
Evaluating Four Factors Affecting Students' Perceptions of the Faculty of Laws on the Acceptance of Online Courses using the PLS-SEM Approach and MGA Analysis of Demographic Factors

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Abstract

Online education, with its flexibility in time and location, rich resources, interactive tools, and diverse modes, is a significant trend meeting students' needs. This article delves into factors influencing law school students' Acceptance of Online Courses (AOC): Attitudes toward Online Courses (AT), Self-Regulation Skills (SRL), Self-Efficacy in Online Learning (SE), and Facilitating Conditions for Online Courses (FC). Understanding these factors aims to bolster students' willingness for continuous online course use, ignite autonomous learning enthusiasm, and enhance learning outcomes. The study confirmed the significant positive effects of AT and SE on AOC, with SRL and FC showing no significant impact. Socio-demographic characteristics (gender, grades, age, national basis, number of students, and online learning experience) did not moderate the proposed model, except for slight differences related to national basis in the relationships between AT and AOC and FC and AOC. Methodologically, the study advocates a focus on detailed measurement and assessment of psychometric variables for future research to deepen understanding and enhance acceptance and effectiveness. The research's value lies in providing a robust theoretical and managerial model, offering insights for educators and policymakers to enhance online course acceptance. The legal education and higher education sectors must move beyond emergency remote teaching, emphasizing online education concepts and skills. Instructors should implement strategies addressing the crucial four factors to ensure students' preparedness and success in learning. Collaborative efforts from multiple parties are necessary to improve law school students' AOC by addressing the identified factors.

Introduction: This article examines the four factors that affect the perceptions of law school students' AOC. These four factors are AT, SRL, SE, and FC.

Methodology: This study conducted a survey of law school students using the PLS-SEM approach. The PLS-SEM method was applied by using Smart-PLS version 4. While MGA was used for moderating effects analysis of demographic characteristics on the relationships in the model.

Results and discussion/Themes and findings: The study confirmed the significant positive effects of AT and SE on AOC, while SRL and FC showed no significant impact. Therefore, efforts have to be done on these four factors in heightening the level of AOC among the students. Furthermore, the proposed model in this study is not significantly moderated by socio-demographic characteristics. Among the nationality factors, two significant differences were found. These are the relationships between AT and AOC and FC and AOC, with slight significant differences.

Conclusion and/or recommendations: Relevant implications and suggestions are proposed to help in enhancing the level of AOC of the students.

Keywords

PLS-SEM, MGA, Demographic Factors, Acceptance of Online Courses (AOC), Attitudes toward online courses (AT), Self-Regulation Skills (SRL), Self-Efficacy in online courses (SE), and Facilitating Conditions for online courses (FC)

1. Introduction

This article aims to discuss the global development of online education, considering the varying educational characteristics of different countries and the factors influencing the significance of online education. Through a comprehensive review and analysis of domestic and international research on online education, the article provides an overview and evaluation of the current status, advantages, and disadvantages of online education worldwide. The objective is to offer recommendations for the future progression of online education. Recognizing its immense potential, online education is poised to evolve from a supplementary tool to a pivotal mode of education, aligning with the prevailing developmental trend and enhancing accessibility for a broader audience (Alemayehu & Chen, 2021). Beyond being a mere format, online education constitutes a core of content and services. The competition in this field centers on the quality of educational resources, a critical determinant for the success of online education. Presently, numerous universities provide online courses, and accreditation through online learning and examinations is widespread. This represents a trend and a strategic approach to harnessing high-quality educational resources effectively. Given that universities are hubs of quality resources, the challenge for online education lies in disseminating these resources to society at large, ensuring more individuals can benefit from this wealth of educational content.

2. Literature review

Acceptance of Online Courses (AOC) refers to how students perceive the positive learning outcomes brought about by the online learning experience (Ali, 2020; Daniel, 2020; Hodges, Moore, Locke, Trust & Bond, 2020; Murphy, 2020). The success of online learning relies heavily on students' positive acceptance of it.

Attitude toward online courses (AT) pertains to students' feelings about using online courses for law learning. Students' attitudes are often connected to their motivation and engagement in online learning (Ferrer et al., 2022).

Self-Regulation Skills (SRL) are frequently associated with learners' perceived ability to regulate themselves in order to support online learning for law courses. Self-Regulation Skills involve the implementation of effective strategies for remote learning (Carter et al., 2020).

Self-Efficacy in online courses (SE) is linked to learners' belief in their own capabilities to use online learning platforms in support of their law learning. According to Kuo et al. (2014), self-efficacy, along with interaction and Self-Regulation Skills, predicts student satisfaction in the online learning environment.

Facilitating Conditions for online courses (FC) refer to students' perception of the availability of support from the learning environment, which enables online learning. Facilitating conditions create conducive learning environments to support online learning (Bervell & Arkorful, 2020).

