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Factors Affecting College Students' Intention to Use English U-learning in Sichuan, China

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Abstract

Purpose: This research aimed to evaluate the effects of perceived ease of use, social influence, service quality, perceived usefulness, satisfaction, and attitude toward using and intention to use English u-learning on college students. **Research design, data and methodology:** This study was a quantitative study and the researcher obtained data for analysis by distributing questionnaires to the target population. the index of Item–Objective Congruence (IOC), pilot test, Confirmatory Factor Analysis (CFA) and Structural Equation Model (SEM) were methods utilized to analyze the data and test research hypotheses proposed. **Results:** The results showed that perceived ease of use and perceived usefulness of English u-learning, social influence, service quality, and satisfaction had positive direct and/or indirect effect on college students' intention to use English u-learning. Satisfaction exerted the most significant influence on intention to use English u-learning. However, attitude showed no causal relationship with intention to use English u-learning. **Conclusions:** For English u-learning system developers, they should focus on improving perceived ease of use, perceived usefulness, and service quality of the system. For system promoters and management of education institutions, they ought to increase social influence of English u-learning and raise students' satisfaction to improve their intention to use English u-learning.

Keywords : Perceived Usefulness, Attitude toward using, Intention to Use, English U-Learning, China

JEL Classification Code: A23, I20, L86, M10

1. Introduction[1]

What is u-learning? U-learning referred to studying knowledge and practicing skills regardless of time or space. Usually, implementation of u-learning was based on advanced portable devices (Megan, 2020).

U was an abbreviation of the English word, ubiquitous, which came from Greek. The word ubiquitous first appeared in the United States. Mark Weiser, the chief technology expert of Xerox PARC (Xerox Palo Alto Research Center), first proposed the concept. In September 1991, he published his paper "Computers in the 21st century" in American journal Science, and put forward the concept of ubiquitous computing for the first time. Since the concept of u was put forward, many countries have adjusted their national informatization strategic development plans (Xue, 2007).

U-learning was based on wireless sensor technology and wireless switching technology. By using the sensor and the switching equipment hidden in a variety of devices, the most significant point of u-learning lied in that it was able to track learners' learning situation at anytime and anywhere, and provided uninterrupted learning support services for learners in the changing environment (Xue, 2007).

Development of English learning in universities could be traced back to the year 1978 when college entrance examination was resumed and English became one of the

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test subjects. In 1987, College English Test Band 4 (CET4) and College English Test Band 6 (CET6) became two compulsory English examinations in China's universities. Students could graduate only after passing at least CET4. In recent decades, the number of students who would like to study overseas increased substantially. Thus, college students paid more attention to English learning (China Daily, 2016).

For language learners, constant learning, timely review and a good language environment are essential. Traditional English learning constrained in classrooms was no longer suitable for language learning. With the development of technologies and advanced devices, u-learning provided a more fashionable and effective way to learn English. Most importantly, u-learning afforded individualized service for language learners, students could learn at their own pace (Pan, 2019). Therefore, this study would like to investigate the influential of factors towards college students' attitude and intention to use u-learning for their English studies. This can benefit the education institutions, English course instructors, or English u-learning system developers that would like to enhance their English course curriculum by embedding technological advancement devices of u-learning to their conventional learning, or shifting from conventional learning to u-learning.

2. Literature Review

2.1. Theories Used in the Study

In this study, technology acceptance model (TAM), information success theory (IS success theory) and satisfaction theory were utilized to construct the research framework.

Davis (1989) proposed TAM to describe a person's acceptance of a certain technology. Perceived ease of use and perceived usefulness were the two main factors to help predict people's technology acceptance. Later, Hsu and Lu (2004) included social influence into TAM, which played an important part in influencing users' adoption of a certain technology.

DeLone and McLean (1992) put forward information systems success theory (IS success theory) which stated that people's adoption of information system and whether they were satisfied with the system or not were influenced by system quality and information quality. DeLone and McLean (2003) upgraded the theory by adding the factor of service quality to the model.

Oliver (1993) indicated that a consumer's attitude was influenced by satisfaction, at the same time, attitude had an effect on behavioral intention.

