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# Determinants of Teachers' Behavioral Intention to Use a Learning Management System (LMS) in a Public University in Sichuan

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## Abstract

**Purpose:** The study investigates the influence of five independent variables (Perceived Usefulness, Attitude, Performance Expectancy, Effort Expectancy, and Social Influence) on dependent variables (Behavioral Intention). In addition, this study also aimed to identify significant differences between the variables. **Research design, data, and methodology:** The research employed the Index of Item-Objective Congruence (IOC) for validity and a Cronbach's Alpha in a pilot test (n=30) for reliability. The multiple linear regression analyzed 60 valid responses from teachers of Sichuan University to verify the significant relationship between variables. Following this, 30 teachers underwent a 14-week Strategic Plan (SP). Afterward, the quantitative results from post-SP and pre-SP were analyzed in the paired-sample t-test for comparison. **Results:** In multiple linear regression, the study revealed that Perceived Usefulness, Attitude, Performance Expectancy, Effort Expectancy, and Social Influence significantly impacted teacher's Behavioral Intention. Finally, the results from the paired-sample t-test for comparison demonstrated a significant difference in teachers' Behavioral Intention between the post-SP and pre-SP stages. **Conclusions:** This study aims to improve the behavior intention of teachers by using LMS to influence Perceived Usefulness, Attitude, Performance Expectancy, Effort Expectancy, and Social Influence in the background of the construction of Double First-class Universities in China.

**Keywords:** Perceived Usefulness, Performance Expectancy, Effort Expectancy, Social Influence, Behavioral Intention

**JEL Classification Code:** I23, J28, L2

## 1. Introduction

The faculty at Sichuan University (SCU) faces four major challenges that require immediate and significant improvement in their behavioral intentions. First, although Sichuan University has offered multiple training courses, teachers are not highly motivated to participate in these courses. Many teachers said that they find it difficult to find time to attend the training due to their heavy daily teaching and research tasks, or they think that the training content needs to match their actual needs. This leads to an unsatisfactory training effect, and it is not easy to effectively improve teachers' teaching quality and scientific research

ability.

Secondly, teachers need to learn more about the international development opportunities provided by the school and have low participation. Although Sichuan University encourages teachers to participate in international communication and cooperation programs, many teachers take a wait-and-see attitude towards these opportunities due to language barriers, cultural differences, and lack of international perspective. In addition, the school's support measures for internationalization could be better, such as financial support for international communication, language training, etc., which all affect the improvement of the internationalization level of teachers.

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Sichuan University has provided courses to improve teachers' behavior intentions, such as orientation training for young staff and special training for staff project application and guidance. To assess the status of teacher behavior intentions, researchers and two independent observers made observations, and 30 teachers were randomly selected for interviews. This assessment revealed two key issues in the SCU:

1. Teachers generally need more emphasis on personal career development planning. The interviews found that many teachers needed clearer goals and plans for their career development, which led to their lack of enthusiasm and innovation in their teaching and research work. They are often satisfied with completing their daily teaching tasks rather than actively seeking improvement and breakthroughs. This phenomenon not only affects teachers' individual growth but also restricts the vitality and competitiveness of the whole teaching staff.

2. Teachers have barriers to teamwork and interdisciplinary communication. Although Sichuan University encourages cooperation and communication among teachers, teachers often fight for themselves and lack an effective communication and cooperation mechanism. This not only affects the sharing and optimal allocation of teaching resources but also limits teachers' innovation and breakthroughs in scientific research projects. In addition, the lack of interdisciplinary communication also makes it difficult for teachers to grasp the frontier dynamics of discipline development, which affects their innovative thinking in teaching and scientific research.

Given the above problems, Sichuan University must improve teachers' behavior intentions. First of all, schools should optimize the design of training courses to make them closer to the actual needs of teachers. For example, online training can allow teachers to arrange their time to study, and the training content can be adjusted according to teachers' feedback to ensure targeted and practical training. Suppose LMS is used to influence Perceived Usefulness, Attitude, Performance Expectancy, Effort Expectancy, Social Influence, and other variables. In that case, improving teachers' behavioral intentions has become an urgent problem that requires careful consideration by the SCU management team and educators.

