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Abstract

This paper aims to evaluate the fundamental determinants that significantly impact the sustained intention of mobile learning among undergraduates in four majors of the Chengdu College of Arts and Sciences in Sichuan, China. The conceptual framework contained perceived usefulness, confirmation, service quality, system quality, information quality, satisfaction, and continuance intention. The researchers applied quantitative methods and distributed quantitative questionnaires to 464 undergraduate students majoring in English, Chinese language and Literature, Preschool Education, Broadcasting, and Hosting at Chengdu College of Arts and Sciences. The sampling techniques were conducted using purposive, quota and convenience sampling. Confirmatory Factor Analysis (CFA) is a statistical technique used in the field of quantitative research to assess the validity and reliability of theoretical constructs or latent variables. Structural Equation Modeling (SEM) were used to determine the causal relationships between the variables. All hypotheses were supported. The findings showed that perceived usefulness, confirmation, service quality, system quality, and information quality are antecedents of satisfaction towards continuance intention. For students to acknowledge and recognize the effectiveness of mobile learning, university administrators and teaching staff should pay sufficient attention to the factors which have generated significant influence on the satisfaction of the instruction and consider the correlated teaching adjustment or reform in the future according to the findings of this research.

Keywords : mobile learning, system quality, information quality, satisfaction, continuance intention, structural equation modeling

Introduction

Mobile learning is the term for the learning mode of teaching or self-learning in various environments by effectively combining mobile computing technology and using personal communication terminals based on digital learning. It is considered an indispensable way of learning now and in the future.

The early definition of mobile learning refers to learning with personal mobile devices as tools, so the relationship between learners and mobile technologies and devices is one of the researchers' concerns Focus Davis (1989), proposed adopting a technology model widely used

in research and analysis in this regard. In addition, Venkatesh's holistic theory of technology adoption and use, Morris et al. (2020) is also widely used in mobile learning research.

Academic research on mobile learning has seen a significant increase since 2013, closely related to the application and popularity of mobile terminals such as smartphones. Since the beginning of 2019, there has been a clear downward trend in academic research on mobile learning, which is closely related to the new crown epidemic and China's "double reduction" education policy. However, with the continuous development of information technology and the reform of educational models and concepts, academic research on mobile learning needs to be deepened, whether from the technical level or the theoretical level.

In general, in the context of building a learning society and building an institutional mechanism to serve the lifelong learning of the whole people, mobile learning, as an important supplement to formal education and the innovative support of non-formal education, has become one of the main ways for learners at all stages to learn, and also has excellent development opportunities. However, whether the learner's mobile learning behavior produces real obstacles under the influence of its influencing factors and whether the mobile learning behavior can complete the practical transformation from the real to the supposed has become a problem to be explored and solved. Therefore, the significance of this paper is to help solve the current problems of mobile learning and provide theoretical support for corresponding quantitative research.

Mobile Learning of China

Since the 21st century, the evolution of mobile learning has knowledge changes from single media content delivery to interactive multimedia software, and then to the technology and mode changes based on virtual reality learning, and the network, new technologies, and diversified tools have become an important part of mobile learning. The 50th "Statistical Report on the Development of China's Internet Network," a report from the China Internet Network Information Center (CNNIC), stated that as of June 2022, China has 1.051 billion Internet users and a 74.4% network penetration rate. China's 5G application work has achieved remarkable results, and the integration application of 5G and Gigabit optical fiber has accelerated to the departments of industry, health care, education, transportation, and other fields.

In 2020, the epidemic led to the restriction of offline learning activities; in this case, online education that can transcend the confines of space and time has become an important method for pupils to learn, which has played a great complementary role in traditional education. Major primary and secondary schools, universities, colleges, and internet training and certification facilities have shifted offline courses to online, promoting the industry's explosive growth. Data indicate that 342 million Chinese students used online education in 2020, with a growth rate of 27.1%; The online education market reached 485.8 billion RMB, with a 55% growth rate.

After the barbaric growth, the problems of the online education market gradually emerged, and concurrently, the online education business shrank under the implementation of the "double reduction" policy, and the pace of growth slowed. According to the data, China's online education system's size market in 2021 is about 513.03 billion yuan, a 5.6% rise from the previous year.