2.2. Introduction of Variables

2.2.1. Perceived Ease of Use

According to Davis (1989), the definition of perceived ease of use was to what extent people considered applying some techniques such as a certain platform was easy. In field of ubiquitous learning, Lin (2013) defined perceived ease of use as how students regarded u-learning as easy or difficult to utilize. Under the circumstance of mobile commerce, Lu (2014) proposed that perceived ease of use was the cost spent in utilizing mobile shopping which existed in customer's opinions after purchasing behaviors. Perceived ease of use gave users a faith that they could succeed in doing tasks, which gave them a sense of significant enjoyment (Igbaria et al., 1995). For instance, if users regarded a website easy to use, which indicated that they exerted little effort in using the website (Lederer et al., 2000; Perea et al., 2004).

TAM theory indicated that perceived usefulness was impacted directly by perceived ease of use (Davis, 1989). Former studies revealed that perceived ease of use had an intimate relationship with perceived usefulness (Liu & Forsythe, 2011; Zhou, 2011). For instance, Wu and Chen (2005) stated that users would think the system is helpful it was easy and convenient for users to study and deal with. Mallat et al. (2008) also pointed out that intention to use was significantly influenced by perceived ease of use. Former researches have revealed that user's intention to use an information system was affected by the system's ease of use (Davis et al., 1989; Venkatesh, 2000). In other words, users would count on and were more inclined to apply a system on condition that the system was very easy and convenient to operate (Teo et al., 2003). Hence, the researcher proposed the following hypothesis:

H1: Perceived ease of use positively affects perceived usefulness.

H9: Perceived ease of use positively affects intention to use English u-learning.

2.2.2. Social Influence

Ajzen (1991) stated that social influence was people thought that how other people would regard their behaviors, usually, other people's thoughts exerted great effect on them. Rashotte (2007) proposed that people would modify their own behaviors according to others' suggestions. Social influence was explained by Rice et al. (1990) that it was to what level people would affect others in a society. It was well known that social influence played a significant role in technology application (Kesharwani & Tripathy, 2012). For instance, social influence was vital to students, whether they would actually use the Learning Management System (LMS) (Akbar, 2013; Hsu, 2012; Šumak et al., 2010).

Hong and Tam (2006) declared that perceived usefulness

was strongly affected by social influence. People would regard a system useful if others suggested that the system was helpful. In other words, others' opinions were more persuasive than one's own feeling (Claar et al., 2014; Shen et al., 2006). Shen et al. (2006) indicated that in universities, suggestions from tutors had a great impact on students' opinions toward the usefulness of a course system. Hence, the researcher proposed the following hypothesis:

H2: Social influence positively affects perceived usefulness.

2.2.3. Service Quality

Cheng (2012) defined service quality as the comparisons between what people thought about the service of a system before and after they experienced using the system. In the area of information technology, service quality was also explained as how well a system could help people solve problems and accomplish their tasks (Ahn et al., 2007; Kim et al., 2008). Liu et al. (2009) stated that service quality was personal opinion of extremely good service afforded by organizers. In terms of using internet service, service quality was a vital element in promoting a successful operation of a system (DeLone & McLean, 2003). Roca et al. (2006) stated that outstanding service quality of information systems boosted users' acceptance of the systems.

Cenfetelli et al. (2008) indicated that good service quality provided trustworthy, individualized and on time service, which promoted high work and life quality. Previous studies showed that under the circumstance of using website, service quality exerted an important role in predicting perceived usefulness of the website (Ahn et al., 2004; Cao et al., 2005). The same viewpoint could be found in research of Wang and Lin (2012) which stated that for people using mobile value-added services, perceived usefulness of the service was impacted greatly by service quality. Hence, the researcher proposed the following hypothesis:

H3: Service quality positively affects perceived usefulness.

2.2.4. Perceived Usefulness

Davis (1986) defined perceived usefulness as how usefulness a certain technology was for people to apply it to their work. Later, Davis (1989) upgraded the definition of perceived usefulness to the degree of helping people work well and thoroughly with no waste of time, money or energy by applying a certain technology. Zhang et al. (2008) proposed that in technology acceptance model, perceived usefulness meant that people would be inclined to use a certain technology if the technology could help them achieve what they wanted in their work. Davis et al. (1992) indicated that perceived usefulness was a kind of outer encouragement. It was influenced by people's psychological activities, qualities of things, diversities of people. Moreover, perceived usefulness was affected by inner encouragement (Abbasi et al., 2011; Hong et al., 2002; Lin, 2009; Wang et al., 2003).