## 2. Literature Review

### 2.1 Behavioral Intention

Behavioral intention refers to an individual's motivation or plan to engage in a specific behavior (Ajzen, 1991). Within the context of technology adoption and use, behavioral intention often determines whether a person will

continue using a particular system or technology, as seen in models such as the Theory of Planned Behavior (TPB) and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003). In these frameworks, behavioral intention serves as a mediator between an individual's attitudes, perceived ease of use, and the actual usage behavior, highlighting its importance in predicting and understanding technology acceptance (Davis, 1989). Furthermore, research suggests that behavioral intention is influenced by factors such as performance expectancy, effort expectancy, and social influence, which together shape an individual's decision-making process (Venkatesh et al., 2012).

### 2.2 Perceived Usefulness

Dominant factor affecting behavioral intention. People recognize technology's value and usefulness when it aids goal achievement (Wattjatrakul, 2013). Acceptance depends on perceived effectiveness. Zhang et al. (2012) found that perceived effectiveness positively impacts behavioral intentions. Cheung and Vogel (2013) showed that cultural context affects behavioral intentions. Davis (1986) found that perceived utility regulates perceived ease of use. Perceived usefulness is a prerequisite for ease of use. The partnership between perceived usefulness and attitude is stronger than ease of use and attitude (Alharbi & Drew, 2014). This means that the level of recognition and trust in the technology profoundly impacts their attitude towards using it. Based on the above-perceived effectiveness as a key influencing factor, we made the hypothesis:

**H1:** Perceived usefulness has a significant effect on behavioral intention.

### 2.3 Attitude

In their study "Students' Acceptance of Tablets and Educational Technology and Society," El Gayar et al. (2011) state that the primary choice to accept PC tablets is attitude (ATT), followed by performance expectations (PE), promoting conditions (FC), effort expectations (EE) and social impact (SI) (Oye et al., 2011); As per the Technology adoption Model (TAM), the adoption of a technology is determined by its behavioral intention (BI), which establishes the true usage of a certain IS system. Perceived utility (U) and attitude toward usage (A) work together to drive BI; there is a positive correlation between behavioral intention to use LMS and attitude toward use (Alharbi & Drew, 2014); explored the relationship between ATT and behavioral intention in their study and indicated that ATT significantly influences the intention of behavior. They further highlight the importance of ATT in predicting user acceptance of information technology (Ngugi, 2016). Wang

and Choi (2017) verified the positive relationship between ATT and behavioral intention through empirical research. They found that Users are more likely to have realistic behavioral intentions when they have a positive attitude toward technology. At the same time, the study showed support for an association between ATT and behavioral intent, and they found that increasing ATT levels significantly enhanced users' willingness to use a certain technology (Liu et al., 2019). Therefore, this hypothesizes:

**H2:** Attitude has a significant effect on behavioral intention.

## 2.4 Performance Expectancy

Many studies show that technology positively impacts the intent to use (Tan & Teo, 2000). Venkatesh et al. (2003) found that performance expectancy was the largest predictor of behavioral intention to use multiple techniques in a voluntary and involuntary context. The probability of occurrence of a certain behavior is directly proportional to the willingness to perform it (Ajzen, 1991). Based on previous research, Sun and Ward (1963) show that behavioral intentions directly impact practical application effects (Shi & Huang, 2009). The elements of behavioral intention stem from past TAM research (Agarwal & Prasad, 1999; Carter & Williams, 1996). Studies confirm the association between behavioral intention and actual behavior (Dennis et al., 2011; Venkatesh et al., 2012; You et al., 2007). Social influence, performance expectations, subjective norms, and perceived benefits were key elements affecting the uptake of learning management systems (LMS) by Pakistani students (Raza et al., 2021). These results suggest that students are willing to use the LMS to complete the course because they believe the e-learning system offers them the advantages needed to succeed. Based on the above research basis, we conclude the hypothesis:

