

pISSN: 1906 - 3296 © 2020 AU-GSB e-Journal.
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Enhancing Online Learning with E-Guests: A Case Study of Postgraduate Design Students' Behavioral Intention in Chongqing, China

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Received: October 7, 2022. Revised: May 15, 2023. Accepted: May 29, 2023.

Abstract

Purpose: This research examines the factors influencing postgraduate design students' behavioral intention to invite e-guests for online instruction in Chongqing, China. The conceptual framework proposes causal relationships between self-efficacy, the perceived ease of use, perceived enjoyment, perceived usefulness, attitudes, social influence, and behavioral intention. **Research design, data, and methodology:** The researchers used quantitative methods and administered questionnaires to 485 target respondents. A sampling technique was implemented to collect data using judgmental, stratified random and convenience sampling. Prior to the data collection, content validity was reserved by index of item objective congruence (IOC) at a score of 0.6 or over. Pilot test of 30 samples was approved by Cronbach's Alpha reliability test at a score of 0.7 and above. Confirmatory factor analysis (CFA) and structural equation modeling (SEM) were used to evaluate the model's goodness of fit for the hypothesis testing. **Results:** The results show that all variables have significant effects in their pairing. Furthermore, social Influence has the strongest effect on behavioral intention. Therefore, all hypotheses are supported in this study. **Conclusion:** The administration of the education department at public universities is advised to enhance the use of e-guests for better efficiency in online learning and improve students' critical thinking and participation.

Keywords: E-guests, Online Learning, Postgraduates, Behavioral Intention, China

JEL Classification Code: E44, F31, F37, G15

1. Introduction

Due to the global outbreak of COVID-19, there have been numerous changes in the education system, including changes to the school curriculum from primary to high school. Teaching and learning occur in various locations,

with one of the most significant changes being the location of the classroom. Previously, teaching and learning took place in classrooms or workshops; however, with the outbreak of COVID-19, educators from numerous educational authorities have been forced to consider using online platforms as an alternative to real classrooms. As a

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result, online platforms have been increasingly used for teaching and learning during such special periods.

Fulton (2020) defines e-guests as external visitors who come to the virtual teaching environment to share their professional expertise and perform as guest speakers. E-guests have been discussed in many previous studies. According to Boettcher and Cartwright (1997), students may benefit from the function of the e-guest as an additional resource. Hemphill and Hemphill (2007) and Ostorga and Farruggio (2013) also concluded that online visitors would improve students' critical thinking and participation.

Since the outbreak of COVID-19, e-guests have become a part of online learning and teaching. Therefore, the e-guest was very early and needed to be further examined from multiple aspects. Besides, the COVID-19 pandemic is predicted to continue to affect the whole world, and long distances between students and guests from universities or industries will always exist. Therefore, utilizing e-guests for online student learning may still be a crucial strategy in the future.

Due to China's policies to prevent the spread of Covid-19, Chinese universities may return to large-scale online education. Besides, quantitative study on using e-guests is scarce in China. Thus, the investigation of the variables influencing graduate students' behavioral intention to use e-guests in online learning is crucial. Generally, the postgraduate design students can develop their critical thinking and expand their knowledge by applying teaching methods such as e-guests. The results of this study will benefit the lecturers and instructors in the universities, supporting them in establishing a better understanding of using e-guests. In addition, e-guests may not be available in real educational situations, so this study will support universities in determining whether to use online e-guests in art and design education in the future.

2. Literature Review

2.1 Self-Efficacy

Early research has conducted the definition of self-efficacy, which is an evaluation of people regarding what techniques they have. At the same time, the core idea lies in those people's behaviors that would drive by what they believe in themselves (Barling & Beattie, 1983). In addition, Bandura (1977) defines SE as a person's assessment of their capacity to carry out specific tasks. Additionally, Shao (2018) studied Massive Open Online Courses (MOOCs), and found a relationship between perceived ease of use (PEOU) and SE, showing that students with higher levels of SE were more inclined to participate since the system was simple for them to master their own. Based on the previous discussions, this study set a hypothesis be following:

H1: Self-efficacy has a significant effect on perceived ease of use.