Kleijnen et al. (2004) declared that raise of perceived usefulness would boost a positive attitude. TAM theory proposed by Davis (1989) and some empirical studies revealed that people's attitude toward a certain technology utilization was influenced by perceived usefulness. As far as social media was concerned, people would hold a favorable attitude toward utilizing a social media if it was beneficial to help organize trips (Ayeh, 2015). TAM theory also stated that people would accept and apply a technology on condition that they regarded the technology useful (Davis, 1989). In field of u-learning in universities, usefulness of u-learning would accelerate students' acceptance and application of u-learning (Lin, 2013). As far as purchase behaviors on the internet were concerned, consumers' purchase intention was affected by perceived usefulness of buying online (Gefen et al., 2003). Hence, the researcher proposed the following hypothesis:

H4: Perceived usefulness positively affects attitude toward Using English U-learning.

H6: Perceived usefulness positively affects intention to use English u-learning.

2.2.5. Satisfaction

Anderson et al. (1994) said that satisfaction was a good sensation aroused from assessment of a buying behavior. Szymanski and Henard (2001) defined satisfaction as a sort of positive feeling about the product after people purchased and used the product. Woodruff and Schumann (1993) declared that satisfaction was benefits originated from buying and using products. Dick and Basu (1994) pointed out, consumers' dissatisfaction with a product would result in negative attitude toward the product and brand. By contrast, consumers were inclined to have a high acceptance of a product and its advertisement on condition that the product won their satisfaction (Messmer, 1979).

Previous studies revealed that if customers were pleased with a product, they would show favorable attitude toward the product and the brand (Bolton, 1998; Oliver, 1980; Roest & Pieters, 1997). Ellis and Kurniawan (2000) indicated that people's satisfaction with a website would boost a positive attitude toward it. On the contrary, dissatisfaction with a website would surely bring negative attitude toward it (Kim et al., 2007). Choi et al. (2018) proposed that satisfaction with a commodity was a decisive factor of consumers' intention to purchase and use the commodity. Chen (2008) also indicated that consumers' usage intention was directly affected by satisfaction. In service industry, satisfaction had a tight and intimate relationship with consumers' usage intentions (Bolton & Lemon, 1999; Ram & Jung, 1991).

Hence, the researcher proposed the following hypothesis:

H5: Satisfaction positively affects attitude toward using English u-learning.

H8: Satisfaction positively affects intention to use English u-learning.

2.2.6. Attitude toward Using English U-learning

Fishbein and Ajzen (1975) defined attitude as one's assessment of one's action. Ajzen (1991) declared that attitude was personal opinion of certain behavior which was to be discussed. Fazio (1989) proposed that attitude relates to a certain behavior and assessment of the behavior. According to the research by Haubl (1996), whether consumers accept a new product, it mainly depended on consumers' attitude toward the brand.

The same opinion could be seen in the research of Davis (1989) that in TAM, attitude or their opinions affected the decision to utilize or accept a system. For instance, Ajzen and Fishbein (1980) revealed that acceptance of innovative system was influenced by users' attitude toward utilizing the system. In research of Yu and Yu (2010), they declared that great positive attitude toward online learning system would highly promote users' acceptance and intention to use the system. Hence, the researcher proposed the following hypothesis:

H7: Attitude toward using English u-learning positively affects intention to use English u-learning.

2.2.7. Intention to Use English U-learning

Empirical researches showed that intention to use indicated later actual usage (Lee et al., 2012; Sheppard et al., 1988). In terms of specific application, Wan-Ling Hu and Ming-Hone Tsai (2009) defined intention to use as the possibility of using mobile digital television when people were driving. Also, whether people would utilize systems and platforms on the internet (Rui-Hsin & Lin, 2018). Chang and Cheung (2001) declared that as internet made it easier for people to deal with work issues, it led to people's high intention to use internet in working environment. Oh and Yoon (2014) stated that in field of online learning, people's usage intention of online learning was influenced by social influence, perceived ease of use and perceived usefulness of online learning.