Age has been found to moderate several investigations using structural equation modeling (Biswas et al., 2020; Fisher et al., 2021). The description and testing of gender as a moderator has been widely studied by researchers (Li & Yang, 2015; Wu et al., 2017; Kolyesnikova et al., 2009; Khan & Rahman, 2016; Fisher et al., 2021). There are other socio-demographic characteristics that can be included in studying the moderating effects (Sanz-Blas, Carvajal-Trujillo & Buzova, 2019). Age and other sociodemographic moderators may moderate the impact of independent variables on the investigated dependent variable in this study.

In sum, there are five research hypotheses in this study. They are:

H1: Attitudes toward online courses positively affect their acceptance.

H2: Self-regulation skills positively affect the acceptance of online courses.

H3: Self-efficacy positively affects the acceptance of online courses.

H4: Facilitating conditions positively affect the acceptance of online courses.

H5: Socio-demographic characteristics moderate the relationships in the proposed model.

3. Methodology

The research focuses on understanding how students perceive online teaching. Participants will actively participate in a 2-month task-based online course, after which they will provide feedback through a questionnaire. The questionnaire will serve as the primary method for data collection. Figure 1 serves as a clear guide, illustrating the entire research process. The accompanying flowchart delineates the distinct stages of this study, providing a comprehensive overview of the research journey.

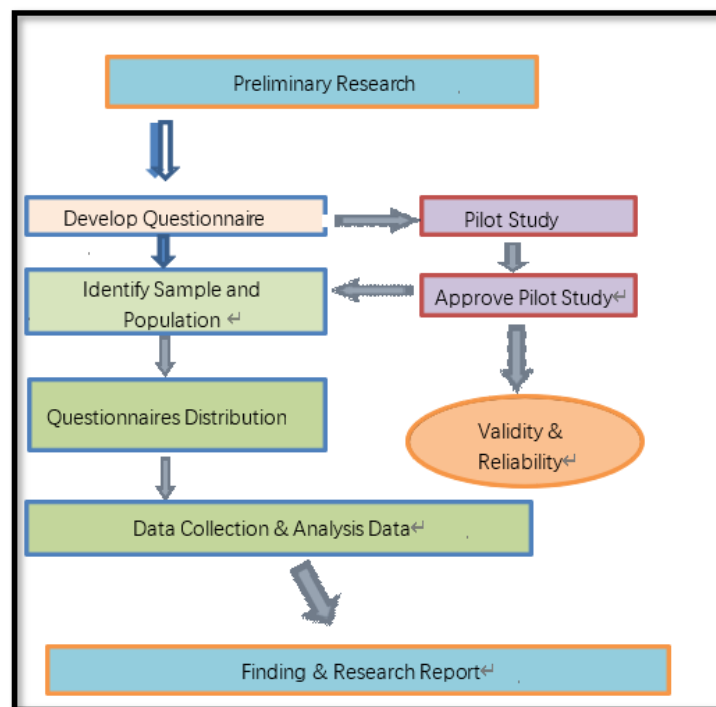


Figure 1. Research flowchart

Source: Developed for this research

Utilizing the A-priori Sample Size Calculator for Structural Equation Models (<https://www.danielsoper.com/statcalc/calculator.aspx?id=89>), with an expected effect size of 0.3 (considered medium), a desired statistical power level of 0.8, 5 latent variables, 18 observed variables (total items), and a significance level of 0.05, the results, as depicted in the figure below, indicate the following: The minimum sample size required to detect an effect is 150, the minimum sample size for model structure is 128, and the recommended minimum sample size is 150. Hence, the sample size employed in this study is deemed appropriate.

Anticipated effect size: 0.3 ?

Desired statistical power level: 0.8 ?

Number of latent variables: 5 ?

Number of observed variables: 20 ?

Probability level: 0.05 ?

Calculate!

Minimum sample size to detect effect: 150

Minimum sample size for model structure: 100

Recommended minimum sample size: 150

Figure 2. Sampling result

Source: Developed for this research

The survey items employed to gauge the model constructs in this study are detailed in Table 1 below. Demographic and descriptive statistics were presented using SPSS version 26. PLS-SEM analysis was conducted using Intelligent PLS software version 4 (Ringle et al., 2022). The questionnaire items utilized in this study were adapted from Lai & Admiraal (2022).

The questionnaire can be accessed at <https://www.wjx.cn/vj/tVyJIB3.aspx>. The participants will answer the questionnaire using this link.