2.2 Perceived Enjoyment

Perceived enjoyment (PE), according to Davis's study from 1989, is the measure of how much utilizing a computer system is seen as fun on a personal level. To the utility, it serves as a tool. PE, according to a previous study, is an indication of intrinsic motivation, which possess the ability to strongly influence the intentions of users (Davis et al., 1992). According to Venkatesh (2000), users' perceptions of enjoyment indirectly affect their adoption behavior. Huang et al. (2007) suggested that a user's attitude is directly influenced by how much they feel enjoyed using the system technology. Therefore, this study assumes the significant effect of perceived enjoyment on attitude per the proposed hypothesis:

H2: Perceived enjoyment has a significant effect on attitude.

2.3 Perceived Ease of Use

A system's level of accessibility for users can be used to indicate perceived ease of use (PEOU). It also has to do with how effectively technology is used. (Venkatesh et al., 2003). PEOU is also described as when users use the products; they tend to evaluate the products and conclude that the products are easy to use if they are able to effectively use them (Seyal & Pijpers, 2004). The antecedently academic explorations from Brown and Licker (2003) have shown that when a technology is simple to use, consumers are more likely to find it beneficial; this is further confirmed by Bruner and Kumar (2005). According to King and He (2006), The PEOU of an application is a prerequisite for its perceived usefulness and attitude. In online learning context, when students feel the e-guests format is easy to use, they tend to exploit the benefits and demonstrate positive attitude towards the use. Thereby, below hypotheses are developed:

H3: Perceived ease of use has a significant effect on perceived usefulness.

H5: Perceived ease of use has a significant effect on attitude.

2.4 Perceived Usefulness

Perceived usefulness, also known as PU, can be defined as users' willingness to utilize an application that would apply to the degree that will assist them in undertaking the tasks (Davis, 1989). In addition, Shin (2012) defined PU as the level of users' confidence that a particular system will significantly enhance their ability to accomplish their jobs. According to a study on online learning, PU is the level at which individuals think the learning strategy will help them reach their objectives (Lin et al., 2011). In addition, Fan et al.

(2021) argued that PU significantly affecting on attitudes. This study hypothesizes that perceived usefulness of e-guests and drive positive attitude of students per below:

H4: Perceived usefulness has a significant effect on attitude.

2.5 Attitude

Ha and Stoel (2009) stated that PE plays a crucial role in directly affecting attitude (ATT). According to Davis (1989), The Technology Acceptance Model (TAM) demonstrates how users' behaviors and intentions to use technological systems influence their ATT toward using those systems, and it also demonstrates that ATT and PU influenced behavioral intentions (BI) (Davis et al., 1989). Mullasatsarathorn et al. (2020) highlighted that attitude is a significant forecaster of behavior adoption intention. The antecedent study from Yang and Yoo (2004) confirmed that the ATT towards use has a positive and direct influence on the users' BI to use, which is consistent with research findings by Schierz et al. (2010). Moreover, Holsapple and Wu (2008) indicated the positive effect brought by ATT on the intention of using a system.

H7: Attitude has a significant effect on behavioral intention.

2.6 Social Influence

According to Rashotte (2007), social influence (SI) refers to a shift in one's beliefs, feelings, attitudes, or behavior resulting from social interaction. Besides, mass media impact and interpersonal influence are the two main categories of social influence (Tsu Wei et al., 2009). SI has a considerable influence on customers' BI, according to Kucukemiroglu and Kara (2015). Furthermore, it has been proved by the research by Chua et al. (2018) about the people's use of social networking applications, SI, along with performance expectancy, effort expectancy determines the users' BI, which would then influence their other behavior of using the technology. Hence, this study hypothesizes that social influence will have a significant effect on postgraduates to use e-guests to enhance their online learning experience:

H6: Social influence has a significant effect on behavioral intention.

2.7 Behavioral Intention

Behavioral intention (BI) is a person intends to carry out a particular behavior (Fishbein & Ajzen, 1975). According to Taylor and Todd (1995), in the authentic workplace, BI is primarily influenced by factors relating to performance rather than the individual's ATT toward the behavior. Li et al. (2013) indicated that people's BI were influenced by their internal motivations, including judgments of ability, enjoyment, and expectations of success. According to the

research's conclusion, the people's BI was impacted by their internal motives, which included judgments for ATT, expectations of individual accomplishment, and internal satisfaction.