3. Research Methods and Materials

3.1. Research Framework

The research framework was constructed by four previous theoretical frameworks. The first previous theoretical framework of Rui-Hsin and Lin (2018) studied the influence of service quality, perceived ease of use and perceived usefulness on usage intention of e-learning for police education and training. The second previous theoretical framework of Hu and Lai (2019) carried out a research of relationships among perceived ease of use, perceived usefulness, social influence, facilitating conditions and behavioral intention to use Web-based LMSs. The third previous theoretical framework of Athiyaman (1997) focused on relationships between students' satisfaction, attitude and service quality of university. The fourth previous theoretical framework of Kashive et al. (2021) studied the effects of some factors such as satisfaction and attitude on users' intention to use e-learning through artificial intelligence. The research framework is illustrated in Figure 1.

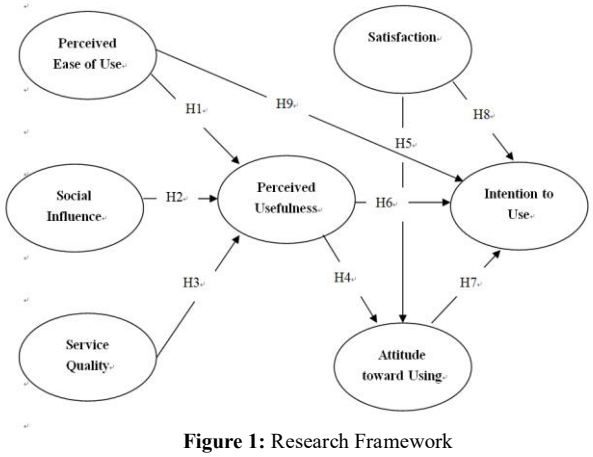

Figure 1: Research Framework

The research aimed to study how perceived ease of use, social influence, service quality perceived usefulness, satisfaction and attitude affected college students' intention to use English u-learning in Sichuan, China. Besides, the research also focused on the relationships between the seven variables.

3.2. Methodology

This study was a quantitative study and the researcher collected data by distributing online questionnaires to the target population. Questionnaire designed for this study include 3 parts of screening questions, factors affecting college students' intention to use English u-learning (scale items) and demographic questions. For scale items, a 5-point Likert scale was utilized to measure variables in the scale of 1 (strongly disagree) to 5 (strongly agree).

Before distributing online questionnaires, the researcher conducted the index of Item–Objective Congruence (IOC) test by sending scale items of all 7 variables to three experts who were familiar with the research topics to assess content validity of the research. The researcher also conducted pilot test by distributing questionnaires to 30 target population to

help test reliability of the research by using Cronbach's Alpha measurement. After affirming reliability and content validity, the researcher distributed questionnaires to target population and concluded 500 valid questionnaires for the research. The data was analyzed by using SPSS and AMOS software for analyzing statistical results from confirmatory factor analysis (CFA) and structural equation model (SEM).

3.3. Target Population and Sample Size

Target population referred to research objects the researcher utilized to conduct research (Brady & Yaeger, 2013). Target population in this study is the second year graduate students from school of mathematics and school of economics and management in Southwest Jiaotong University, Sichuan province, China who have experience in using u-learning to learn English.

Second year students were scoped and proper for target population as the first year students might not be familiar with u-learning, and third and fourth year students usually spent more time in internship and job-hunting rather than English learning.

Milic (2008) defined sample size as a representative part of target population which was utilized to do research. As there were 7 latent variables and 32 observed variables, the Soper's (2006) calculator suggested the minimum sample size was 425. In order to receive valid questionnaires, the researcher distributed about 600 questionnaires and used 500 valid questionnaires to do the research.