**H3:** Performance expectancy has a significant effect on behavioral intention.

## 2.5 Performance Expectancy

Based on the adoption and application of this theoretical technology matrix, effort anticipation is regarded as one of the key determinants of behavioral intent. Early academic studies (Bardakcı, 2019) confirmed that efforts significantly influence behavioral intentions. Social isolation, performance expectations, subjective norms, and perceived benefits were key factors influencing the adoption of learning management systems (LMS) by Pakistani students (Raza et al., 2021). These results suggest that students are willing to use the LMS to complete the course because they believe the e-learning system allows them to change and

complete it quickly. Previous studies have revealed that human behavioral intentions in applying educational technology are largely influenced by effort expectations (Iqbal & Qureshi, 2012). Using ICT systems to predict students' behavior and intentions, Alharbi and Drew (2014) reveal a close correlation between effort expectation and behavioral intentions. According to the theoretical matrix of Abu-Al-Aish and Love (2013), effort expectation, as the most important and critical predictor, accounts for more than half of the change in behavioral intention. Based on these theories, we make the following assumptions:

**H4:** Effort expectancy has a significant impact on behavioral intention.

## 2.6 Social Influence

Social influence has significantly increased, affecting technology acceptance behavior (Kaishawani & Tripathi, 2012). Studies show that social effects positively impact adoption willingness (Gao et al., 2016; Miltgen et al., 2013). Social impact is relevant to adopting new technology (Kaishawani & Tripathi, 2012). Venkatesh et al., (2012) emphasize behavioral intentions in collectivist cultures. Social impact is key to determining behavioral intention (Hao et al., 2017). El-Masri and Tarhini (2017) note that social influence directly influences behavioral intention. Pakistani students' adoption of LMS is influenced by social impact, performance expectations, and perceived effectiveness (Raza et al., 2021). High effort expectations result in high behavioral intent for teachers to use online learning (El Gayar et al., 2011). Tablet and online learning acceptance are determined by attitude, performance expectation, facilitation condition, effort expectation, and social influence (Oye et al., 2011). Therefore, this study hypothesizes:

**H5:** Social influence has a significant impact on behavioral intention.

## 3. Research Methods and Materials

### 3.1 Research Framework

The researchers applied three model theories from Alharbi and Drew (2014) and Raza et al. (2021), including the UTAUT and TAM models. All three theoretical frameworks support and develop the conceptual framework in Figure 1.

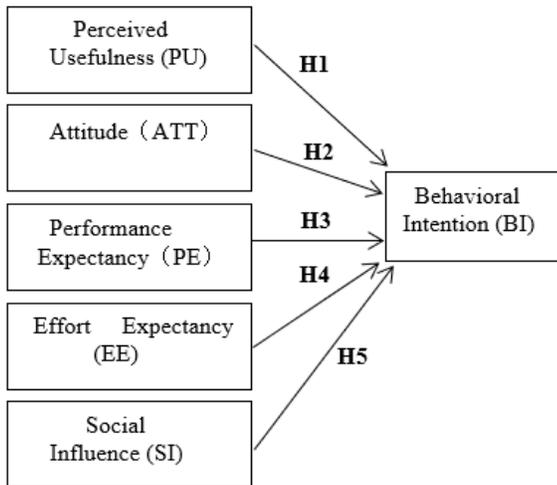


Figure 1: Conceptual Framework

**H1:** Perceived usefulness has a significant effect on behavioral intention.

**H2:** Attitude has a significant effect on behavioral intention.

**H3:** Performance expectancy has a significant effect on behavioral intention.

**H4:** Effort expectancy has a significant impact on behavioral intention.

**H5:** Social influence has a significant impact on behavioral intention.

### 3.2 Research Methodology

The study process covers four separate phases. In the initial phase, all subjects ( $n=80$ ) were surveyed to collect data for the proposed conceptual framework. Subsequently, all hypotheses were subjected to a rigorous multiple linear regression analysis to determine their significance level, with a threshold set at  $p < 0.05$ . Therefore, supported hypotheses were retained, while those that failed to meet the criteria were excluded (not considered in this study).

In the second stage, a preliminary SP survey of the teachers was conducted based on the hypothesis of gaining support. In the third phase, the Strategic Plan (SP) was introduced and implemented by 30 participants.