3. Research Methods and Materials

3.1 Research Framework

The conceptual framework proposed causal relationships between self-efficacy (SE), the perceived ease of use (PEOU), perceived enjoyment (PE), perceived usefulness (PU), attitudes (ATT), social influence (SI), and behavioral intention (BI), as demonstrated in Figure 1.

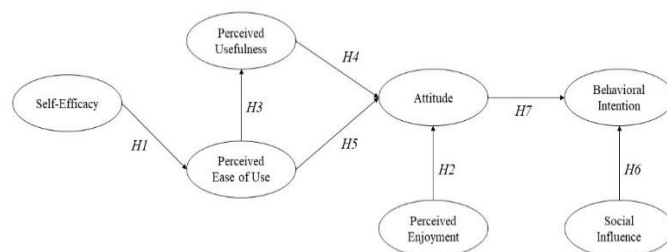


Figure 1: Conceptual Framework

H1: Self-efficacy has a significant effect on perceived ease of use.

H2: Perceived enjoyment has a significant effect on attitude.

H3: Perceived ease of use has a significant effect on perceived usefulness.

H4: Perceived usefulness has a significant effect on attitude.

H5: Perceived ease of use has a significant effect on attitude.

H6: Social influence has a significant effect on behavioral intention.

H7: Attitude has a significant effect on behavioral intention.

3.2 Research Methodology

A questionnaire was administered to postgraduate students in design majors from three universities with at least one experience of participating in e-guests in online instruction. Three targeted universities were Sichuan Fine Arts Institute (SCFAI), Chongqing University (CQU), and Chongqing Technology and Business University (CTBU), and observational data were aggregated and investigated to determine the fundamental characteristics that had a considerable effect on the participants' behavioral intention to use e-guests in online learning. Survey questions comprise screening questions, demographic information, and a five-point Likert scale. In order to determine the content validity

of the instrument, three experts with doctoral degrees with appropriate knowledge in design education were invited to undertake the item objective congruence test (IOC). As a result, the Item-Objective Congruence (IOC) was tested by three experts, with all scores above 0.6. Besides, 30 samples were utilized to verify the internal consistency reliability for each construct to guarantee the study instrument’s consistency and reliability. As a result of the reliability evaluation scores, all values of 0.7 or above were considered acceptable (Sekaran, 1992), and the entire analysis consequences were ideal. SPSS and AMOS were used to analyze the final 485 questionnaires collected by the researchers. The data collection was made during July to September 2022. Confirmatory Factor Analysis (CFA) was used to verify the model fit and construct validity (convergent and discriminant). Structural equation modeling (SEM) was used to demonstrate significant effects among the variables.

3.3 Population and Sample Size

In this study, the target population is all postgraduate students majoring in design from three representative universities in Chongqing, China, which including Sichuan Fine Arts Institute (SCFAI), Chongqing University (CQU), Chongqing Technology and Business University (CTBU). For this study, the researchers used a statistical calculator to calculate the approximate sample size of 425 needed by the researchers and planned to collect 500 valid samples.

3.4 Sampling Technique

Researchers utilized judgmental, stratified random and convenience sampling. First, the researchers conducted judgmental sampling by selecting 800 design students from three universities in Chongqing, China, who had experienced using e-guests in online learning at least once. In addition, a stratified random sampling of 500 students was also executed, as shown in Table 1. Convenience sampling was conducted by distributing the questionnaire via online channels such as WeChat and emails. The data were collected between March to July. In addition, the survey distributed to 800 participants with the target of 500 responses. However, only 485 valid data was obtained for the data analysis in this study.

Table 1: Sample Units and Sample Size

| University | Sampling Units | Population Size Total = 800 | Proportional Sample Unit Size Total = 500 |
|-----------------------------|------------------------------|--------------------------------|---|
| Sichuan Fine Arts Institute | First year graduate students | 128 | 80 |
| | Second year graduate student | 117 | 73 |
| | Third year graduate students | 114 | 71 |

| University | Sampling Units | Population Size Total = 800 | Proportional Sample Unit Size Total = 500 |
|--|------------------------------|--------------------------------|---|
| Chongqing University | First year graduate students | 89 | 56 |
| | Second year graduate student | 88 | 55 |
| | Third year graduate students | 86 | 54 |
| Chongqing Technology and Business University | First year graduate students | 73 | 46 |
| | Second year graduate student | 53 | 33 |
| | Third year graduate students | 52 | 32 |

Source: Created by the author.