3.4. Sampling Procedures

In this study, target population must meet the following requirements: Chinese college students in Sichuan province; Second year graduate students in one of the two schools of Southwest Jiaotong University; Students who had experienced using English u-learning to learn English. Hence, purposive or judgmental sampling and convenience sampling were methods for the researcher to select and reach target sample. Purposive sampling is the selection of target population that could satisfy research requirements and fulfill research objects (Cooksey & McDonald, 2019). It is firstly employed to choose second year students of two schools in Southwest Jiaotong University. Then, stratified sampling is used to collect data proportionately from these two schools based on their size of second year students. The number of target students were illustrated and proportionated to sample size as followed:

Table 1: Sample Size from Two Schools of a University

School	Population Size	Proportional Sample Size (N=500)
School of Mathematics	62	36
School of Economics and Management	802	464
Total	**864**	**500**

Source: SWJTU (2019)

Convenience sampling is lasty used to choose target respondents who were easy to access and were able to help fill in questionnaires and complete investigation of the research (Li and Jain, 2009). The researcher has distributed questionnaires through online channels of WeChat, QQ, and other social media and collected their responses for further analysis.

4. Results and Discussion

4.1. Demographic Information

As was shown in table 2, among 500 respondents, 45.40 percent were male and 54.60% were female. Most respondents had been using English u-learning for more than 3 months but less than 1 year. For time spent on learning English every week, 1 hour to 5 hours ranked the first place. Nearly half of respondents wanted to improve English reading through u-learning. More than 80% of the respondents preferred using mobile phone as the equipment to conduct English u-learning.

Table 2: Demographic Information

Demographic and General Data (N=500)		Frequency	Percentage
Gender	Male	227	45.40%
	Female	273	54.60%
Experience on English u-learning	Below 3 months	95	19.00%
	3 months to 1 year	229	45.80%
	Above 1 year	176	35.20%
Time spent on English u-learning per week	Below 1 hour	41	8.20%
	1 to 5 hours	311	62.20%
	Above 5 hours	148	29.60%
Aspects of English u-learning needed for improvement	Listening	187	37.40%
	Speaking	78	15.60%
	Reading	201	40.20%
	Writing	34	6.80%
A Device prefer for English u-learning	Computer	80	16.00%
	Mobile phone	420	84.00%

4.2. Confirmatory Factor Analysis (CFA)

Brown (2006) indicated that confirmatory factor analysis (CFA) was to evaluate if observed variables were relevant to latent variables. Convergent validity (factor loading, composite reliability, average variance extracted) and discriminant validity could be confirmed through CFA. The results in table 3 revealed the constructs have coefficient of internal consistency under the rules of thumb

that Cronbach's Alpha value must be at 0.70 or above (Dikko, 2016). Factor loading of each variable was also above 0.5 at t-value >1.98 and p-value<0.5 (Hair et al., 2010). Composite reliability (CR) was greater than 0.7 and average variance extracted (AVE) was greater than 0.5 for all constructs (Fornell & Larcker, 1981). In summary, the statistical estimates were significant.

Results in table 4 presented the square root of AVEs. According to Fornell and Larcker (1981), discriminant validity was evaluated by computing the square root of each AVE and compare with the factor correlations. In this study, the values of discriminant validity were all larger than inter-construct correlations, therefore, the discriminant validity was considered to be acceptable.

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

Variables	Source of Questionnaire (Measurement Indicator)	No. of Items	Cronbach's Alpha	Factor Loading	CR	AVE
Perceived ease of use (PEOU)	Du et al. (2012), Gao and Bai (2014) and Lin (2013)	4	0.884	0.706 – 0.976	0.882	0.655
Social influence (SI)	Bashir and Madhavaia (2015), Du et al. (2012), and Lu (2014)	5	0.881	0.721 – 0.901	0.883	0.603
Service quality (SQ)	Aboelmaged (2018) and Zhou (2011)	4	0.883	0.748 – 0.942	0.885	0.661
Perceived usefulness (PU)	Du et al. (2012) and Watjatrakul (2013)	5	0.892	0.748 – 0.912	0.894	0.629
Satisfaction (SA)	Carlson and O'Cass (2010), Foroughi et al. (2019), and Yu et al. (2017)	4	0.872	0.758 – 0.902	0.874	0.636
Attitude toward using (ATT)	Bashir and Madhavaia (2015), and Foroughi et al. (2019)	4	0.873	0.742 – 0.906	0.877	0.642
Intention to use (IU)	Gao and Bai (2014), Lin (2013), and Watjatrakul (2013)	6	0.908	0.761 – 0.906	0.910	0.628