The continuance intention of undergraduate mobile learning in four majors shows a significant correlation between teaching effectiveness and productivity (Luo, 2022). Therefore,

this study investigates the characteristics that significantly affect mobile learning among undergraduates, and based on the antecedents, a questionnaire representing the perspectives of perceived usefulness, satisfaction, and continuance intention of mobile learning at Chengdu University of Arts and Sciences was developed. Based on the above considerations, there is a need for quantitative research to study mobile learning with four independent variables and two intermediate variables for research satisfaction and continuation intention corresponding to the four major undergraduates of Chengdu College of Arts and Sciences.

Literature Review

Technology Acceptance Model (TAM)

TAM is a common option among academics for researching the acceptability of any new technology, owing to its durability and simplicity. Several research on the issue of m-learning uptake amongst college students used TAM as their theoretical framework (Shakeel & Zeeshan, 2015). Many investigations have discovered that user perceptions influence learner attitudes regarding a specific technology. They also discovered that student attitudes toward technology, such as e-learning systems, were significantly positively influenced by student personality (Huang & Liaw, 2018).

As a result, several researchers have utilized TAM to anticipate behavioral intent for using various information systems. The research by Tsai et al. (2020) details the connection between "learning engagement," "perceived usefulness," "perceived use," "willingness to use," and "self-efficacy" of online teaching usage and the empirical findings once again support TAM theory. They discovered that the most often used theory in e-learning research is the "technology acceptance model (TAM)." Numerous research shows demonstrated a clear effect on students' desire to use digital resources, "perceived utility," and "reported simplicity of use."

Expectation Confirmation Model (ECM)

Oliver introduced the expectation confirmation hypothesis in 1980. The key notion is the comparison of pre-purchase anticipation (Expectation) with post-purchase performance (Perceived Performance) (Confirmation); determining if there is Satisfaction, Satisfaction becomes a reference indicator for buying again (Oliver, 1980). In other words, the ECM presumes that key factors influence intention to continue our contentment and perceived usefulness.

In online education, many studies conduct field surveys from different samples to verify the effectiveness of ECM. On the one hand, the expectation and confirmation of the system affect the PU receptor of the learning system (Larsen et al., 2009), and the studying program's PU correlates strongly with users' satisfaction and willingness to use the system in the future (Lin & Wang, 2012). On the other hand, the degree to which students agree with the system's objectives also determines how satisfied they are with the general pattern, while student pleasure during the online study will interfere with their desire to continue online learning online (Lin & Wang, 2012).

Information System Success Model (ISSM)

According to a well-known ISSM developed by DeLone and McLean (2003), Information Quality, Service quality, and System quality positively influence users' satisfaction and ability to utilize the system in the short term. The final two have a favorable effect on the

system's AU. These three-quality metrics have an impact on user satisfaction, which ultimately affects organizational gains. Their Information System Success Model has proven successful and is applied in several related sectors, including e-learning assessment models. The effective Dillon and McLean model (ISSM) is the most employed theoretical model.

The ISSM assumption is that users use the system for a spontaneous desire (Freeze et al., 2010). The ISSM emphasizes disparities, therefore, at the level of the organization while placing more emphasis on personal elements. Thus, if the ISSM is interpreted at the organizational level, the organization will benefit from the manager's decision-making. ISSM strongly emphasizes the value of Information Quality, Service quality, and System quality (Liu et al., 2012).

Perceived Usefulness

Davis originally put out the notion of Perceived Usefulness (PU) in 1989. Norazah and Norbayah (2011) incorporated Davis's theory that PU represents a person's belief that utilizing a particular system will improve their ability to complete the job. Ifinedo (2017) also follows Davis's theory and the definition of PU. Huang and Liaw (2018) noted that PU measures how strongly users think utilizing an information system will help them learn new material. According to Gómez-Ramirez et al. (2019), perceived usefulness is how strongly a person feels employing a certain technology would make them perform much better in an activity. Hence, below hypotheses are set:

Hypothesis 1: Perceived usefulness has a significant impact on satisfaction.

Hypothesis 7: Perceived usefulness has a significant impact on continuance intention.

