention to self-learning and self-learning attitude of internet base e-learning for Liberal arts students in Chengdu, China including system quality, information quality, service quality, perceived usefulness, perceived ease of use, perceived enjoyment, self-learning attitude, and behavioral intention. **Research design, data, and Methodology:** The sample size involves 500 students in liberal arts in the first to third year. A questionnaire is designed, investigated and statistically analyzed. The sample techniques are judgmental, quota and convenience sampling. The index of item-objective congruence and the Cronbach's Alpha test were conducted before the data collection. Data analysis involved employing confirmatory factor analysis and structural equation modeling techniques. **Results:** The findings revealed that system quality and service quality significantly influence percived usefulness. Perceived ease of use has a significant influence on perceived usefulness and perceived enjoyment. Perceived usefulness significantly influences behavioral intention. In contrast, perceived ease of use and perceived usefulness have no significant influence on self-learning attitude. Additionally, information quality has no significant influence on perceived usefulness. **Conclusions:** These findings have significant implications for educators and policymakers in designing and implementing effective e-learning programs that foster a positive attitude toward self-directed learning.

Keywords : Perceived Usefulness, Perceived Ease of Use, Perceived Enjoyment, Self-Learning Attitude, Behavioral Intention

JEL Classification Code: E44, F31, F37, G15

1. Introduction

In online education, the need for knowledge updates is increasing rapidly. With society's growing demand for diverse, innovative, and multi-skilled individuals, the requirements for individual education are becoming more complex and varied. As a result, educational objectives, teaching roles, learning environments, content, and methods have significantly changed. The research on online education is also expanding rapidly, focusing on talent development objectives, core competencies, and teaching reforms under online education. Educational reforms must train individuals to meet the demands of the current times. What are the new characteristics and core competencies required of individuals in the information age? How has online education impacted teaching and learning? These core issues need attention and consideration in online education research.

In today's age of online education, all countries worldwide focus on developing the necessary qualities and skills to nurture talent in the information age. The European Parliament and the European Education Council have created a European reference framework for lifelong learning critical abilities to address this common theme. The primary education stage fosters students' proficiency in eight essential literacies, encompassing effective communication skills in both native and foreign languages, mathematical competence and technological acumen, digital literacy, strategic learning approaches, active social engagement and civic consciousness, innovative thinking and entrepreneurial mindset, as well as cultural comprehension and expressive

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abilities. With this as the core, cultivate comprehensively qualified citizens. The Alliance for 21st Century Learning (P21), an American education think tank, subsequently proposed the Framework for 21st Century Learning. It emphasizes that students in the information age must master a core curriculum not limited to the 3Rs (reading, writing, and arithmetic). It should also include life and vocational skills, learning and creativity skills, and information media and technological literacy (Wei, 2011). According to the National Education Council of Finland, the future citizens of Finnish society should have five comprehensive abilities: critical thinking ability, the ability of hands-on and expression ability, work and communication ability, self-control consciousness and responsibility consciousness, and the ability to participate and mobilize. In 2010, China issued the Outline of Education Planning, which clearly stated that "students should be encouraged to use the information to actively study and study independently by means and enhance their ability to use information technology to analyze and solve problems." (Tao & Wen, 2015).

In the context of Liberal arts education in Chengdu, China, the increasing reliance on internet-based e-learning platforms raise the need to understand the factors influencing students' behavioral intention toward self-learning and their attitudes in this learning environment. Despite the growing prevalence of e-learning, there is a lack of comprehensive research focused specifically on Liberal arts students in Chengdu, China, examining the interconnected elements that contribute to the effectiveness of self-learning through internet-based platforms.

The existing literature lacks a nuanced exploration of the factors influencing the behavioral intention and self-learning attitudes of Liberal arts students in Chengdu, China, within the realm of internet-based e-learning. While previous studies have addressed aspects like system quality, information quality, service quality, perceived usefulness, perceived ease of use, perceived enjoyment, self-learning attitude, and behavioral intention individually, there is a noticeable gap in the understanding of how these factors interact and influence each other in the specific context of Liberal arts education in Chengdu. Consequently, this study aims to bridge this research gap by providing a holistic examination of the multifaceted dynamics shaping the self-learning experiences of Liberal arts students in the era of internet-based e-learning.