In the final phase, the 30 members involved in the strategic plan completed a survey that generated the necessary data for a paired-sample t-test analysis to compare the results before and after the strategic plan's implementation. This comprehensive process allowed for a thorough examination of the research objectives and hypotheses.

### 3.3 Research Population, Sample Size, and Sampling Procedures

#### 3.3.1 Research Population

SCU has 39 colleges. The teachers in this study were imported talents from 4 medical colleges, namely the College of Medicine, Dental College, College of Public Health, and the College of Pharmacy. College of Medicine has 171 talents; Dental College has 42 talents; Public Health has 10 talents; Pharmacy has 23, and 246 talents. According to Hair et al. (2014), each variable should have at least ten observations in the regression analysis. The conceptual framework constructed in this study included six variables, so the minimum number of samples in the linear regression analysis was 60 teachers. To prevent the impact of invalid questionnaires on the data of valid questionnaires, the sample number in this study was set as 80 teachers.

#### 3.3.2 Sample size

In the initial diagnostic stage, the sample size for the reliability tests was 15, while the sample size for the multiple-line round regression test was 80. When entering the SP phase, we carefully selected 30 teachers as participants in the SP implementation. Moreover, these teachers will also work as respondents in the subsequent stage of the SP, following the same research process as in the previous SP stage, to ensure the consistency of the study.

#### 3.3.3 Sampling Procedures

During the sample collection process of this study, we used a well-targeted sampling method. Specifically, the questionnaire link was generated through the questionnaire Star APP and then sent to 246 high-level talents from various medical colleges with the help of the We Chat platform. After carefully reviewing the responses, we selected 60 questionnaires and considered them suitable for a follow-up and in-depth study. We constructed a comprehensive action research plan based on the data from these 60 MLR questionnaires. In the second phase of SP, we continued the target sampling strategy, targeting a sample of 30 high-level talents in the medical college. The selection of these samples is based on a series of considerations. They are not only individuals who respond positively to university activities but also actively participate in scientific research innovation and student training, have a high salary level, and pay attention to the pursuit and realization of self-worth. All participants were enrolled voluntarily and were recruited from within the college. In the subsequent phase of SP, to further evaluate the effectiveness of SP, we asked the experimental teachers to conduct the questionnaire again, and 15 teachers were randomly selected from the participants to conduct in-depth interviews. This initiative aims to provide a comprehensive and objective understanding of the

effectiveness of SP implementation and strong support for follow-up work.

### 3.4. Research Instruments

#### 3.4.1 Design of Questionnaire

The researcher designed the survey questionnaire by following three steps.

**Step1:** Identifying questionnaire sources from three openly published articles (Alharbi & Drew, 2014; Raza et al., 2021)

**Step 2:** Adjusting and presenting the questionnaire is more suitable for the background of Chinese university teachers.

**Step 3:** Implementing IOC.

#### 3.4.2 Components of Questionnaire

Survey questionnaire items were composed of the following three parts:

Part 1: Screening Questions. There were screening questions to filter out the non-research population.

Part 2: General information about the respondents. Questions were asked to gather basic information about the research population, including gender, years of teaching, etc.

Part 3: Factors affecting the behavior intention of public universities to introduce talents.

#### 3.4.3 IOC Results

In this study, we invited three experts from famous universities in China to evaluate the questionnaire based on previous research professionally. One of the three experts is a professor; two are associate professors. Experts must score each item on the scale in a quiet environment based on their perception and judgment. The core ranged from 1 to + 1, where + 1 represents consistent, 0 represents Questionable, and 1 represents inconsistent. In this research, all questionnaire items were greater than 0.67, so the researcher retained all questionnaire items.

#### 3.4.4 Pilot survey and Pilot test results

The researcher randomly recruited 30 teachers to complete a pilot survey and give feedback. Afterward, the researcher implemented Cronbach's Alpha's internal consistency reliability test, in which values should be equal to or greater than 0.7 (Nunnally & Bernstein, 1994). Therefore, the table below demonstrates the approved results for the high reliability of each construct.