Confirmation

Oliver (1980), who also founded the expectation confirmation theory for research applications in consumer behavior and service marketing, initially defined Confirmation. In order to better understand users' intent to continue using an information system, Bhattacherjee (2001a) developed the Expectation Confirmation Theory to build the ECM. He also defined the concept of Confirmation. Since then, most academics have adhered to the expectation confirmation theory model and the concept of Confirmation provided by Bhattacherjee (2001a). The degree of consumers' impression of the congruence between their expectations for the usage of information systems (IS)/information technology (IT) and its actual performance is referred to as Confirmation in the related study by Cheng (2014, 2019, 2020, 2021). Confirmation refers to assessing users' consistency between their anticipated use of an IS and its actual performance (Ifinedo, 2017). Thus, two proposed hypotheses are developed:

Hypothesis 2: Confirmation has a significant impact on satisfaction.

Hypothesis 8: Confirmation has a significant impact on perceived usefulness.

Service Quality

System functioning is gauged by service quality (Chang, 2013). According to Ali et al. (2014), service quality is the degree to which a service satisfies the needs or expectations of the customer. It is also the difference between the service the client expects and the customer receives. The gap between the expected and actual perceived level of services a system offers is called service quality. It addresses concreteness, dependability, receptivity, certainty, and empathy (Chen, 2018). According to Sharidatul et al. (2019), responsiveness, the convenience of operation hours, dependability, and contact with service providers are all examples of good service. Good service quality gives businesses a competitive edge over rivals by comparing

expected performance to actual performance (Liao et al., 2019). Accordingly, this study can put forward a hypothesis:

Hypothesis 3: Service quality has a significant impact on satisfaction.

System Quality

Usability, availability, dependability, adaptability, and reaction time are IS performance system quality indicators (Liu et al., 2012). The term "system quality" refers to measuring the information processing system (Chang, 2013). System quality relates to the effectiveness of an IS as a whole and denotes correctness, practicality, effectiveness, adaptability, dependability, and responsiveness (Cheng, 2014). Indications for quality dimensions should include network questioning, document transfer rate, feedback time, and software and hardware access rate (Chen, 2018). According to Sharidatul et al. (2019), system quality is one of the main factors affecting user happiness with technology use. Consequently, a hypothesis is stated:

Hypothesis 4: System quality has a significant impact on satisfaction.

Information Quality

According to Liu et al. (2012), information quality evaluates user pleasure, individual impacts, and semantic success. Consumer perception of a piece of information's timeliness, accuracy, and comprehensiveness is a key indicator of its quality (Lee, 2010). Users' perceptions of the quality of the information displayed on a website have been used to define information quality (McKinney & Yoon, 2002). Additionally, it relates to how much value the information offers the consumer. In other words, the term "information" here also refers to the data shown for users of web applications (i.e., clients and businesses) (Chang, 2013). "Information quality" relates to how well reports are written and accurate. Its evaluation considers factors including timeliness, correctness, completeness, and currency (Cheng, 2014). Subsequently, this study can indicate that:

Hypothesis 5: Information quality has a significant impact on satisfaction.

Satisfaction

The term "satisfaction" relates to how people evaluate and emotionally react to a service or product. It may be defined as the extent reached one thinks that an experience makes them feel good (Chang, 2013). Satisfaction is the degree to which a user is happy utilizing technology for a certain purpose (Ifinedo, 2017). Expectations, confirmation, and performance are all directly and indirectly connected via the variable of satisfaction (Rahardja et al., 2019). When consumers believe they find cloud computing services satisfying, they are likelier to want to keep using them. Satisfaction is a prerequisite for continuing in the cloud-based environment (Cheng, 2019). One of the key ideas in the ECM is satisfaction. It is characterized as consumers' reactions following the usage of an IS (Daneji et al., 2019). It is believed that when customers feel that cloud computing services are pleasant, they will want to keep using them. In the context of the cloud, contentment is a positive predictor of continuation intention (Cheng, 2020). Ultimately, a hypothesis is formulated:

Hypothesis 6: Satisfaction has a significant impact on continuance intention.