Note: Composite Reliability (CR); and Average Variance Extracted (AVE)

Table 4: Discriminant Validity

Variables	Factor Correlations						
	PEOU	SI	SQ	PU	SA	ATT	IU
PEOU	**0.809**						
SI	0.665	**0.777**					
SQ	0.662	0.717	**0.813**				
PU	0.703	0.700	0.644	**0.793**			
SA	0.643	0.727	0.704	0.722	**0.797**		
ATT	0.700	0.757	0.727	0.721	0.748	**0.801**	
IU	0.704	0.733	0.706	0.712	0.751	0.703	**0.792**

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

4.3. Structural Equation Model (SEM)

Byrne (2010) defined structural equation model as a statistical approach which measured the correlation in structural equations. The measurement of SEM includes the goodness of fit of the model and the effects of one variable to the other. Table 5 has illustrated the fitness of model where the statistical indices value from SEM are compare with the acceptable criterion. The indices and its value used for goodness of fit are CMIN/DF = 1.387, GFI = 0.926, AGFI = 0.913, CFI = 0.986, TLI = 0.984, RMSEA = 0.028, accordingly. All index values are within the acceptable criterion, therefore affirmed the fitness of model.

Table 5: Goodness of Fit for Structural Equation Model (SEM)

Index	Criterion	Statistical Value
χ^2/df (CMIN/df)	<3 (Hair et al., 2010)	1.387
GFI	>0.90 (Bagozzi & Yi, 1988)	0.926
AGFI	>0.85 (Sica & Ghisi, 2007)	0.913
CFI	>0.95 (Hu & Bentler, 1999)	0.986
TLI	>0.90 (Hu & Bentler, 1999)	0.984
RMSEA	<0.08 (Hu & Bentler, 1999)	0.028

Note: 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 = normalized fit index, CFI = comparative fit index, TLI = Tucker Lewis index and RMSEA = root mean square error of approximation
Source: constructed by author

4.4. Research Hypothesis Testing Result

The significance of relationship between variables are measured from its regression weights and R^2 variances in the structural model. The results indicated that all proposed hypotheses are supported, except for H7. Social influence was the strongest predictor of perceived usefulness, following by perceived ease of use. Moreover, satisfaction was the most impactful factor to both attitude toward using and intention to use. The causal relationships among the variables are presented in table 6.

The results of structural path from table 6 and figure 2 could be summarized as followed:

H1: Perceived ease of use positively affects perceived usefulness with standardized path coefficient of 0.423 and t-value at 7.257. The hypothesis was supported with TAM (Davis, 1989) and previous empirical studies (Benjangjaru & Vongurai, 2008; Lee, 2006; Liu & Forsythe, 2011; Wu & Chen, 2005) that the college students would perceive English u-learning as useful when the technology is understandable and easy to operate.

H2: The standardized path coefficient between social influence and perceived usefulness was 0.439 and t-value at 6.679. Therefore, social influence positively affects perceived usefulness. Consequently, H2 was supported. Social influence was the highest contributor to perceived

useful, comparing with perceived ease of use and service quality. It implies that opinions or suggestions from other people in their society were vital and more persuasive than one's own opinions. The students would perceive system as useful when others thought so. This finding is consistent with prior studies by Claar et al. (2014), Hong and Tam (2006), Shao (2018), and Shen et al. (2006).

H3: The hypothesis is supported that service quality positively affects perceived usefulness from standardized path coefficient of 0.052 and t-value at 0.845. Although significant, service quality has the least effect on perceived usefulness comparing with perceived ease of use and social influence. College students do value the quality of services in terms of real-time and personalized service to accomplish the purpose of using u-learning, anytime and anywhere learning. This corresponds to research conducted by Ahn et al. (2004), Cao et al. (2005) and Wang and Lin (2012)

H4: The standardized path coefficient between perceived usefulness and attitude toward using English u-learning was 0.371 and t-value at 7.252. Therefore, H4 was supported that perceived usefulness positively affects attitude toward using English u-learning. The finding is aligned with studies of Didyasarin et al. (2017), Kleijnen et al. (2004) and Zhang et al. (2008). Students would have favorable attitude toward using u-leaning if the system can help them achieved the task while exerting lesser effort and time.