4. Results and Discussion

4.1 Demographic Information

The characteristic demographic information collected from the targeted 485 participants is summarized in Table 2. Male respondents accounted for 20.82%, and female respondents accounted for 79.18%. In addition, 32.16% of the students are from visual communication, 28.45% is the industrial design, 3.92% is fashion design, 11.75% majored in digital media art, and 23.72% of the students majored in another design major.

Table 2: Demographic Profile

| Demographic and General Data (N=500) | | Frequency | Percentage |
|---|----------------------|-----------|------------|
| Gender | Male | 101 | 20.82% |
| | Female | 384 | 79.18% |
| Major Direction | Visual Communication | 156 | 32.16% |
| | Industrial Design | 138 | 28.45% |
| | Fashion Design | 19 | 3.92% |
| | Digital Media Art | 57 | 11.75% |
| | Others | 115 | 23.72% |

4.2 Confirmatory Factor Analysis (CFA)

A confirmatory factor analysis (CFA) was undertaken to determine whether the number of components and loadings on the observed variables matched what was anticipated based on the theories or hypotheses. According to (Hair et al., 2010). the measurement model (confirmatory factor analysis, CFA) recognizes the variation and covariation among several variables. Therefore, all these fit metrics are acceptable in the CFA test of this academic study. In addition, according to the statistical results summarized in Table 3, all Cronbach’s Alpha values were more significant than 0.70, factor loadings were more outstanding than 0.50, P-values were less than 0.50, composite reliability (CR) was more

significant than 0.80, and average variance extracted (AVE) was more significant than 0.50 (Sarmiento & Costa, 2017). Therefore, these model measures consolidate discriminant

validity and validate the validity of subsequent measures structural model estimation.

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

| Variables | Source of Questionnaire | No. of Items | Cronbach's Alpha | Factors Loading | CR | AVE |
|-----------------------|---|--------------|------------------|-----------------|-------|-------|
| Self-Efficacy | Kulviwat et al. (2014) | 4 | 0.839 | 0.579-0.891 | 0.845 | 0.583 |
| Perceived Enjoyment | Wang and Li (2012) | 4 | 0.855 | 0.674-0.858 | 0.852 | 0.592 |
| Perceived Ease of Use | Huang et al. (2007) | 3 | 0.817 | 0.618-0.865 | 0.830 | 0.624 |
| Perceived Usefulness | Sánchez-Franco and Roldán (2005) | 5 | 0.871 | 0.632-0.872 | 0.844 | 0.522 |
| Attitude | Fishbein and Ajzen (1975) | 5 | 0.889 | 0.728-0.830 | 0.882 | 0.599 |
| Social Influence | Buabeng-Andoh and Baah (2020) | 4 | 0.857 | 0.742-0.824 | 0.858 | 0.603 |
| Behavioral Intention | Bagozzi et al. (1992), Hu et al. (1999) | 5 | 0.846 | 0.662-0.773 | 0.838 | 0.509 |

As shown in Table 4 below, CMIN/DF = 1.819, GFI = 0.914, AGFI = 0.895, RMSEA = 0.041, CFI = 0.957, NFI = 0.911 and TLI = 0.951. All the indicators obtained in this study passed the CFA test because they were feasible and met the good of fit criteria. Therefore, the measurement model confirms discriminant and convergent validity in this study.

Table 4: Goodness of Fit for Measurement Model

| Index | Acceptable Values | Statistical Values |
|---------------|---------------------------------|----------------------|
| CMIN/DF | < 3.00 Hair et al. (2010) | 1.819 |
| GFI | > 0.90 Bagozzi and Yi (1988) | 0.914 |
| AGFI | > 0.80 Filippini (1998) | 0.895 |
| RMSEA | < 0.05 Browne and Cudeck (1992) | 0.041 |
| CFI | > 0.90 Hair et al. (2006) | 0.957 |
| NFI | > 0.90 Hair et al. (2006) | 0.911 |
| TLI | > 0.90 Hair et al. (2006) | 0.951 |
| 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, RMSEA = Root mean square error of approximation, CFI = Comparative fit index, NFI = Normed fit index, and TLI = Tucker-Lewis index

Source: Created by the author.