Table 1. Items in the Instrument of This Study

| Item number | Item | Reference |
|-------------|--|-----------------------|
| Dv | Acceptance of Online Courses (AOC) | Lai & Admiraal (2022) |
| 1 | AOC1 I can accept online learning mode in a learning law program. | |
| 2 | AOC2 I agree with the delivery of a law program using online learning mode. | |
| 3 | AOC3 I enjoy using online learning mode in learning law programs. | |
| 4 | AOC4 I prefer to use online learning mode in learning law programs. | |
| Iv 1 | Attitudes toward online courses (AT) | |
| 1 | AT1: Using online learning is a good idea. | |
| 2 | AT2: Using online learning is very suitable | |
| 3 | AT3: I like the idea of using online learning because it is very safe. | |
| 4 | AT4: Using online learning would be pleasant. | |
| Iv 2 | Self-Regulation Skills (SRL) | |
| 1 | SRL1: I constantly check my understanding. | |
| 2 | SRL2: I have ways to make learning the language more attractive. | |
| 3 | SRL3: I try to sort out and address the problem, when the learning environment becomes less favorable. | |
| 4 | SRL4: I know how to arrange time and environment to make learning more efficient and effective. | |
| Iv 3 | Self-Efficacy in online courses (SE) | |
| 1 | SE1: I am confident about using an online learning system. | |
| 2 | SE2: Using online learning would not challenge me. | |
| 3 | SE3: I would be comfortable using online tools. | |
| 4 | SE4: I am able to complete all kinds of online learning activities. | |
| Iv 4 | Facilitating Conditions for online courses (FC) | |
| 1 | FC1: I get support from the learning environment that facilitates online learning. | |
| 2 | FC2: I have a strong internet to support online learning. | |
| 3 | FC3: I have all the facilities I need for online learning. | |
| 4 | FC4: I am able to solve all the problems I encountered pertaining to online learning. | |

Source: Developed for this research

Table 2 presents the Cronbach’s Alpha values if any item is deleted. All values are above 0.7, indicating higher and stronger reliability indices. The reliability indices for all dimensions were above 0.7 and below 0.95. Therefore, issues of multicollinearity and auto collinearity did not occur. This instrument is suitable for PLS-SEM analysis later in this study.

Table 2. Reliability Indices of the Dimensions

| | Item-Total Statistics | | | |
|-----------|----------------------------|--------------------------------|----------------------------------|----------------------------------|
| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
| DV1 | 63.53 | 345.177 | .854 | .976 |
| DV2 | 63.38 | 339.932 | .853 | .976 |
| IV1 item1 | 63.51 | 345.062 | .813 | .976 |
| IV1.item2 | 63.45 | 347.406 | .767 | .977 |
| IV1.item3 | 63.43 | 343.789 | .852 | .976 |

| | | | | |
|-----------|-------|---------|------|------|
| IV1.item4 | 63.49 | 354.062 | .742 | .977 |
| IV2.item1 | 63.23 | 340.332 | .877 | .976 |
| IV2.item2 | 63.68 | 344.414 | .827 | .976 |
| IV2.item3 | 63.34 | 337.767 | .867 | .976 |
| IV2.item4 | 63.51 | 340.024 | .843 | .976 |
| IV3.item1 | 63.45 | 348.060 | .796 | .976 |
| IV3.item2 | 63.36 | 343.081 | .838 | .976 |
| IV3.item3 | 63.64 | 347.311 | .807 | .976 |
| IV3.item4 | 63.60 | 344.436 | .819 | .976 |
| IV4.item1 | 63.53 | 342.023 | .837 | .976 |
| IV4.item2 | 63.38 | 341.893 | .861 | .976 |
| IV4.item3 | 63.49 | 338.562 | .857 | .976 |
| IV4.item4 | 63.53 | 344.023 | .845 | .976 |

Source: Developed for this research

Multigroup analysis (MGA) is a statistical technique used to compare means across multiple groups or populations. It is commonly applied in research to assess significant differences in a specific variable or set of variables among distinct groups. The key objective of MGA is to detect group disparities, such as those related to demographics or treatment effects, providing a deeper insight into the root causes of the studied outcome. In essence, MGA scrutinizes and contrasts the influence of each structural path across different groups (Aguinis et al., 2017; Ting, Fam, Hwa, Richard, & Xing, 2019).

4. Descriptive statistics

Table 3 provides some information about the demographics of the participants, which was calculated using SPSS. No missing values were found for this study.