**Table 1:** Pilot Test Result

| Variables                   | No. of Items | Sources                | Cronbach's Alpha | Strength of Association |
|-----------------------------|--------------|------------------------|------------------|-------------------------|
| Perceived Usefulness (PU)   | 6            | Wajtrakul (2013)       | 0.926            | Excellent               |
| Attitude (ATT)              | 3            | El Gayar et al. (2011) | 0.843            | Very good               |
| Performance Expectancy (PE) | 4            | Ajzen (1991)           | 0.801            | Very good               |
| Effort Expectancy (EE)      | 4            | Raza et al. (2021)     | 0.798            | Good                    |
| Social Influence (Si)       | 4            | Gao et al. (2016)      | 0.897            | Very good               |
| Behavioral Intention (BI)   | 5            | Davis (1989)           | 0.904            | Excellent               |

## 4. Results and Discussion

### 4.1 Results

#### 4.1.1 Demographic Profile

Table 2 shows the demographic characteristics of the entire study population (n=60), followed by a selected group of teachers (n=30) who participated in the SP.

**Table 2:** Demographic Profile

| Entire Research Population (n=60) |                             | Frequency | Percent     |
|-----------------------------------|-----------------------------|-----------|-------------|
| Gender                            | Male                        | 17        | 28.33%      |
|                                   | Female                      | 43        | 71.67%      |
| Age                               | Under 30 years old          | 6         | 10.00%      |
|                                   | Between 30 and 40 years old | 32        | 53.33%      |
|                                   | Between 40 and 50 years old | 17        | 28.33%      |
|                                   | Over 50 years old           | 5         | 8.34%       |
| Teaching years                    | Less than 5 years           | 12        | 20.00%      |
|                                   | 5-10 years                  | 20        | 33.33%      |
|                                   | 10-15 years                 | 12        | 20.00%      |
|                                   | Over 15 years               | 16        | 26.67%      |
| Title                             | Teaching assistant          | 5         | 8.33%       |
|                                   | Lecturer                    | 33        | 55.00%      |
|                                   | Associate professor         | 17        | 28.33%      |
|                                   | Professor                   | 5         | 8.34%       |
| <b>Total</b>                      |                             | <b>60</b> | <b>100%</b> |
| IDI Participants (n=30)           |                             | Frequency | Percent     |
| Gender                            | Male                        | 6         | 20.00%      |
|                                   | Female                      | 24        | 80.00%      |
| Age                               | Under 30 years old          | 10        | 33.33%      |
|                                   | Between 30 and 40 years old | 5         | 16.67%      |
|                                   | Between 40 and 50 years old | 5         | 16.67%      |

| Entire Research Population (n=60) |                     | Frequency | Percent     |
|-----------------------------------|---------------------|-----------|-------------|
| Teaching years                    | Over 50 years old   | 10        | 33.33%      |
|                                   | Less than 5 years   | 8         | 26.67%      |
|                                   | 5-10 years          | 12        | 40%         |
|                                   | 10-15 years         | 5         | 16.67%      |
|                                   | Over 15 years       | 5         | 16.67%      |
| Title                             | Teaching assistant  | 6         | 20%         |
|                                   | Lecturer            | 6         | 20%         |
|                                   | Associate professor | 14        | 26.67%      |
|                                   | Professor           | 12        | 33.34%      |
| <b>Total</b>                      |                     | <b>30</b> | <b>100%</b> |

**4.1.2 Results of multiple linear regression**

The researcher conducted Multiple Linear Regression (MLR) on a total of 60 survey questionnaire results and found out whether each hypothesis was supported. There were five research hypotheses. Based on the variance inflation factor (VIF) analysis, it can be concluded that multicollinearity is not a concern since the VIF value is below 5. When performing multiple regression analysis, we simultaneously performed multiple collinearity tests for five independent variables in the analysis of multiple regression. The coefficient of variance expansion of the VIF values is 2.36, 2.58, 1.41, 1.87, and 1.45, respectively. The results were all less than 5, indicating no multicollinearity between the five variables.