Continuance intention

The subjective likelihood that a person will keep sharing information is known as continuation intention (Chiu et al., 2011). According to Chang (2013), their continued desire is acceptable to use e-learning systems in academic libraries defined as their level of willingness to use and recommend e-learning systems to others (such as friends) in the future. The intention

to keep utilizing the information system is a continuation intention (Zhao, 2014). Customers' continuing usage of information technology goods and services is known as continuity intention, and it may be seen as a key measure of the overall success of products and services (Huang et al., 2014). According to Chang et al. (2015), continuity intention is the secret to an information system's success. Customers' PU in terms of cloud computing technology positively impacts their intention to continue using the services.

Conceptual Framework

Theories are an essential component of science. Theory can help us to build knowledge networks that can effectively explain the past and predict the future (Salkind, 2017). The core theory of this study is the expectation confirmation model (ECM) by Oliver (1980), technology acceptance model (TAM) by Tsai et al. (2020), and Information System Success Model (ISSM) by DeLone and McLean (2003); design the conceptual framework and explore the factors affecting the satisfaction and continuous intention of undergraduates in Chengdu College of Arts and Sciences. The Continuance intention model serves as the author's conceptual framework, and the author believes that the System quality and the Information quality are the core aspects affecting satisfaction, so the author combines the Continuance intention with the Information System Success Model to form a composite framework structure.

Figure 1

Conceptual Framework
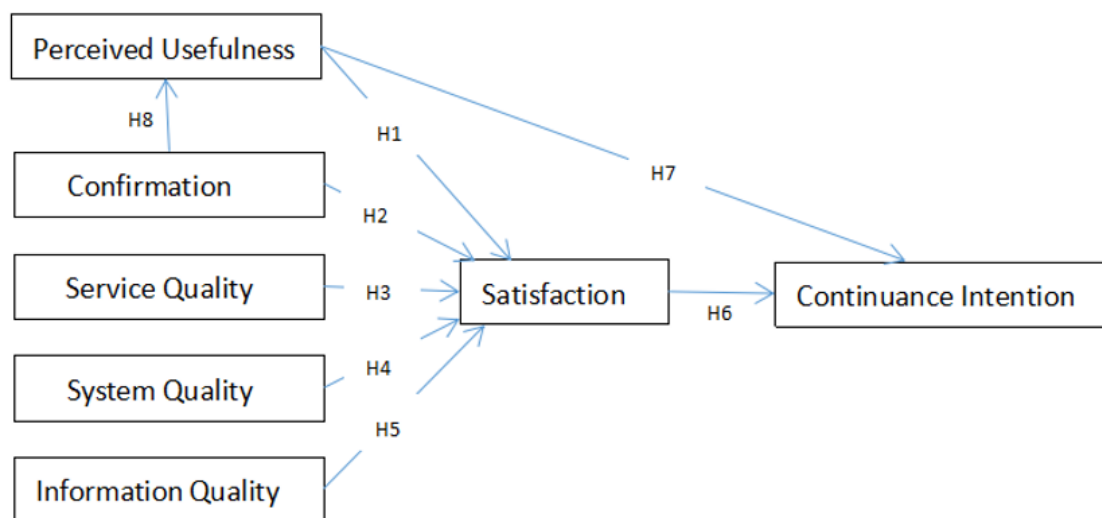
Note: Constructed by author

Research Methodology

Research Design

A screening question, demographic information, and scale items for all the observed variables comprise the three components of the quantitative questionnaire utilized in this study. Well-designed questionnaires are highly structured to collect the same types of information from many people in the same way and to enable data to be statistically and methodically examined. The best use of questionnaires is to acquire real data, and proper questionnaire design is essential to ensuring that we receive trustworthy responses to our questions (Leung, 2001). The quality of the questionnaire's design will affect all analyses, results, general findings, suggested policies, and areas for further study. As a result, creating the questionnaires is the most crucial step in the research and other information-gathering processes. Survey questions are sometimes referred to as being organized in that quantifiable data is gathered and analyzed (Bidhan, 2010).

Instrumentalization

Moreover, the researcher conducted 3 items to determine the students' demographic information, such as gender, university data, and academic years. In addition, 26 scale items adopted from the previous literature were utilized to evaluate the latent variables, which included 4 items for confirmation, 3 items correlated to service quality, 4 items connected to system quality, 4 items associated with information quality, 3 items regarded to perceived usefulness, 4 items regarded to satisfaction, and last 4 items connected with continuance intention. The wide-scale was estimated using a five-point Likert scale, with a score of 5 denoting strong approval for the positive items and a score of 1 denoting strong disapproval for the negative ones (Salkind, 2017).