2. Literature Review

2.1 Perceived Ease of Use

Perceived ease of use pertains to the individual's subjective perception regarding ease in utilizing a system or accessible technology (Davis et al., 1989). Perceived usability, conversely, pertains to a system's user-friendliness (Venkatesh et al., 2003). According to the Technology Acceptance Model (TAM), individuals' attitudes and perceptions toward the usefulness of information technology can be anticipated by considering their usability assessment (Davis et al., 1989). It implies that users perceive the system as effortless and requiring minimal exertion (Jeong, 2011; Miller & Khera, 2010; Thong et al., 2002).

Based on the findings of Davis et al. (1989), the Technology Acceptance Model (TAM), they observed that individuals' assessment of the user-friendliness of information technology has the potential to anticipate their attitudes and perspectives regarding the effectiveness of said technology. In online education, perceived usability pertains to an individual's perception that utilizing an online learning platform will be seamless and uncomplicated, as defined by Lin et al. (2011). Past studies have indicated that the perceived usability of online learning systems has a beneficial effect on their overall usefulness (Calisir et al., 2014; Li et al., 2012; Roca & Gagne, 2008).

Therefore, we hypothesize that prospective users who perceive information and communication technologies to be readily accessible and valuable are more likely to exhibit a favorable attitude toward new online learning tools. On the other hand, individuals who view themselves as deficient in ICT skills may display less enthusiasm when using such tools or discussing their advantages. Therefore, this study hypothesizes that:

H1: Perceived ease of use has a significant influence on perceived usefulness of e-learning.

H2: Perceived ease of use has a significant influence on perceived enjoyment of e-learning.

H4: Perceived ease of use has a significant influence on self-learning attitude of e-learning.

2.2 Perceived Usefulness

When learners perceive an electronic device as requiring less time and effort to use, with a lower cognitive load, they are more inclined to choose it for their needs (Chatzoglou et al., 2009; Lee, 2006, 2008; Liu et al., 2010; Ndubisi, 2006; Ong & Lai, 2006; Ong et al., 2004; Roca & Gagne, 2008; Saade & Bahli, 2005). pertains to the notion that employing a specific system can enhance an individual's occupational efficacy. In contrast, personal utility is confined to the perception that utilizing said system can alleviate physical and mental strain (Davis, 1989).

Based on the Technology Acceptance Model (TAM), users' attitudes are influenced by how they perceive the usefulness and simplicity of a system. In this case, mentality refers to users' evaluation of their interaction with the system. Their attitude significantly influenced the willingness of

users to utilize the system. TAM has identified a strong correlation between the perceived advantages and ease of utilization, which several studies have substantiated (Bourgonjon et al., 2010; Liu et al., 2010; Wojciechowski & Cellary, 2013). Davis (1989) first proposed the concept of perceived usefulness. The theory introduced by Davis et al. (1989) holds significant prominence within the UTAUT (Venkatesh et al., 2003) and TAM frameworks. Past studies have indicated that the perceived usefulness of a system is a robust indicator of user adoption, signifying the conviction that utilizing the system will enhance performance (Davis, 1989). In addition, several studies focusing on information systems and management have confirmed the influence of public administration on user intentions, particularly within the realm of electronic commerce (Bosnjak et al., 2006). Therefore, this study hypothesizes that:

H3: Perceived usefulness has a significant influence on self-learning attitude of e-learning.

H5: Perceived usefulness has a significant influence on behavioral intention to self-learning

2.3 Perceived Enjoyment

Perceived enjoyment is the subjective perception of an individual's satisfaction with a particular system, which goes beyond mere interaction and is related to the role and instrumental value type 3 played by the system (Davis et al., 1992; Lee et al., 2005). Based on the study conducted by Davis et al. (1992), perceived enjoyment refers to the degree of contentment an individual feels while utilizing a system, irrespective of any results generated. Davis et al. (1992) argue that perceived enjoyment reflects intrinsic motivational factors during system usage, where individuals enjoy engaging in activities due to their fun and entertaining nature (Teo & Lim, 1997).