Table 3. Descriptive statistics of the Study

| Name | Missings | Mean | Median | Scale min | Scale max | Observed min | Observed max | Standard deviation | Excess kurtosis | Skewness |
|-----------------------------------|----------|-------|--------|-----------|-----------|--------------|--------------|--------------------|-----------------|----------|
| gender | 0 | - | 2 | 1 | 2 | 1 | 2 | 0.499 | -1.997 | -0.105 |
| Grade: | 0 | - | 2 | 1 | 5 | 1 | 5 | 1.499 | -1.213 | 0.448 |
| Age: | 0 | - | 2 | 1 | 3 | 1 | 3 | 0.687 | -0.754 | 0.599 |
| University: | 0 | - | 3 | 1 | 4 | 1 | 4 | 1.16 | -1.286 | -0.42 |
| Number of students in your class: | 0 | - | 2 | 1 | 4 | 1 | 4 | 0.814 | -0.535 | 0.242 |
| Online Courses Experience: | 0 | - | 1 | 1 | 2 | 1 | 2 | 0.333 | 3.061 | 2.247 |
| AOC1 | 0 | 3.875 | 4 | 1 | 5 | 1 | 5 | 1.074 | 0.443 | -0.954 |
| AOC2 | 0 | 3.869 | 4 | 1 | 5 | 1 | 5 | 1.1 | 0.325 | -0.941 |
| AOC3 | 0 | 3.708 | 4 | 1 | 5 | 1 | 5 | 1.18 | -0.33 | -0.695 |
| AOC4 | 0 | 3.641 | 4 | 1 | 5 | 1 | 5 | 1.273 | -0.611 | -0.679 |
| AT1 | 0 | 3.736 | 4 | 1 | 5 | 1 | 5 | 1.152 | -0.274 | -0.717 |
| AT2. | 0 | 3.653 | 4 | 1 | 5 | 1 | 5 | 1.23 | -0.651 | -0.575 |
| AT3 | 0 | 3.819 | 4 | 1 | 5 | 1 | 5 | 1.092 | 0.006 | -0.79 |
| AT4 | 0 | 3.647 | 4 | 1 | 5 | 1 | 5 | 1.196 | -0.468 | -0.634 |

| | | | | | | | | | | |
|------|---|-------|---|---|---|---|---|-------|--------|--------|
| SRL1 | 0 | 3.683 | 4 | 1 | 5 | 1 | 5 | 1.169 | -0.173 | -0.771 |
| SRL2 | 0 | 3.704 | 4 | 1 | 5 | 1 | 5 | 1.174 | -0.239 | -0.751 |
| SRL3 | 0 | 3.877 | 4 | 1 | 5 | 1 | 5 | 1.047 | 0.799 | -1.043 |
| SRL4 | 0 | 3.774 | 4 | 1 | 5 | 1 | 5 | 1.101 | -0.062 | -0.773 |
| SE1 | 0 | 3.758 | 4 | 1 | 5 | 1 | 5 | 1.133 | -0.086 | -0.79 |
| SE2 | 0 | 3.883 | 4 | 1 | 5 | 1 | 5 | 1.097 | 0.383 | -0.961 |
| SE3 | 0 | 3.778 | 4 | 1 | 5 | 1 | 5 | 1.141 | -0.18 | -0.775 |
| SE4 | 0 | 3.925 | 4 | 1 | 5 | 1 | 5 | 1.057 | 0.606 | -1.011 |
| FC1 | 0 | 3.794 | 4 | 1 | 5 | 1 | 5 | 1.095 | 0.205 | -0.85 |
| FC2 | 0 | 3.883 | 4 | 1 | 5 | 1 | 5 | 1.11 | 0.457 | -1 |
| FC3 | 0 | 3.911 | 4 | 1 | 5 | 1 | 5 | 1.109 | 0.853 | -1.158 |
| FC4 | 0 | 3.736 | 4 | 1 | 5 | 1 | 5 | 1.078 | -0.069 | -0.709 |

Source: Developed for this research

5. Outer loadings

Table 4 below illustrates the measurement model of this study. In the research, factor loadings between items and their respective constructs, computed using Smart-PLS version 4, revealed that each item exhibited an indicator loading exceeding 0.707 and a significant value below 0.050. As depicted in Table 4, all factor loadings of items to corresponding constructs surpass 0.7 and are statistically significant (p -value < 0.05), indicating excellent reliability of indicators in the measurement model.

Table 4. The Model with Outer Loadings

| | AOC | AT | FC | SE | SRL |
|------|-------|-------|-------|-------|-------|
| AOC1 | 0.909 | | | | |
| AOC2 | 0.909 | | | | |
| AOC3 | 0.936 | | | | |
| AOC4 | 0.896 | | | | |
| AT1 | | 0.938 | | | |
| AT2 | | 0.921 | | | |
| AT3 | | 0.871 | | | |
| AT4 | | 0.917 | | | |
| FC1 | | | 0.915 | | |
| FC2 | | | 0.891 | | |
| FC3 | | | 0.863 | | |
| FC4 | | | 0.888 | | |
| SE1 | | | | 0.936 | |
| SE2 | | | | 0.887 | |
| SE3 | | | | 0.878 | |
| SE4 | | | | 0.852 | |
| SRL1 | | | | | 0.919 |
| SRL2 | | | | | 0.912 |
| SRL3 | | | | | 0.903 |
| SRL4 | | | | | 0.893 |

Source: Developed for this research

6. Construct internal consistency

Furthermore, construct internal consistency gauges how effectively indicators of a construct measure that construct (Herzog & Tonchia, 2014), ensuring they are measuring the same concept. Cronbach's alpha, calculated in Smart-PLS version 4 in this study, assesses the internal consistency or reliability of a set of scales or test items. It measures the extent to which a measurement consistently assesses a concept, with a higher alpha value indicating more shared covariance among items and likely measurement of the same underlying construct (Urbach & Ahlemann, 2010).