Fornell and Larcker (1981) stated that discriminant validity is tested by computing the square root of each AVE. Based on the results, the value of discriminant validity is larger than all inter-construct/factor correlations, therefore, the discriminant validity is supportive. The convergent and discriminant validity were sufficient.

Table 5: Discriminant Validity

| | SYQ | IQ | SEQ | PU | PEOU | SE | LS |
|------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| SE | 0.764 | | | | | | |
| PE | 0.116 | 0.769 | | | | | |
| PEOU | 0.160 | 0.148 | 0.790 | | | | |
| PU | 0.121 | 0.132 | 0.171 | 0.722 | | | |
| ATT | 0.141 | 0.334 | 0.347 | 0.204 | 0.774 | | |
| SI | 0.226 | 0.178 | 0.207 | 0.060 | 0.324 | 0.777 | |
| BI | 0.204 | 0.247 | 0.287 | 0.146 | 0.346 | 0.389 | 0.713 |

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

Source: Created by the author.

4.3 Structural Equation Model (SEM)

Ainur et al. (2017) described SEM as a statistical technique that incorporates features of standard multivariate models, such as factor analysis and regression analysis. SEM aims to determine whether the model matches the data well through model fitting (Hair et al., 2010). The structural model's model fitness index is shown in Table 6, which includes all values for CMIN/DF, GFI, AGFI, RMSEA, CFI, NFI, and TLI. Consequently, each of the goodness of fit indices in this study's SEM validation is acceptable.

Table 6: Goodness of Fit for Structural Model

| Index | Acceptable Criterion | Statistical Values Before Adjustment | Statistical Values After Adjustment |
|---------------|----------------------------------|--------------------------------------|-------------------------------------|
| CMIN/DF | < 3 Hair et al. (2010) | 2.472 | 1.932 |
| GFI | > 0.90 Bagozzi and et al. (1992) | 0.875 | 0.906 |
| AGFI | > 0.80 Filippini (1998) | 0.854 | 0.889 |
| RMSEA | < 0.05 Browne and Cudeck (1992) | 0.055 | 0.044 |
| CFI | > 0.90 Hair et al. (2006) | 0.919 | 0.950 |
| NFI | > 0.90 Gold et al. (1995) | 0.872 | 0.901 |
| TLI | > 0.90 Hair et al. (2006) | 0.912 | 0.944 |
| Model Summary | | Not in harmony with empirical data | In harmony with empirical data |

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

Source: Created by the author.

4.4 Research Hypothesis Testing Result

The research matrix was calculated using the regression weights and R2 variances to determine the relevance of each variable. The results of each calculation are shown in Table 7.

Table 7: Hypothesis Results of the Structural Equation Modeling

| Hypothesis | (β) | t-Value | Result |
|----------------------------|-------------|----------|-----------|
| H1: SE \rightarrow PEOU | 0.177 | 3.353*** | Supported |
| H2: PE \rightarrow ATT | 0.197 | 3.736*** | Supported |
| H3: PEOU \rightarrow PU | 0.364 | 7.120*** | Supported |
| H4: PU \rightarrow ATT | 0.122 | 2.515* | Supported |
| H5: PEOU \rightarrow ATT | 0.317 | 5.802*** | Supported |
| H6: SI \rightarrow BI | 0.362 | 6.619*** | Supported |
| H7: ATT \rightarrow BI | 0.329 | 6.096*** | Supported |

Note: *** $p < 0.001$, * $p < 0.05$

Source: Created by the author.

The results in Table 7 can be interpreted in the following extensions. The correlation results of **H1** support the hypothesis that SE significantly influences PEOU with a standardized coefficient of 0.177. As Shao (2018) demonstrated, SE has a positive relationship with PEOU, and learners with a high level of SE are likely to be more involved in the process, believing that the system is easy to learn independently.

Second, **H2** has confirmed that PE is one of the essential factors of ATT, with a standardized coefficient of 0.197. Huang et al. (2007) have indicated that PE has a favorable and immediate impact on ATT.

Additionally, **H3** confirms that PEOU is one of the critical factors affecting attitude, with a standardized coefficient value for the structured method of 0.364. In a study of the behavior of mobile learning users, Huang et al. (2007) discovered that the PEOU of the users has a direct effect on their PU.

The hypothesis that PU significantly impacts ATT is supported by the statistical results for **H4**, with a standardized coefficient value of 0.122. Chauhan (2015) indicated that in the case of using mobile money by poor Indians, PU has a significant positive effect on the ATT of the users.