2.4 Self-Learning Attitude

A self-learning approach affects an individual's perception of specific objects or their quantity, including utilizing M - an app library, task completion, and the individual's emotions. This shows that an individual's perception pertains explicitly to the engagement in behavior (Park & Kim, 2014). The self-educating method addresses the user's apprehensions regarding a specific system and its objectives for immediate influence on subsequent utilization of comparable systems. (Bajaj & Nididumolu, 1998).

Based on the rational behavior theory proposed by Ajzen and Fishbein (1980) and the study conducted by Davis et al. (1989), students' decisions to embrace new technologies are greatly influenced by their beliefs or perceptions regarding the usability and usefulness of ICT (Lee et al., 2009). Bajaj and Nididumolu (1998) research indicate that the usability

and functionality of the system significantly affect students' motivation for online learning.

2.5 Behavioral Intention

Chang and Yang (2013) defines behavioral intention for self-learning. The level of individuals' willingness to embrace and endorse self-directed learning materials determines the extent of their engagement in self-directed learning behavior. Hong et al. (2006) and Thong et al. (2006) demonstrated that the Extrinsic Motivation Model (ECM) exhibits strong predictive validity in determining the sustainability of intentions toward IS/IT, establishing its reliability. Petty and Cacioppo (1986) suggest that an individual's beliefs and behavioral intentions are influenced by their experience with the product or service in front of them and their relationship with the host. According to Ajzen (1991), e-learning captures the motivational factors individuals are willing to perform.

2.6 System Quality

The quality system is an internet-based information system that assesses the website's performance. User compliance with quality examples (DeLone & McLean, 2003; Nelson et al., 2005) facilitates the flexibility of a reliable, accessible, convenient, and responsive design. The quality of a system measures its functionality and user experience concerning its effectiveness in providing and transmitting information (Roca et al., 2006). Its functions' effectiveness and efficiency determine a system's quality (DeLone & McLean, 2003; Lin, 2007).

The functional capabilities of a web-based information system play a crucial role in assessing its quality. Users evaluate the quality based on reliability, accessibility, response time, and flexibility (DeLone & McLean, 2003; Nelson et al., 2005). E-commerce researchers generally agree that the effectiveness of a website significantly impacts users' search strategies and results (Flavian et al., 2006; Liu & Arnett, 2000; Teo et al., 2003). Therefore, this study hypothesizes that:

H6: System quality has a significant influence on perceived usefulness of e-learning.

2.7 Information Quality

The level of information offered by online services is what defines information quality. As Nelson et al. (2005) recommended, these metrics encompass the dimensions of information, such as its magnitude, precision, comprehensiveness, punctuality, and presentation style. Quality report information relates to the content and quality of forms generated by the information system. It

encompasses factors like precision, comprehensiveness, transferability, effectiveness, pertinence, extent, and punctuality of evaluation, as outlined by Roca et al. (2006), DeLone and McLean (2003), and Kim et al. (2008).

The concept of 'information quality' pertains to the degree of superiority in the information furnished by internet-based platforms. The assessment criteria for determining information quality encompass accuracy, comprehensiveness, accessibility, and presentation format (Nelson et al., 2005). In virtual communities serving as social networking platforms, the achievement of these systems is impacted by concerns about the calibre of information. Therefore, this study hypothesizes that:

H7: Information quality has a significant influence on perceived usefulness of e-learning.

2.8 Service Quality

The website's comprehensive support, consisting of trust, responsiveness, and personalization, is a critical metric (Keating et al., 2003; Lee & Lin, 2005). The effectiveness of online education depends on the range of services it provides, the level of support it offers, and the expertise of its instructors (Lee, 2010; Ozkan & Koseler, 2009). As learners evaluate the efficiency of online learning platforms and the level of individualized support services, they also determine the criteria for accessing assistance (Cho et al., 2009; Lee, 2010; Roca et al., 2006).