H5: Satisfaction positively affects attitude toward using English u-learning, which supporting with the standardized path coefficient of 0.597 and t-value at 10.337. Positive feeling or experience from using u-learning would build favorable attitude and likely to accept the usage of the system. Thereby, adhere to previous research of Bolton (1998), Dick and Basu (1994) and Ellis and Kurniawan (2000). Satisfaction has stronger relationship with attitude toward using than perceived useful, which can explain that college students consider their personal impression over the usefulness of tools.

H6: The standardized path coefficient between perceived usefulness and intention to use English u-learning was 0.119 and t-value at 2.751, so supported H6 that perceived usefulness positively affects intention to use English u-learning. As Gefen et al. (2003) and Lin (2013) claimed that the usefulness of technology would motivate the acceptance and usage of the students.

H7: The standardized path coefficient between attitude toward using English u-learning and intention to use English u-learning was -0.161 at t-value at -1.820. Therefore, the result indicates that attitude toward using English u-learning did not have positive affect intention to use English u-learning. Although the finding contradicts with Ajzen and Fishbein (1980) and Yu and Yu (2010) statements that attitude promotes system acceptance and using, it aligns with findings of Kashive et al. (2021) where intention to use u-learning was driven by students' satisfaction instead of their favorable attitude.

H8: The hypothesis was supported on positive affect of satisfaction on intention to use English u-learning with standardized path coefficient of 0.518 and t-value at 7.165. When using English u-learning satisfy the students' needs and expectation, they intent to use or spend more time on learning through this channel (Chen, 2008; Kashive et al., 2021).

H9: The standardized path coefficient between perceived ease of use and intention to use English u-learning was 0.371 (t-value = 5.633). Therefore, perceived ease of use positively affects intention to use English u-learning. Consequently, H9 was supported and consistent with Davis et al. (1989), Teo et al. (2003), and Venkatesh (2000) that an easy and convenient system or technology would affect the user's intention to use.

Table 6: Hypothesis Testing Result of the Structural Model

Hypothesis		Standardized path coefficients (β)	t-value	Test Result
H1	PEOU → PU	0.423	7.257*	Supported
H2	SI → PU	0.439	6.679*	Supported
H3	SQ → PU	0.052	0.845*	Supported
H4	PU → ATT	0.371	7.252*	Supported
H5	SA → ATT	0.597	10.337*	Supported
H6	PU → IU	0.119	2.751*	Supported
H7	ATT → IU	-0.161	-1.820	Not Supported
H8	SA → IU	0.518	7.165*	Supported
H9	PEOU → IU	0.371	5.633*	Supported

Note: *Significant at p-value, p<0.05.

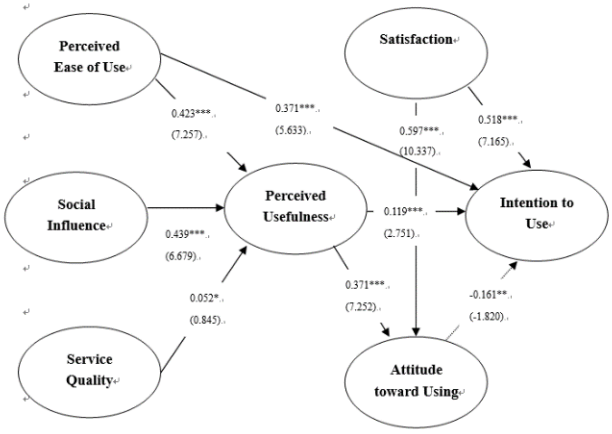

Figure 2: Revised Research Framework

Note: Solid line reported the Standardized Coefficient with *p<0.05, and t-value in Parentheses; Dash line (H7) reported not significant.

5. Conclusions and Implications

5.1. Conclusions

The researcher aimed to investigate factors influencing college students' intention to use English u-learning. The sampling units in the study were second year graduate students of two schools in Southwest Jiaotong University in Sichuan province, China. The selected two schools were school of mathematics and school of economics and management. 7 variables and 9 hypotheses were utilized to demonstrate how perceived ease of use, social influence, service quality, perceived usefulness, satisfaction, attitude toward using English u-learning affected intention to use English u-learning. This research was a quantitative research and questionnaire was a method to collect data. IOC, pilot test, CFA and SEM were used to examine content validity and reliability of the proposed conceptual framework.