Research Population and Sample

Chengdu College of Arts and Sciences is a famous private university in Chengdu, has undergraduate students from four distinct majors as its target population. English, Chinese language and Literature, Preschool Education, Broadcasting, and Hosting. The minimum sample size for the demanding methodological approach in the structural equation models, according to Hair et al. (2010), should be 200–500 respondents. Therefore, from a population of 1,089 students, 500 students were chosen as the final sample size to achieve in limited resource and time, following screening and quota selection. After the data screening process, only 464 is valid for further data analysis.

Data Collection

The sampling techniques were conducted using purposive, quota and convenience sampling. The purposive is to select purposely undergraduate students majoring in English, Chinese language and Literature, Preschool Education, Broadcasting, and Hosting at Chengdu College of Arts and Sciences. The quota sampling was to proportionate the sample unit and sample size. Convenience sampling was conducted by online questionnaire distribution. Prior to the data collection, the validity and reliability tests were accounted. The item-objective congruence (IOC) index results were scored by three experts and approved at a score of 0.60

or higher. Afterward, a pilot test of 50 respondents was conducted through Cronbach's Alpha coefficient values, which were approved at a score equal or exceed 0.70 (Nunnally, 1978).

Data Analysis

Field questionnaires were given to 464 undergraduates from four majors at Chengdu College of Arts and Sciences after the content validity and internal consistency reliability evaluation that came before the large-scale data collection. The researchers used the statistical tools JAMOVI and AMOS to analyze the data. To evaluate the discriminant validity, average variance extracted (AVE), composite reliability (CR), along with factor loading were used, and the researchers also performed confirmatory factor analysis (CFA). The results of the hypotheses and the direct, indirect, and overall impacts of the correlations between the latent variables were then investigated using the structural equation model (SEM).

Demographics of Participants

The comprehensive demographic characteristics of 464 respondents are summarized in Table 1. Among the respondents, 32.8% were male and 67.2% female, of whom 12.9% were enrolled in the English major, 43.8% in the Chinese language and Literature major, 12.3% in the Preschool Education major and 31% in the Broadcasting and Hosting major. By school year, first-year students were 48.5%, sophomores 33%, and juniors 18.5%

Table 1

The demographic data

Demographic and General Data (n=464)	Category	Frequency	Percentage
Gender	Male	152	32.8%
	Female	312	67.2%
Majoring	English	60	12.9%
	Chinese language and Literature	203	43.8%
	Preschool Education	57	12.3%
	Broadcasting and Hosting	144	31.0%
Academic Year	Freshman	225	48.5%
	Sophomore	153	33.0%
	Junior	86	18.5%

Results and Discussion

Confirmatory factor analysis (CFA)

Confirmatory factor analysis (CFA) was used to determine if the observed variables' components and loading counts matched expectations based on theories or presumptions. The factor loading and allowable values for each observed variable showed the research matrix's fit quality (Hair et al., 2006). Table 2 shows that Cronbach's Alpha coefficient values were approved at a score equal or exceed 0.7 (Nunnally, 1978), the composite reliability (CR) was above 0.70, the factor loading values were above 0.50, and the average extracted variance (AVE) values were larger than 0.50. (Bagozzi & Yi, 1988; Hulland, 1999).

Table 2

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

Variables	Source of Questionnaire	No. of Item	CA	Factors Loading	CR	AVE
Confirmation (CON)	Masrek and Gaskin (2016)	4	0.918	0.723-0.780	0.835	0.559
Service Quality (SEQ)	Masrek and Gaskin (2016)	3	0.833	0.776-0.804	0.831	0.621
System Quality (SYQ)	Masrek and Gaskin (2016)	4	0.880	0.739-0.797	0.849	0.585
Information Quality (IQ)	Dubey et al., (2022)	4	0.848	0.741-0.789	0.850	0.587
Perceived Usefulness (PU)	Vululleh (2018)	3	0.846	0.748-0.797	0.809	0.585
Satisfaction (SAT)	Cheng (2018)	4	0.851	0.710-0.774	0.831	0.552
Continuance Intention (CI)	Cheng (2018)	4	0.890	0.737-0.794	0.849	0.584

Table 3 illustrates the results of the inquiry into and presentation of the discriminant validity. No correlation crossing any two latent variables was more than 0.80, and the diagonally indicated quantity is the AVE square root of the AVE (Liu et al., 2020; Schmitt & Stults, 1985). Thus, the discriminant validity was proved using these quantitative metrics.