Service quality delivered by a website is crucial in determining its overall support, including reliability, responsiveness, and customization (Keating et al., 2003; Lee & Lin, 2005). DeLone and McLean (2003) argue that the effectiveness of an information system in e-commerce depends heavily on the quality of customer support. In virtual communities where face-to-face communication is absent, service quality is vital to their success and value. Therefore, this study hypothesizes that:

H8: Service quality has a significant influence on perceived usefulness of e-learning.

3. Research Methods and Materials

3.1 Research Framework

The study's objective and intention are to investigate the objectives of university students at Sichuan Cultural Industry Vocational College to engage in self-study and the factors that affect their attitude towards online e-learning self-study. After conducting an analysis and arrangement of various references, we utilized the Technology Acceptance Model (TAM) to establish the conceptual framework for this research.

Cheng and Tsai (2013) proposed an earlier research framework that focused on four factors: perceived usefulness (PU), information quality (IQ), system quality (SYQ), and service quality (SEQ). These factors were the focus of the research. Cheng and Tsai (2013) conducted a recent investigation was carried out with a specific emphasis on ease of use (PEOU), perception of usefulness (PU), and enjoyment (PE). Letchumanan and Tarmizi (2011) proposed A novel theoretical framework is put forward to examine the perception of usefulness (PU), ease of use (PEOU), attitude towards self-directed learning (ATT), and intention to engage in self-directed learning behavior (BI).
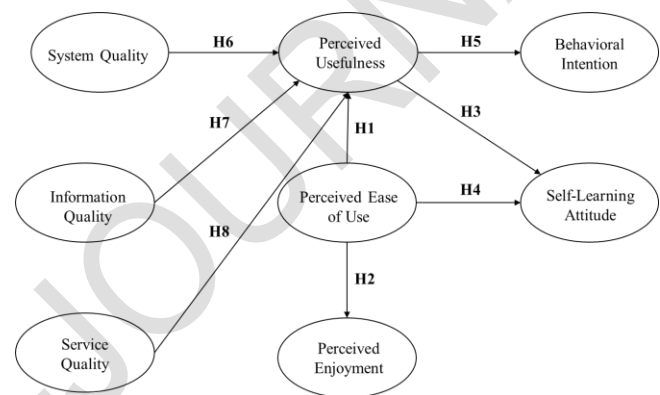
Figure 1: Conceptual Framework

H1: Perceived ease of use has a significant influence on perceived usefulness of e-learning.

H2: Perceived ease of use has a significant influence on perceived enjoyment of e-learning.

H3: Perceived usefulness has a significant influence on self-learning attitude of e-learning.

H4: Perceived ease of use has a significant influence on self-learning attitude of e-learning.

H5: Perceived usefulness has a significant influence on behavioral intention to self-learning

H6: System quality has a significant influence on perceived usefulness of e-learning.

H7: Information quality has a significant influence on perceived usefulness of e-learning.

H8: Service quality has a significant influence on perceived usefulness of e-learning.

3.2 Research Methodology

In this study, a quantitative approach was utilized, employing a questionnaire-based research design to collect data from a subset of the designated population. To ensure the content validity of the research instrument, three experts were involved in evaluating all questionnaire items using the index of item-objective congruence (IOC), with an IOC higher than

0.6 considered indicative of content validity. Preliminary testing involved distributing the questionnaire to 50 participants who shared characteristics with the target population, although they did not constitute the final sample. This phase aimed to assess reliability through the Cronbach's Alpha test variable, where an alpha value of 0.7 or higher indicated a more reliable item.

Data analysis was conducted using validated factor analysis (CFA) and structural equation modeling (SEM) techniques. These analytical approaches were employed to scrutinize data, evaluate the goodness of fit of the model, examine relationships between variables, and assess the validity of the eight proposed hypotheses.

3.3 Population and Sample Size

Israel (2003) highlighted that techniques such as analysis of covariance, multiple regression, and log-linear analysis necessitate substantial sample sizes, typically ranging from 200 to 500. The investigation was carried out at Sichuan Vocational College of Cultural Industries, involving 500 liberal arts students.

3.4 Sampling Technique

Purposive sampling, also called judgment sampling, is a conventional technique for non-probabilistic sampling. Researchers employ purposeful sampling to select participants based on their research objectives and understanding of the target population (Babbie, 1990).