The findings from the statistical results could be summarized as followed:

First, intention to use English u-learning was mostly effect by Chen (2008) who indicated that consumers' usage intention was affected by satisfaction directly. As the second place, perceived ease of use had positive effect on intention to use English u-learning. Former researches had revealed that user's intention to use an information system was affected by the system's ease of use (Davis et al., 1989; Venkatesh, 2000). Third, perceived usefulness exerted the third positive effect on intention to use English u-learning. In previous studies concerning u-learning in universities, Lin (2013) indicated that usefulness of u-learning would accelerate students' acceptance and application of u-learning. On the contrary, the attitude played an insignificant role in predicting intention to use English u-learning.

Second, satisfaction plays a vital role in motiving or influencing college students' attitude toward using and intention to use (Ellis and Kurniawan, 2000; Kashive et al., 2021). Thence, needs, wants, and expectation of the students from using English u-learning should be discovered to build positive impression or feeling.

Third, u-learning would be perceived as a useful tool for college students when their friends and classmates agreed and also easy to use. These perception would later form favorable attitude toward using English e-learning

In summary, the crucial aspects that should be prioritized when encourage intention to use English u-learning among college students are satisfaction, social influence, perceived ease of use, perceived usefulness, and service quality, respectively.

5.2. Implications

For theoretical implications, this study exactly proved technology acceptance model (TAM) and information systems success theory (IS success theory). The results confirmed that perceived ease of use and perceived usefulness were two significant elements to impact and predict users' intention to accept a certain technology. In this study, it indicated that perceived ease of use and perceived usefulness of English u-learning had positive influence on college students' intention to use English u-learning. Besides, service quality was proved to be an important factor to impact users' intention to use English u-learning. However, attitude showed insignificant impact on intention to use English u-learning in this study, which was in contrast with satisfaction theory.

For practical implications, the study demonstrated that satisfaction exerted the most influential impact on attitude and intention to use English u-learning. As a result, it was essential to ensure that students were satisfied with English u-learning system and the whole learning process. English program instructors or education institutions should understand the antecedents of students' satisfaction to directly serve their needs, wants, and expectation from using u-learning. For instance, the sample group of this study mainly looks for improvement in reading and listening aspects of English. Therefore, the course can be designed and focus on the respective area such as continuously update latest news, movies or TV shows with subtitles in the application for students to practice oral English.

As social influence was considered to play a role in predicting intention to use English u-learning via perceive usefulness, it was particularly important to increase the social impact of English u-learning system in universities. To be more specific, English program instructors or education institutions ought to introduce the importance and benefits of using English u-learning systems to students by conducting trainings. Moreover, it was easier for students to accept a certain u-learning system if their classmates or friends had positive use experience and suggested them use the system. As a result, it could be concluded that system developers should try their best to satisfy every user, as good user experience was the best publicity strategy.

Perceived ease of use impacted intention to use English u-learning both directly and indirectly through perceived usefulness, thus, developing systems and platforms of English u-learning should focus more on improving ease of use of the system. For instance, a uniform style of web pages, clear UI interaction design, increase of use guidance to make it easier for users to operate. All methods above could help improve ease of use and usefulness of English u-learning systems and thus promoting users' acceptance and intention to use English u-learning.

For service quality, English u-learning systems should support students technically and administratively to ensure students are able to accomplish their tasks and solve problems. The assistance can be provided to students

through prompt response and on-time services while using, for instance, guided solutions in frequently ask questions or online customer service for personalized enquiry.

6. Limitation and Further Study

The limitation of the study lied in the population the researcher selected to do the research. As the target population in this study were second year graduate students, there might be different results and conclusions if the target population were third year graduates, or second year and third year undergraduate students. Moreover, In order to expand coverage of the survey and make the results more accurate and representative, the researcher might choose other schools of the university, or even other universities as research objects, which might bring some new findings in field of English u-learning.

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