Table 3

Square roots of AVEs and correlation matrix

	CON	SEQ	SYQ	IQ	PU	SAT	CI
CON	**0.748**						
SEQ	0.250	**0.788**					
SYQ	0.200	0.309	**0.765**				
IQ	0.303	0.172	0.049	**0.766**			
PU	0.139	0.088	0.089	0.333	**0.765**		
SAT	0.330	0.285	0.280	0.453	0.379	**0.743**	
CI	0.358	0.320	0.326	0.426	0.348	0.450	**0.764**

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

The absolute threshold of the chi-square value to the degree of freedom (CMIN/DF), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), comparative fit index (CFI), normalized fit index (NFI), Tucker Lewis index (TLI), and root mean square error of approximation (RMSEA) all compared the characteristic, as shown in Table 4. As a result, all these metrics for the goodness of fit used in the CFA testing for this scientific study were adequate.

Table 4

Goodness of Fit for Measurement Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	< 3.00 (Hair et al., 2010)	1.605
GFI	≥ 0.90 (Hair et al., 2010)	0.935
AGFI	>0.85 (Schermelleh-Engel et al., 2003)	0.913
RMSEA	<0.05 (Pedroso et al., 2016)	0.036
CFI	≥ 0.90 (Hair et al., 2010)	0.971
NFI	≥ 0.90 (Hair et al., 2010)	0.928
TLI	≥ 0.90 (Hair et al., 2010)	0.964
Model Summary		In harmony with empirical data

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

Structural Equation Modeling (SEM)

Structural equation models include measurement and structural models (Teo et al., 2013). In order to examine and evaluate multivariate causal links, scientific investigations are increasingly adopting structural equation modeling (SEM), a powerful multivariate technique. SEMs differ from previous modeling approaches in investigating presumptive causal links' direct and indirect effects (Yi et al., 2016). The two most popular market structural equation modeling (SEM) programs are AMOS and LISREL (Ramayah & Lee, 2012). Table 5 shows that the combined values of CMIN/DF, GFI, AGFI, CFI, NFI, TLI, and RMSEA were all over allowable limits after being corrected using AMOS version 24. The results show that the SEM's goodness of fit was proven.

Table 5

Goodness of Fit for Structural Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	< 3.00 (Hair et al., 2010)	2.132
GFI	≥ 0.90 (Hair et al., 2010)	0.910
AGFI	>0.85 (Schermelleh-Engel et al., 2003)	0.883
RMSEA	<0.05 (Pedroso et al., 2016)	0.049
CFI	≥ 0.90 (Hair et al., 2010)	0.945
NFI	≥ 0.90 (Hair et al., 2010)	0.902
TLI	≥ 0.90 (Hair et al., 2010)	0.933
Model Summary		In harmony with empirical data

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

Hypothesis Outcomes

The results shown in Table 6 indicate that satisfaction had a direct and substantial impact on continuance intention, with a standardized path coefficient (β) of 0.548 (t-value = 8.036***) representing the largest impact effects in this quantitative method. The second-powerful significant interaction impact on satisfaction is provided by Information quality, with a t-value of 7.740*** at 0.437. Additionally, perceived usefulness significantly increased satisfaction with the β at 0.304 (t-value at 5.568***), service quality significantly increased satisfaction with the β at 0.215 (t-value at 4.320***), while confirmation markedly impacted satisfaction with the β at 0.261 (t-value at 4.157***), as well as system quality which significantly influenced satisfaction with β at 0.298 (t-value at 5.658***). Moreover, perceived usefulness was also examined and determined to substantially impact continuance intention with the β of 0.304 (t-value of 2.488*). Consequently, confirmation exhibited the least significant influence on perceived usefulness in this quantifiable investigation, with 0.164 (t-value at 2.894**).