**Table 3:** The multiple linear regression of five independent variables on satisfaction

| Variables                 | Standardized Coefficients Beta | t-value | p-value | R     | R Square |
|---------------------------|--------------------------------|---------|---------|-------|----------|
| Perceived Usefulness (PU) | 0.249                          | 2.26*   | 0.028   | 0.287 | 0.307    |
| Attitude (ATT)            | 0.175                          | 2.00*   | 0.032   |       |          |
| Perceived Usefulness (PE) | 0.143                          | 2.24*   | 0.034   |       |          |
| Effort Expectancy (EE)    | 0.197                          | 2.36*   | 0.026   |       |          |
| Social Influence (SI)     | 0.273                          | 2.15*   | 0.047   |       |          |

Dependent variable: Behavioral Intention

Note: p-value <0.05\*

To test the study hypothesis, a multiple linear regression analysis (MLR) was used to test the obtained results. Subsequently, we further established the research hypothesis associated with sub-variable changes during the pre-and post-SP stages.

H6: There is a significant mean difference in Perceived Usefulness between pre-SP and post-SP stages.

H7: There is a significant mean difference in Attitude between pre-SP and post-SP stages.

H8: There is a significant mean difference in Performance Expectancy between pre-SP and post-SP stages.

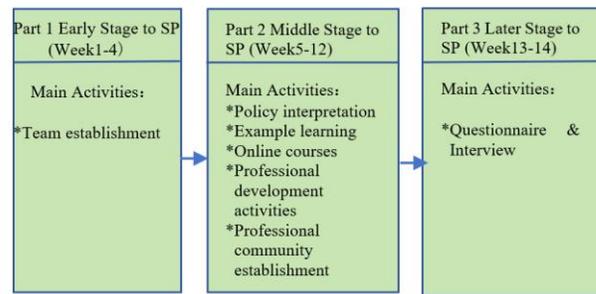
H9: There is a significant mean difference in Effort Expectancy between pre-SP and post-SP stages.

H10: There is a significant mean difference in Social Influence between pre-SP and post-SP stages.

H11: There is a significant mean difference in Behavioral Intention between pre-SP and post-SP stages.

**4.2 Strategic Plan Stage**

The detailed design of the SP phase lasted 14 weeks. The SP plan contains key information such as a clearly specified time and place, a list of the individuals involved, specific goals and implementation methods set in the strategic plan, and details of the exact activities to be implemented, as illustrated in Figure 2.



**Figure 2:** Strategic plan

**4.3 Results Comparison between Pre-IDI and Post-IDI**

A paired-sample t-test analysis was performed for all five variables to determine whether there were differences in behavioral intention between the pre-SP and post-SP phases. The following table illustrates the paired-sample t-test analysis for the five variables as follows:

**Table 5:** Paired-Sample T-Test Results

| Variables              | Mean    | SD   | N     | p-value |       |
|------------------------|---------|------|-------|---------|-------|
| Perceived Usefulness   | Pre-SP  | 2.55 | 0.264 | 60      | <0.05 |
|                        | Post-SP | 4.11 | 0.306 | 30      |       |
| Attitude               | Pre-SP  | 2.57 | 0.302 | 60      | <0.05 |
|                        | Post-SP | 4.29 | 0.493 | 30      |       |
| Performance Expectancy | Pre-SP  | 2.53 | 0.352 | 60      | <0.05 |
|                        | Post-SP | 4.28 | 0.406 | 30      |       |
| Effort Expectancy      | Pre-SP  | 2.35 | 0.296 | 60      | <0.05 |
|                        | Post-SP | 4.28 | 0.325 | 30      |       |
| Social Influence       | Pre-SP  | 2.55 | 0.184 | 60      | <0.05 |
|                        | Post-SP | 4.19 | 0.297 | 30      |       |

| Variables            |         | Mean | SD    | N  | p-value |
|----------------------|---------|------|-------|----|---------|
| Behavioral Intention | Pre-SP  | 2.68 | 0.197 | 60 | <0.05   |
|                      | Post-SP | 4.52 | 0.289 | 30 |         |

Table 4 shows the results of the paired-sample t-test analysis for the pre-SP and post-SP comparisons as follows:

There was a significant increase in Perceived Usefulness between the post-SP (M=4.11, SD=0.306) stage and pre-SP stage (M=2.55, SD=0.264), while  $P<0.05$  and mean value difference between the post-SP stage and pre-SP stage was 1.56. Therefore, H6 supported the idea that a significant mean difference in perceived usefulness exists between pre-SP and post-SP.