Besides, the findings show that PEOU strongly impacted ATT, with a standard coefficient value for **H5** of 0.317. According to O'Cass and Fenech (2003), PEOU significantly impacts the ATT, and user' perceptions are positive to use the system.

Furthermore, in condition **H6**, the findings support that SI significantly affects BI with a common coefficient value of 0.362. Kucukemiroglu and Kara (2015) argued that SI primarily impacts consumer BI.

Finally, **H7** determines that ATT affects BI with a standardized coefficient value of 0.329. As demonstrated by Holsapple and Wu (2008), attitudes can influence the intention to use a system to a positive degree.

5. Conclusions and Recommendation

5.1 Conclusion and Discussion

This study aims to examine the influence factors of the behavioral intention of design primary postgraduate students at three universities in the Chongqing region of China to employ e-guests in online learning. This research develops the conceptual framework based on the previous theories. After the conceptual framework was constructed, seven hypotheses were proposed to verify the relationships and connections between self-efficacy, the perceived ease of use, perceived enjoyment, perceived usefulness, attitudes, social influence, and behavioral intention. Besides, as a part of the research strategy, the scale items were designed and distributed to 485 postgraduate design students. Each had the experience of using e-guests in online learning at least once. In addition, Confirmatory Factor Analysis (CFA) and Structural Equation Model (SEM) were applied to evaluate the validity and reliability of the conceptual framework and to validate the critical influencers for the elements that drove behavioral intention, respectively. The results of this investigation confirmed all hypotheses.

According to the research findings, SI exhibited the most significant impact on BI. Besides, attitude also indicated a significant impact on behavioral intention. Kucukemiroglu and Kara (2015) and Yang and Yoo (2004) indicated that SI primarily impacts users' BI, and the BI to use is directly influenced by ATT. This is consistent with the result of this research. In addition, PEOU, PU, and PE significantly impacted postgraduate design students' ATT toward their BI to use E-guests in online learning. PE shows the most significant direct effect on attitude in this study, which is consistent with Huang et al. (2007) that the users' PE directly influences their ATT in research regarding the users' behavior of mobile learning. Besides, the results showed that PEOU has a significant influence on PU. Finally, PEOU significantly influenced PU, and SE significantly influenced PEOU. This is in line with previous research concluded by Hsia et al. (2014) and Huang et al. (2007).

5.2 Recommendation

The researchers examine the factors that influence postgraduate design students' behavioral intention to use e-guests in online learning in the Chongqing region of China. The researcher suggested that it is essential to carefully

consider the interconnection between SE, PU, PE, PEOU, SI, ATT, and BI. In the context of the Covid-19 epidemic, the following recommendations are proposed to generate more appropriate or advanced online educational strategies and to have an insightful investigation of the e-guests used in the postgraduate design of students' online education, thus, achieving more educational goals.

First, the results have indicated that a student's SI connected with online learning is strongly and positively associated with the student's BI. It is recommended that school departments should promote e-guests or increase the frequency of using online learning, inviting more leading academics or industry experts to better promote students' behavioral intentions and learning efficiency. Moreover, the university administration should provide more chances to promote e-guests to the students' social influence, such as their parents, by providing detailed information about e-guests.

In addition, from the perspective of ATT, instructors and instructional departments should provide more significant assistance to lessen postgraduate students' unfamiliarity, inefficiency, and resistance to interacting with e-guests in online learning. Furthermore, for the PU, teaching units should support the fluency and continuity of using e-guests in online learning and offer significant opportunities for effective communication and interaction between students and instructors.

Lastly, instructors and teaching units should develop teaching standards based on the characteristics of online education in the design major, formulate teaching objectives with invited online experts, and designate teaching strategies that will motivate students to complete the task on their initiative. In conclusion, the administration of the education department at public universities is advised to enhance the use of e-guests for better efficiency in online learning and improve students' critical thinking and participation.

5.3 Limitation and Further Study

In order to ensure the research realistically, the population and sample selection were limited to three universities located in Chongqing, China, and only seven latent variables were included in the conceptual framework. Further research could be divided into two perspectives: to expand the scope of the study to other regions of China. Secondly, other latent variables, such as actual use, technology, satisfaction, learning motivation, etc., can be further explored within the scope of the research framework.

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