There are four main points to this summary. First, judgmental sampling provides a reasonable estimate for each subgroup. Secondly, quota sampling allows the study to be conducted quickly and efficiently. In addition, stratified sampling guarantees an excellent representation of the sample. Furthermore, applying this sampling technique increases the accuracy of the data (Arnab, 2017).

Convenience sampling is a method of selecting respondents based on availability (Privitera, 2014). Convenience sampling is the most used method (Gray, 2017).

Table 1: Sample Units and Sample Size

Sample	Population Size	Proportional Sample Size
Freshman	1945	155
Sophomore	2161	165
Junior	2336	180

Sample	Population Size	Proportional Sample Size
Total	**6442**	**500**

Source: Constructed by author

4. Results and Discussion

4.1 Demographic Information

As indicated in Table 2, among the 500 respondents, 27.2% were male, while 72.8% were female. Regarding age group, respondents aged 18 accounted for the largest proportion, accounting for 44%, followed by those aged 19 at 33%, 20 at 11%, and over 21 at 12%. Regarding usage frequency, 32% of students used E-learning for 3 hours or less per week, 52.6% for 4-6 hours per week, and 15.4% for more than 7 hours per week.

Table 2: Demographic Profile

Demographic and General Data (N=500)		Frequency	Percentage
Gender	Male	136	27.2%
	Female	364	72.8%
Age	18 Years Old	220	44%
	19 Years Old	165	33%
	20 Years Old	55	11%
	21 Years Old and above	60	12%
Frequency of Study	3 hours or less/week	160	32.0%
	4-6 hours/week	263	52.6%
	7 hours or above	77	15.4%

4.2 Confirmatory Factor Analysis (CFA)

CFA was used before analyzing the measurement model with the structural equation model (SEM). The result of CFA indicated that all items in each variable are significant and have factor loading to prove discriminant validity. Hair et al. (2006) recommends guidelines to define the significance of factor loading of each item and acceptable values in defining the goodness of fit. Factor loadings are higher than 0.50, and the p-value is lower than 0.05. Furthermore, aligning with the recommendation from Fornell and Larcker (1981), the Composite Reliability (CR) is greater than the cut-off point of 0.6, and the Average Variance Extracted (AVE) is higher than the cut-off point of 0.4.

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)	Buabeng-Andoh (2018)	3	0.882	0.817-0.878	0.882	0.713
Perceived Ease of Use (PEOU)	Buabeng-Andoh (2018)	3	0.886	0.816-0.874	0.886	0.722
Perceived Enjoyment (PE)	Lee et al. (2005)	3	0.765	0.706-0.752	0.766	0.523
Self-Learning Attitude (SA)	Sánchez-Muros et al. (2014)	3	0.730	0.627-0.778	0.731	0.478
Behavioral Intention to Self-Learning (BI)	Lin (2013)	4	0.823	0.675-0.802	0.827	0.546
System Quality (SYQ)	Cho et al. (2009)	4	0.772	0.635-0.717	0.775	0.463
Information Quality (IQ)	Lee (2006)	3	0.790	0.621-0.838	0.797	0.570
Service Quality (SEQ)	Cho et al. (2009)	3	0.715	0.618-0.710	0.721	0.463

Table 4 showcases strong evidence that the model meets the criteria for multiple fit indices, including GFI, AGFI, NFI, CFI, TLI, and RMSEA. This confirmation indicates that the model exhibits both convergent and discriminant validity. The combination of these measurements strongly supports the model's discriminant validity and provides significant validation for the subsequent estimates in the structural model.