According to Gefen et al. (2011), for exploratory research, Cronbach's alpha should exceed 0.6, and for confirmatory research (e.g., CFA), it should exceed 0.7. In CFA and SEM, internal consistency can be assessed using composite reliability (CR), which should also exceed 0.7 (Urbach & Ahlemann, 2010). Table 5 presents the values of Cronbach's alpha and CRs. All values in Table 5 exceed 0.7, affirming that the measurement model demonstrates internal consistency reliability.

Table 5. The Results of Internal Consistency Reliability and Convergent Validity Analysis

| | Cronbach's alpha | Composite reliability (rho_a) | Composite reliability (rho_c) | Average variance extracted (AVE) |
|-----|------------------|-------------------------------|-------------------------------|----------------------------------|
| AOC | 0.933 | 0.933 | 0.952 | 0.833 |
| AT | 0.932 | 0.936 | 0.952 | 0.832 |
| FC | 0.913 | 0.926 | 0.938 | 0.791 |
| SE | 0.911 | 0.919 | 0.938 | 0.790 |
| SRL | 0.928 | 0.931 | 0.949 | 0.823 |

Source: Developed for this research

7. Assessment of Structural Model

The results of both Model with Outer Loadings and Related P-Values as well as the results of Internal Consistency Reliability and Convergent Validity Analysis have confirmed that the instrument developed in this study is of no question. Therefore, the measurement model is of standard, and this instrument can be used for assessment of structural model.

Table 6 presents the assessment of the structural model of this study. As shown in table 6, the path coefficients between all constructs are significant (p-value < 0.01). The results indicate that all the independent variables have significant and positive effects on the dependent variable.

Table 6. Assessment of Structural Model: Path Coefficients between All Construct

| | Path Coefficients | P Values | Explained Variance (R2) |
|------------|-------------------|----------|-------------------------|
| AT -> AOC | 0.324 | 0.000 | 0.586 |
| FC -> AOC | 0.112 | 0.104 | |
| SE -> AOC | 0.252 | 0.001 | |
| SRL -> AOC | 0.149 | 0.075 | |

Source: Developed for this research

8. Graphic Representation of the Model

Moreover, as indicated in Figure 4 below and Table 6 above, the explained variance of all the constructs (r-squared is equal to 0.586, which means 58.6% of the variance in the dependent variable construct can be explained by its predictors), indicates that all the independent variables have a substantial effect on the dependent variable in this study, specifically SPE.

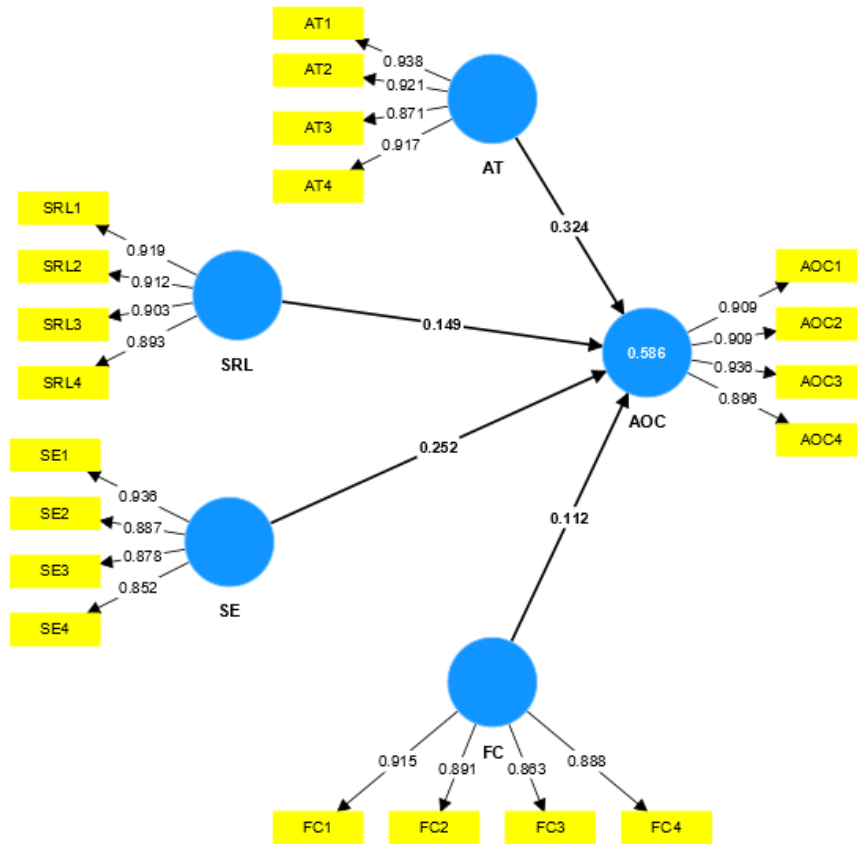


Figure 3. The Graphic Representation of the Model with Path Coefficients, and Explained Variance