There was a significant increase in Attitude between post-SP (M=4.29, SD=0.493) stage and pre-SP stage (M=2.57, SD=0.302), while  $P<0.05$  and mean value difference between the post-SP stage and the pre-SP stage was 1.72. Therefore, H7 supported the idea that there is a significant mean difference in Attitude between pre-SP and post-SP.

There was a significant increase in Performance Expectancy between the post-SP (M=4.28, SD=0.406) stage and pre-SP stage (M=2.53, SD=0.352), while  $P<0.05$  and mean value difference between the post-SP stage and the pre-SP-stage was 1.75. Therefore, H8 supported the idea that there is a significant mean difference in performance expectancy between pre-SP and post-SP.

There was a significant increase in Effort Expectancy between the post-SP (M=4.28, SD=0.325) stage and pre-SP stage (M=2.35, SD=0.296), while  $P<0.05$  and mean value difference between the post-SP stage and pre-SP stage was 1.93. Therefore, H9 supported the idea that there is a significant mean difference in effort expectancy between pre-SP and post-SP.

There was a significant increase in Social Influence between post-SP (M=4.19, SD=0.297) stage and pre-SP stage (M=2.55, SD=0.184), while  $P<0.05$  and mean value difference between the post-SP stage and the pre-SP stage was 1.64. Therefore, H10 supported the idea that there is a significant mean difference in social influence between pre-SP and post-SP.

There was a significant increase in Behavioral Intention between post-SP (M=4.52, SD=0.289) stage and pre-SP stage (M=2.68, SD=0.197), while  $P<0.05$  and mean value difference between post-SP stage and pre-SP stage was 1.84. Therefore, H11 supported the idea that there is a significant mean difference in behavioral intention between pre-SP and post-SP.

The investigators reached the following conclusions based on the above-paired sample t-test results. First, all six variables showed significant mean differences between the

post-SP and pre-SP phases. Second, the researchers found a significant increase in teacher behavioral intentions during the pre-SP and post-SP stages.

## 5. Conclusions, Recommendations and Limitations

### 5.1 Conclusions & Discussions

This study aims to analyze the effects of the five independent variables of perceived usefulness, attitude, performance expectation, effort expectation, and social influence on the dependent variable of behavioral intention. Comprehensive study design, data analysis, and data collection methods were used to draw meaningful conclusions.

In terms of study design, the project-target consistency index (IOC) and Cronbach's Alpha coefficient were used to ensure the reliability of the measurement tool. This rigorous measurement method enhances the credibility of the study. This study verified the significant relationship between independent and dependent variables by collecting data from 60 valid questionnaires from Sichuan University teachers and using multiple linear regression analysis.

In addition, this study conducted a 14-week strategic plan (SP) for 30 teachers. Data were collected after the end of the plan and compared by paired sample t-test with data before SP implementation.

The results revealed that the five independent variables of perceived usefulness, attitude, performance expectation, effort expectation, and social influence significantly influenced teachers' behavioral intentions. This shows that focusing on these five aspects can effectively enhance the behavioral intentions of university teachers and play a key role in shaping them. The results of the paired sample t-test further showed significant differences in behavioral intention after SP and before implementation, indicating that the 14-week strategic plan had a positive and significant impact on teacher behavioral intention.

In conclusion, in the context of the construction of double first-class universities in China, this study demonstrates the importance of improving the behavior intention of university staff through cultivating learning management system (LMS) learning and making important contributions to this field. The rigorous method, comprehensive analysis, and practical

significance of the research provide valuable insights for improving teachers' behavior intentions. These findings can provide experience and information for educational strategic programs designed to improve teacher quality and key skills and help teachers succeed in increasingly competitive areas of innovation.

## 5.2 Recommendations

In today's education field, conducting in-depth studies and pursuing the behavior intention of university teachers is particularly important. A recent study explored the influence of the five key variables of perceived usefulness, attitude, performance expectation, effort expectation, and social influence on teacher behavioral intentions. Through this study, we can better understand how to enhance teachers' behavioral intentions through these variables, thus helping them to succeed in innovative research. The findings of this study provide valuable experience and information for educational institutions and schools to better support teachers and prepare them for enhancing behavioral intentions and achieving success in innovative research.