Table 4: Goodness of Fit for Measurement Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	< 3.00 (Hair et al., 2006)	380.050/271 = 1.402
GFI	≥ 0.85 (Kline, 2011)	0.944
AGFI	≥ 0.85 (Kline, 2011)	0.928
NFI	≥ 0.85 (Kline, 2011)	0.937
CFI	≥ 0.85 (Kline, 2011)	0.981
TLI	≥ 0.85 (Kline, 2011)	0.977
IFI	≥ 0.85 (Kline, 2011)	0.981
RMSEA	≤ 0.08 (Hooper et al., 2008)	0.028
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, IFI = Incremental Fit Index and RMSEA = Root mean square error of approximation

In line with the methodology proposed by Fornell and Larcker (1981), discriminant validity was assessed by calculating the square root of each Average Variance Extracted (AVE). The results indicate that the value of discriminant validity exceeds all inter-construct/factor correlations, thereby providing supportive evidence. Both convergent and discriminant validity have been demonstrated, concluding that the evidence is substantial for establishing construct validity.

Table 5: Discriminant Validity

	SEQ	SYQ	IQ	PEOU	PE	SA	BI
SEQ	**0.681**						
SYQ	0.644	**0.681**					
IQ	0.454	0.291	**0.755**				
PEOU	0.658	0.628	0.315	**0.850**			
PE	0.497	0.613	0.145	0.550	**0.723**		
SA	0.255	0.272	0.104	0.309	0.287	**0.691**	
BI	0.617	0.628	0.371	0.490	0.453	0.199	**0.739**
PU	0.648	0.658	0.289	0.759	0.524	0.295	0.497

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

4.3 Structural Equation Model (SEM)

Structural equation modeling (SEM) is a statistical method that examines the connections between observable and latent variables to test hypotheses (Hoyle, 1995). SEM enables describing, predicting, and exploring associations (primarily linear relationships) between measured and underlying variables (Rigdon, 1998). Mathematical models, computer algorithms, and statistical approaches are incorporated in structural equation modeling to adapt to data networks (Kaplan, 2008).

Table 6: Goodness of Fit for Structural Model

Index	Acceptable	Statistical Values
CMIN/DF	< 3.00 (Hair et al., 2006)	759.860/288 = 2.638
GFI	≥ 0.85 (Kline, 2011)	0.907
AGFI	≥ 0.85 (Kline, 2011)	0.887
NFI	≥ 0.85 (Kline, 2011)	0.875
CFI	≥ 0.85 (Kline, 2011)	0.918
TLI	≥ 0.85 (Kline, 2011)	0.907
IFI	≥ 0.85 (Kline, 2011)	0.918
RMSEA	≤ 0.08 (Hooper et al., 2008)	0.057
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, IFI = Incremental Fit Index and RMSEA = Root mean square error of approximation

4.4 Research Hypothesis Testing Result

Following the execution of the Structural Equation Model (SEM) on the data, the results for hypothesis verification in this study are presented in Table 7. The values in the table demonstrate that all hypotheses have been supported, as evidenced by the standardized path coefficients and T-values provided in Table 7.

Table 7: Hypothesis Results of the Structural Equation Modeling

Hypothesis	(β)	t-value	Result
H1: PEOU→PU	0.768	17.399*	Supported
H2: PEOU→PE	0.554	10.114*	Supported
H3: PU→SA	0.149	1.554	Not Supported

Hypothesis	(β)	t-value	Result
H4: PEOU→SA	0.165	1.734	Not Supported
H5: PU→BI	0.491	8.683*	Supported
H6: SYQ→PU	0.167	2.592*	Supported
H7: IQ→PU	-0.032	-0.740	Not Supported
H8: SEQ→PU	0.265	3.570*	Supported

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

Table 7 reveals the following findings:

H1 has shown a significant impact of perceived ease of use on perceived usefulness. This structural pathway results in the standard coefficient value of 0.768 and t-value of 17.399*

On the other hand, **H2** has confirmed that perceived ease of use is an important component of perceived enjoyment, with the standardized route coefficient value in the structural approach being 0.554. and t-value of 10.114*

The results of **H3** show that the standard coefficient value = 0.149 and the T value = 1.554. Group participation has no strong positive effect on the perceived usefulness when they use the online learning platform, so this hypothesis cannot be supported in the self-learning attitude of e-learning.

H4 With a standardized path coefficient of 0.165 and a T-value of 1.734, perceived ease of use does not significantly affect self-learning attitude.

H5 has confirmed that perceived usefulness is an important component in behavioral intention, with the standardized route coefficient value in the structural approach being 0.491.