Source: Developed for this research

9. Hypotheses Testing

With the confirmation of Structural Model assessment results and the high value of r-square as presented in Figure 4 and Table 6, hypotheses testing of this study can be conducted using bootstrapping. Table 7 below presents the major findings regarding the hypotheses testing of this study.

Table 7. Hypotheses Testing

| Hypothesis | Relationships | T value | P values | Decision | 95% CILL | 95% CIUL |
|------------|---------------|---------|----------|----------|----------|----------|
| H1 | AT -> AOC | 4.493 | 0.000 | Accepted | 0.183 | 0.467 |
| H2 | FC -> AOC | 1.625 | 0.104 | Rejected | -0.027 | 0.246 |
| H3 | SE -> AOC | 3.305 | 0.001 | Accepted | 0.099 | 0.398 |
| H4 | SRL -> AOC | 1.779 | 0.075 | Rejected | -0.015 | 0.313 |

Source: Developed for this research

For hypothesis 1, the t-value is 4.493, and the p-value is 0.000. No 0 value falls between 95% CI LL and 95% CI UL. Thus, hypothesis 1 is accepted. Hypothesis 2, with a t-value of 1.625 and a p-value of 0.104, has a 0 value within the 95% CI, leading to the rejection of hypothesis 2. Hypothesis 3, with a t-value of 3.305 and a p-value of 0.000, has no 0 value within the 95% CI, resulting in the acceptance of hypothesis 3. For hypothesis 4, the t-value is 1.779, and the p-value is 0.000. A 0 value lies within the 95% CI, leading to the rejection of hypothesis 4. The study's results emphasize the positive relationships of students toward tasks in blended learning courses. Therefore, the four hypotheses confirmed in this study were:

1. AT has a significant positive effect on perception of the AOC.
2. SRL does not have a significant positive effect on perception of the AOC.
3. SE has a significant positive effect on perception of the AOC.
4. FC does not have a significant positive effect on perception of the AOC.

9.1 Moderating effect 1 - gender

Using permutation multigroup analysis, the results are as below. No significant difference is found.

| | Original (male) | Original (female) | Original difference | Permutation mean difference | 2.5% | 97.5% | Permutation p value |
|------------|-----------------|-------------------|---------------------|-----------------------------|--------|-------|---------------------|
| AT -> AOC | 0.233 | 0.435 | -0.202 | 0.013 | -0.291 | 0.292 | 0.183 |
| FC -> AOC | 0.174 | 0.073 | 0.100 | 0.001 | -0.284 | 0.272 | 0.483 |
| SE -> AOC | 0.195 | 0.310 | -0.115 | -0.006 | -0.323 | 0.304 | 0.478 |
| SRL -> AOC | 0.189 | 0.066 | 0.124 | -0.006 | -0.339 | 0.342 | 0.479 |

Source: Developed for this research

9.2 Moderating effect 2 - grade

The respondents are divided into degree groups and postgraduate groups. Using permutation multigroup analysis, the results are as follows. No significant differences were found.

| | Original (degree) | Original (postgraduate) | Original difference | Permutation mean difference | 2.5% | 97.5% | Permutation p value |
|------------|-------------------|-------------------------|---------------------|-----------------------------|--------|-------|---------------------|
| AT -> AOC | 0.237 | 0.253 | -0.016 | -0.004 | -0.348 | 0.333 | 0.941 |
| FC -> AOC | 0.153 | 0.274 | -0.121 | 0.001 | -0.301 | 0.317 | 0.448 |
| SE -> AOC | 0.244 | 0.166 | 0.078 | 0.004 | -0.371 | 0.345 | 0.684 |
| SRL -> AOC | 0.165 | 0.081 | 0.084 | 0.000 | -0.337 | 0.359 | 0.654 |

Source: Developed for this research

9.3 Moderating effect 3 - age

The respondents are divided into two groups: those aged 20 and below, and those aged 21 and above. Using permutation multigroup analysis, the results are as follows. No significant differences were found.