Table 6

Summary of hypothesis tests

Hypothesis	Standardized path coefficient (β)	t-value	Testing result
H1: Perceived usefulness has a significant impact on satisfaction.	0.304	5.568***	Supported
H2: Confirmation has a significant impact on satisfaction.	0.261	4.157***	Supported
H3: Service Quality has a significant impact on satisfaction.	0.215	4.320***	Supported
H4: System Quality has a significant impact on satisfaction.	0.298	5.658***	Supported
H5: Information Quality has a significant impact on continuance intention.	0.437	7.740***	Supported
H6: Satisfaction has a significant impact on continuance intention.	0.548	8.036***	Supported
H7: Perceived Usefulness has a significant impact on continuance intention.	0.304	2.488*	Supported
H8: Confirmation Intention has a significant impact on satisfaction.	0.164	2.894**	Supported

Note: *** p<0.001, ** p<0.01

Discussion

According to the findings in Table 6, with a standardized path parameter threshold of 0.304 for this structural approach, H1 has indicated that perceived usefulness is a considerable determinant of satisfaction. Perceived usefulness is the conviction that implementing a certain technology or technology could significantly influence improving one's work satisfaction. In the context of our proposed paradigm, perceived usefulness stands for the real-world benefits that a person enjoys. Users' perceived usefulness of new technology is a major element of satisfaction and intention. Following the revised ECT, user satisfaction is governed by the post-

adoption expectation of PU (Bhattacherjee, 2001b; Davis, 1989; Hong et al., 2006; Zhou, 2011).

With a standardized path coefficient of 0.261 in H2, the research showed that confirmation is one of the key aspects of satisfaction. According to some research, A user's confirmation can mean changing their PU of an online learning program. As a result, their PU of the framework might be inspired by their expectations for the e-learning system's confirmation. Users' satisfaction with the services may depend on whether their expectations about services for cloud computing are confirmed when they can obtain expected advantages via their usage experiences utilizing the services (Lee, 2010; Xu et al., 2017).

Ultimately, H3 found that service quality and satisfaction were substantially correlated, as shown by a statistical score of 0.215 on the standard coefficient of the active influence. Providing service quality can improve consumer satisfaction and may aid in preserving positive customer connections for online retailers. Customer satisfaction is profoundly affected by service quality. Furthermore, service quality considerably exaggerates PU and satisfaction. Intentions to continue can be affirmed by both PU and satisfaction. (Liu et al., 2010; Park & Kim, 2003; Petrick & Backman, 2002).

With a common coefficient value of 0.298, H4 also showed that system quality substantially influenced participants' satisfaction. DeLone and McLean's ISSM was partially evaluated by Seddon and Kiew (1994). The findings demonstrate that increased user satisfaction results from excellent system quality. Existing research has demonstrated that the learner's satisfaction is enhanced by system quality (DeLone & McLean, 2003).

With a common coefficient value of 0.437, H5 further demonstrated that information quality considerably influenced satisfaction in this experiment. By conducting the ISSM analysis,   we discovered strong and primary roots between user satisfaction and information quality. Satisfaction and inclination to return are significantly impacted by information quality. High-quality IS will be viewed as valuable since they help people increase their productivity and make informed decisions. User satisfaction is highly correlated with the caliber of the course materials. High-quality material may boost satisfaction levels, as seen by language learners (Ranganathan & Ganapathy, 2002; Saeed & Abdinnour, 2008; Seddon & Kiew, 1994; Sharma et al., 2017).

About H6, it was found that satisfaction and continuance intention had a strong link, with a common coefficient value of 0.548. Some researchers confirmed that satisfaction is an essential prerequisite to continuance intention. In Internet learning, satisfaction can measure whether the e-learning method is effective and can be used as an important measure of continuous intention. We found that user-perceived service value was positively correlated with satisfaction, which deduced that value was the pre-variable that directly affected satisfaction. The study by Cronin et al. (2000) emphasized the link between both satisfaction and value perception, and also highlighted the positive role of satisfaction on continued intentions for IT / IS use (Baturay, 2010; Chiu et al., 2005; Spreng et al., 1996).