In this article, we will explore in detail a series of recommendations based on the results of this study designed to foster and enhance the behavioral intentions of university faculty through a Learning Management System (LMS). One of the study's main recommendations is to include LMS training as part of the curriculum. In today's digital education wave, the use of online learning systems (LMS) has become an important way to promote educational innovation and teaching quality improvement. In order to effectively improve the intention of LMS, universities can formulate and implement a series of specific measures from many aspects.

Firstly, strengthening LMS training and professional development is the key. Universities should incorporate LMS training into their required teacher courses to ensure each teacher has its basic functions and advanced application skills. According to different teachers' needs and learning progress, personalized training programs are provided to help them gradually master using the LMS method. At the same time, the LMS learning community is established to encourage teachers to share experiences and exchange problems to form a learning atmosphere of mutual help.

Secondly, optimizing LMS function and user experience must be addressed. Universities should regularly update the LMS's functional modules to ensure they always meet the latest teaching needs. At the same time, it focuses on improving the user-friendliness of LMS, optimizing the interface design and operation process, and making it more simple, intuitive, and easy to use. Provide detailed user manuals and operation guides to help teachers quickly master the use of the method. In addition, a professional

technical support team is established to provide timely and effective technical support and services for teachers to ensure that they can solve their problems when they encounter them.

Universities can establish an incentive mechanism and evaluation system to further stimulate teachers' motivation. By setting up teaching achievement awards, integrating LMS into the performance appraisal system, and recognizing excellent cases, teachers will have made significant teaching achievements on the LMS platform. This can not only affirm teachers' efforts and achievements but also stimulate other teachers' enthusiasm and form a healthy atmosphere of competition.

Finally, promoting communication and cooperation among teachers is also an important means of enhancing LMS's behavior intention. Universities can regularly hold LMS application seminars or workshops, inviting experts, scholars, and excellent teachers to share their use experiences and teaching cases and promote communication and cooperation among teachers. At the same time, teachers of different disciplines are encouraged to use the LMS platform for interdisciplinary teaching cooperation and resource sharing, as well as to improve teaching quality and innovation ability jointly.

To sum up, universities can effectively enhance LMS training and professional development, LMS function and user experience, incentive mechanisms and evaluation systems, and teachers' cooperation in LMS. This will help promote the innovation and development of education and teaching and lay a solid foundation for the cultivation of more outstanding talents.

## 5.3 Limitations for Future Research

Although studying the influence of independent variables on teachers' behavioral intentions provides valuable insights into how certain key factors shape faculty teaching decision-making and practice, a deep understanding of their limitations is crucial to guide future research directions. These limitations not only point to the boundaries of the current study but also provide potential paths for the deepening and improvement of subsequent studies.

**Sample Size and Demographic Data:** This study was limited to a specific group of teachers at Sichuan University. Future studies should consider broadening the horizons and including teachers from different educational backgrounds, universities, and cultural backgrounds to diversify the sample and thus evaluate the universality of the research results. This will help us understand whether the effects of independent variables on teachers' behavior intention are similarities or differences in different educational environments and cultural contexts.

**Variables and Relationships:** This study focused on five specific independent variables and one dependent

variable. Future studies could extend to other independent variables and their potential interactions to construct a more comprehensive framework of factors influencing behavioral intention. This may include factors such as teachers' personal beliefs, school policies, and social support systems and how they interact with the teachers' behavioral intentions. With this broader perspective, researchers can better understand the complex networks that influence teachers' behavioral intentions.

**Strategic Plan Design:** This study implemented a specific strategic plan scheme. Future studies should consider going beyond the limitations of specific strategic plans to compare the effectiveness of different strategies in enhancing teacher behavioral intentions. This may include ongoing professional development support for teachers, providing flexible teaching resources, and strategies to encourage faculty participation in the decision-making process. By comparing the effects of these different strategies, researchers can provide more powerful guidance for educational practitioners and help them choose the most effective way to promote positive changes in teachers' behavioral intentions.

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