H6 demonstrated a strong positive effect of system quality on perceived usefulness, with a standard coefficient value = 0.167,

H7 discovered that information quality influences perceived usefulness, with a standard coefficient of -0.032. According to the findings, information quality only significantly affects perceived usefulness.

In addition, **H8** shows that service quality significantly influences perceived usefulness in this study, and the standard coefficient value is 0.265, T value = 3.570*

5. Conclusion and Recommendation

5.1 Conclusion and Discussion

The results obtained from the study provided valuable insights into the relationship between these factors and the behavioral intention and attitude toward self-learning among college liberal arts students. The findings revealed that perceived usefulness, ease of use, and enjoyment significantly influenced the students' self-learning attitude.

This implies that students are more likely to self-learn if they perceive it as useful, easy to use, and enjoyable.

Moreover, the study found a strong positive relationship between self-learning attitude and behavioral intention. This suggests that a positive attitude towards self-learning is crucial to students' intention to engage in self-directed learning activities. Additionally, the study revealed that system, information, and service quality significantly influenced students' self-learning attitudes, indicating the importance of providing a high-quality e-learning environment to promote positive attitudes toward self-learning.

The study concludes that perceived usefulness, ease of use, enjoyment, self-learning attitude, system quality, information quality, and service quality all play essential roles in influencing behavioral intention and attitude towards self-learning among college liberal arts students. These findings have significant implications for educators and policymakers in designing and implementing effective e-learning programs that foster a positive attitude toward self-directed learning.

In the discussion section, the study highlights the importance of addressing the identified factors to enhance the effectiveness of self-learning initiatives in college liberal arts education. It emphasizes the need for educators to facilitate students' perception of usefulness, ease of use, and enjoyment of self-learning activities. Additionally, the study underscores the significance of providing a high-quality e-learning system, reliable information, and satisfactory services to promote a positive self-learning attitude among students.

Overall, this study provides valuable insights into the factors influencing the behavioral intention and attitude toward self-learning among college liberal arts students. The findings contribute to the existing literature and offer practical implications for educators, institutions, and policymakers seeking to enhance self-learning experiences in the context of e-learning programs.

5.2 Recommendation

Focused on improving perceived usefulness, perceived ease of use, perceived enjoyment, self-learning attitude, system quality, information quality, and service quality.

Educators and institutions should emphasize the practical relevance and applicability of self-learning activities to students' academic and professional goals. Providing real-world examples and case studies demonstrating the value of self-learning can help students perceive its usefulness.

Efforts should be made to simplify the e-learning platforms and tools used for self-learning. User-friendly interfaces, clear instructions, and intuitive navigation will make engaging in self-directed learning activities easier for

students.

Incorporating interactive and engaging elements into the e-learning environment can enhance students' enjoyment of self-learning. This can include gamification, multimedia content, and collaborative learning opportunities to make the experience more enjoyable and motivating.

Institutions should invest in reliable, up-to-date technology infrastructure to ensure a smooth and seamless e-learning experience. Regular maintenance and updates should be conducted to address any technical issues.

By implementing these recommendations, institutions can create a conducive learning environment that promotes self-directed learning among college liberal arts students. This will ultimately enhance their behavioral intention and attitude towards self-learning, leading to improved academic performance and lifelong learning skills.

5.3 Limitation and Further Study

The study primarily relied on quantitative data, which may limit the depth of understanding of students' experiences and perceptions. Future research could incorporate qualitative methods such as interviews or focus groups to gain insights into the underlying reasons and motivations behind self-learning attitudes and behavioral intentions.

Although the study examined several important factors, such as perceived usefulness, perceived ease of use, perceived enjoyment, system quality, information quality, and service quality, other factors may influence self-learning attitudes and behavioral intentions. Further research could explore additional factors such as self-efficacy, motivation, or personal characteristics to provide a more comprehensive understanding of self-learning behaviors.

In conclusion, while the study offers valuable insights into the factors influencing self-learning attitudes and behavioral intentions among college liberal arts students, some limitations should be considered. Further research addressing these limitations would contribute to a more comprehensive understanding of self-learning in the context of internet-based e-learning for college students.

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