With a common coefficient value of 0.304 in this quantification analysis, the observable statistic results for H7 verified the hypothesis that perceived usefulness had a substantial consequence on continuance intention. Bhattacherjee (2001a) was prompted by customer behavior research on expectation confirmation to create an ongoing ECM emphasizing IS. The ECM emphasized that PU is one of the important indicators of users' continued IS/IT usage

intention. Many studies, electronics departments have shown that when users find that web learning systems can effectively improve their learning efficiency and quality, their willingness to continue their use increases (Bhattacherjee, 2001a; Lin & Wang, 2012; Lwoga & Komba, 2015).

Eventually, H8 determined that confirmation was significantly associated with perceived usefulness, as demonstrated by a statistical score of 0.164 on the standard coefficient of the active influence. In ECM, user-aware usefulness is generated with user confirmation of the expected benefit. The confirmation of expectations strongly influences the user's perceived usefulness. In learning and training through the Internet and via email domain, the confirmation of learners' expectations can affect how useful an activity is to them (Chen et al., 2015; Chiu et al., 2005; Limayem et al., 2007; Lin & Wang, 2012; Tang et al., 2014).

Conclusion

This paper aims to evaluate the fundamental determinants that significantly impact the sustained intention of mobile learning among undergraduates in four majors at Chengdu College of Arts and Sciences in Sichuan, China. The researchers surveyed perceived usefulness (PU), confirmation (CON), service quality (SEQ), system quality (SYQ), information quality (IQ), satisfaction (SAT), and continuance intention (CI) to determine whether these structures affected student satisfaction and continuance intention with mobile learning. The 464 undergraduate students with M-learning experience provided their answers to questionnaires in order to assess the interaction between these factors. To ascertain if the data fit into a certain theoretically generated measurement model, confirmatory factor analysis (CFA) is utilized. Similarly, structural equation models (SEM) were employed to assess the impacting factors influencing satisfaction and continuance intention and test hypotheses. It is discovered that the most important and potent relationship exists between satisfaction and continuance intention. Moreover, satisfaction is highly influenced by perceived usefulness, confirmation, service quality, system quality, and information quality.

Recommendations

Following are some useful recommendations from the researchers for future mobile learning based on the findings of this volume of study. First off, this study's satisfaction construct has an impact on undergraduate intentions to continue their M-learning. M-learning is popular among students due to its favorable effects on their general well-being. In order to increase student acceptance of and continued usage of this learning platform, school teaching units should completely develop and implement M-learning.

Second, students' intention to continue studying is increased by positive M-learning pleasure. In this study, five possible characteristics might impact student satisfaction and continuance intention, with perceived usefulness being the most significant. In order to ensure that students understand how much simpler and clearer the various learning operations of the mobile learning platform are, teaching units should focus on improving the quality of students' mobile learning perceived usefulness in future teaching practices. This will be reflected in further optimizing the program design of the online learning platform and providing the

corresponding tutorial documents and manual assistance. As a result, this recommendation will significantly raise students' positive usage satisfaction and intention to continue studying.

Teachers should also make many learning materials available on the platform from the perspective of various learning software facilities, depending on the scope of mobile learning. Multiple tasks can be accomplished in a range of increasingly complex professional software operations, and mobile learning platforms can provide extracurricular video courses based on the professional qualities of each university major. This may help address students' learning issues and help them understand that mobile learning supports successful learning.

Teachers should create appropriate learning plans for students following the professional characteristics of each school, reasonably improve interface functions, and provide rich and useful information regarding confirmation, service quality, system quality, and information quality.

Finally, when teachers emphasize M-learning's confirmation information quality, service quality, system quality, and students' sense of perceived usefulness, students' satisfaction with M-learning will be positively improved based on the above conditions, thus increasing their continuance intention to mobile learning.

Limitations and Further Study

The duration of the quantitative study is approximately one year, which is the time limit determined based on the actual situation of this study. The area and students of Chengdu College of Arts and Sciences are the only scope and sample of the investigation, and the conceptual framework has only seven possible variables. Therefore, the following two points are additional investigations: Include the scope of other schools and districts in the scope of the study. To create a conceptual framework, it is also important to study different theories of technology adoption, such as rational behavior theory (TRA), planned behavior theory (TPB), and information systems success model (ISSM). Lastly, the future study should discuss path analysis to determine direct indirect and total effect of each structural pathway.

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