| | Original (20 and below) | Original (21 and above) | Original difference | Permutation mean difference | 2.5% | 97.5% | Permutation p value |
|--|-------------------------|-------------------------|---------------------|-----------------------------|------|-------|---------------------|
|--|-------------------------|-------------------------|---------------------|-----------------------------|------|-------|---------------------|

| | | | | | | | |
|------------|-------|-------|--------|--------|--------|-------|-------|
| AT -> AOC | 0.160 | 0.522 | -0.363 | 0.003 | -0.290 | 0.326 | 0.026 |
| FC -> AOC | 0.158 | 0.098 | 0.059 | -0.007 | -0.291 | 0.287 | 0.668 |
| SE -> AOC | 0.223 | 0.268 | -0.044 | 0.006 | -0.305 | 0.330 | 0.810 |
| SRL -> AOC | 0.243 | 0.004 | 0.238 | -0.001 | -0.341 | 0.306 | 0.159 |

Source: Developed for this research

9.4 Moderating effect 4 – nations basis

The respondents are divided into two groups: international and Chinese local. Using permutation multigroup analysis, the results are as follows. Two significant differences were found. These are the relationships between AT and AOC, and FC and AOC.

| | Original (China local based) | Original (international based) | Original difference | Permutation mean difference | 2.5% | 97.5% | Permutation p value |
|------------|------------------------------|--------------------------------|---------------------|-----------------------------|--------|-------|---------------------|
| AT -> AOC | 0.580 | -0.030 | 0.610 | -0.006 | -0.330 | 0.327 | 0.000 |
| FC -> AOC | -0.046 | 0.329 | -0.375 | -0.002 | -0.283 | 0.282 | 0.008 |
| SE -> AOC | 0.192 | 0.221 | -0.029 | -0.014 | -0.335 | 0.290 | 0.851 |
| SRL -> AOC | 0.197 | 0.093 | 0.104 | 0.019 | -0.331 | 0.368 | 0.567 |

Source: Developed for this research

9.5 Moderating effect 5 – number of students

The respondents are divided into two groups: those aged 40 and below, and those aged 41 and above. Using permutation multigroup analysis, the results are as follows, with no significant differences found.

| | Original (40 and below) | Original (41 and above) | Original difference | Permutation mean difference | 2.5% | 97.5% | Permutation p value |
|------------|-------------------------|-------------------------|---------------------|-----------------------------|--------|-------|---------------------|
| AT -> AOC | 0.305 | 0.341 | -0.036 | 0.005 | -0.322 | 0.316 | 0.818 |
| FC -> AOC | 0.089 | 0.144 | -0.055 | 0.000 | -0.305 | 0.319 | 0.728 |
| SE -> AOC | 0.253 | 0.249 | 0.004 | -0.010 | -0.321 | 0.325 | 0.994 |
| SRL -> AOC | 0.205 | 0.072 | 0.133 | 0.001 | -0.367 | 0.351 | 0.484 |

Source: Developed for this research

9.6 Moderating effect 6 – experience of online learning

The respondents are divided into two groups: those with and those without online learning experience. Using permutation multigroup analysis, the results are as follows. No significant differences were found.

| | Original (with online experience) | Original (without online experience) | Original difference | Permutation mean difference | 2.5% | 97.5% | Permutation p value |
|------------|-----------------------------------|--------------------------------------|---------------------|-----------------------------|--------|-------|---------------------|
| AT -> AOC | 0.338 | 0.185 | 0.153 | -0.004 | -0.445 | 0.439 | 0.487 |
| FC -> AOC | 0.103 | 0.230 | -0.128 | -0.003 | -0.414 | 0.405 | 0.565 |
| SE -> AOC | 0.245 | 0.294 | -0.049 | -0.013 | -0.488 | 0.580 | 0.840 |
| SRL -> AOC | 0.159 | 0.075 | 0.084 | 0.013 | -0.505 | 0.521 | 0.753 |

Source: Developed for this research

Overall, the proposed model in this study is not significantly moderated by socio-demographic characteristics. The tested demographic factors include gender, grade level, age, nationality,

number of students, and experience with online learning. Among the nationality factors, two significant differences were found. These are the relationships between AT and AOC and FC and AOC, with slight significant differences.

10. Discussion and conclusion

The study confirms that AT and SE significantly positively impact AOC. However, the effects of SRL and FC need further confirmation in subsequent studies. Therefore, attention should be directed towards these four factors to elevate students' AOC levels.

Current research underscores the correlation between attitudes and intrinsic/extrinsic motivation in online learning (Ryan & Deci, 2020). The crucial attitude of independent learning is essential for online learners, influencing readiness (Hergüner et al., 2020) and success rates (Cinkara & Bagceci, 2013). Positive attitudes can be fostered by ensuring equivalence with face-to-face learning, adherence to the curriculum, and completion of specified syllabus requirements.

Self-regulated learning skills are vital for success in learner-paced open and distance learning. Evaluating these skills in an online environment is crucial (Kocdar et al., 2018). Strategies such as nurturing self-beliefs, regular goal-setting, and fostering reflective dialogue in instructor-student meetings can enhance students' self-regulated learning skills. Academic advisors should provide corrective feedback.

Given individual variations, self-efficacy is pivotal in technology usage (Mahdavian et al., 2016; Aldholay et al., 2018). As it strongly influences online learning success, a model incorporating self-efficacy merits study. Improvement suggestions include organizing counseling sessions, seminars, or events with motivational speakers or successful students sharing experiences to boost self-efficacy.

Lastly, facilitating conditions are defined as the "degree to which an individual believes an organizational and technical infrastructure exists to support the use of the system" (Bervell & Arkorful, 2020). In this study, the construct is the degree to which course tutors believe in the existence and availability of ICT infrastructure, technical support, institutional policy, and enthusiastic leadership to support the use of the LMS in facilitating online learning students' perceived availability of support from the learning environment. Educational resources and technical support are critical factors, and providing channels to help students address their needs and facilitate conditions is also beneficial.

In summary, Table 8 below outlines the efforts and suggestions to uphold the four aspects that positively impact the Acceptance of Online Courses. Implementing these efforts is crucial to enhance the level of Acceptance of Online Courses among learners.

Table 8. Efforts and suggestions in upholding the four aspects that will bring positive effects on career adapt abilities

| Factor | | Efforts and suggestions |
|--------|----|--|
| 1 | AT | Ensuring the skills and knowledge gained in online learning environment are on par with face-to-face mode ensuring the compliance and completion of course syllabus as in the curriculum design. |

| | | |
|---|-----|--|
| 2 | SRL | Improving students' self-regulated learning skills include guiding learners' self-beliefs, goal setting, and expectations regularly, as well as promoting reflective dialogue through instructors-students meeting. At the same time, corrective feedback should be provided by academic advisors. |
| 3 | SE | Providing counselling sessions, seminars particularly on the sharpening of self-efficacy, having gathering and meeting or special events by inviting motivators or successful students to share their personal experiences on enhancing self-efficacy, etc. |
| 4 | FC | Educational resources and technical support are essential. Providing channels for students for help in improving their needs of facilitating conditions are also handy. |

Source: Developed for this research

In summary, the proposed model in this study remains unaffected by the moderating effects of socio-demographic characteristics. The examined demographic factors encompass gender, grade, age, nationality, number of students, and experience with online learning. Specifically, within nationality, two notable distinctions emerged in the relationships between AT and AOC and FC and AOC, albeit with slight significance. Consequently, the study indicates that demographic factors like gender, grade level, age, nationality, number of students, and experience with online learning lack a significant impact on the studied model. This suggests that the proposed model is not influenced by these demographic factors. Therefore, additional research is necessary to validate this finding and identify potential alternative factors influencing the proposed model. It is crucial to acknowledge potential limitations in the study, and interpretations of the findings should be approached with caution. There are many ways in which nations can differ as moderators. Some examples include:

1. Legal and regulatory frameworks: Different countries have different laws and regulations governing the moderation of online content, which can affect how and what content is moderated.
2. Cultural and societal norms: Different societies may have different expectations and norms regarding what is considered appropriate or offensive content.
3. Resources: Different countries may have different levels of resources and technology available to support moderation efforts.
4. Political climate: The political climate of a country can affect how content is moderated and perceived, such as censorship of certain topics or voices.

These are just a few examples illustrating how nations can vary as moderators. It's crucial to note that moderation practices can differ widely, even within a single country, depending on the platform or community involved. Future studies are recommended to further validate, verify, and confirm the impact of nation differences as moderators (Heintz et al., 2019).

Several limitations exist in this study, and recommendations are proposed for addressing these limitations. Similar to prior studies, the current one is susceptible to some constraints.

Firstly, data were gathered through a convenience sampling method, potentially limiting result generalizability. Future studies could benefit from larger samples and the use of stratified sampling methods to enhance result generalizability.

Secondly, this study focused on only four factors. Future research could incorporate additional determinants for a more comprehensive model, offering a better understanding of multiple factors influencing the level of Acceptance of Online Courses among students.

Thirdly, the study exclusively examined the effects of four selected independent variables on the dependent variable. Future studies should explore moderators and mediators that may impact the relationships studied, providing a deeper understanding of their effects.

Lastly, this study employed basic PLS-SEM methods. Future studies could employ more advanced techniques, including assessing common method variance (construct level correction) and utilizing MGA to evaluate moderating factors influencing relationships.

In conclusion, this study affirmed that AT, SRL, SE, and FC significantly and positively impact AOC among students. Instructors should implement various strategies and suggestions related to these four key factors to better prepare students, enhance their AOC, and promote successful learning.

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