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Uncovering the Key Factors Behind Junior College Students' Satisfaction and Commitment to E-Learning in Jiangxi, China

Zhang Shiqi*

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Abstract

Purpose: This study thoroughly examines the factors influencing junior college students' satisfaction and continued intention to engage in e-learning in Jiangxi, China. **Research design, data, and methodology:** To gather statistical data, it is recommended to survey university students in Jiangxi, China, who have experience with e-learning. The collected data was analyzed using Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) to assess the relationships between variables. For this research, a sample size of 500 junior college students was selected to ensure a more comprehensive understanding of the study. **Results:** E-learning platforms feature continuous updates and optimization of course content, ensuring that learners can keep pace with the times and access cutting-edge educational resources and research findings. This acknowledgment of course content significantly enhances learners' trust and satisfaction, stimulating their enthusiasm for learning. E-learning offers a wide variety of course options and customizable learning paths, allowing learners to feel that their investment is well-rewarded and strengthening their recognition of the value of online learning. **Conclusions:** The study discovered that students' perceptions of interaction favorably impact their perceptions of confirmation, contentment, and perceived usefulness, all of which are directly related to their desire to stick with the system.

Keywords: Course Content Quality, Confirmation, Perceived Value, Perceived Usefulness, Continuance Intention

JEL Classification Code: E44, F31, F37, G15

1. Introduction

China's mainstream E-learning platforms, such as Tencent Classroom, Superstar Learning, Learning Power E-learning, and Chinese University MOOC, have significantly addressed the shortcomings of traditional educational resources. In this setting, flipped learning environments and the integrated growth of traditional and dual modalities have steadily become the norm in the education model. This has injected new vitality into the education system, especially during the rampant outbreak of the novel coronavirus. The role of online education has become increasingly prominent, offering a beacon of hope and progress, ensuring that universities across the country can continue their teaching progress even during suspensions.

Implementing online courses has brought unprecedented convenience to students, allowing them to learn anytime, anywhere, breaking time and space constraints. However, some students have not fully engaged in e-learning and have low participation rates. In some courses, the number of students actively participating may be as low as 10% of the expected attendance. This presents a significant opportunity for improvement. It is vital to give this matter careful thought and conduct further study on improving students' involvement with e-learning and their satisfaction and willingness to use it going forward. In order to make sure that students benefit from the E-learning experience, researchers must investigate the elements that can motivate students' happiness and sustained motivation to use E-learning.

Only by doing so can we promote the healthy

*Zhang Shiqi, Nanchang Institute of science and technology, Jiangxi, China.
Email: 690887030@qq.com

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development of online education and contribute to China's educational endeavors.

Satisfaction with E-learning is a crucial factor that must be considered. It refers to students' psychological satisfaction and positive subjective experience when using E-learning platforms, creating a positive word-of-mouth effect for educational products. Conversely, the students' psychological propensity to use online learning consistently and over an extended period is indicated by their willingness to use it for their studies. The Assumption Confirmation Model and the Technology Acceptance Model are the foundation for the research approach that the authors have created, which looks at students' satisfaction levels and willingness to stick with e-learning. These ideas, which originated in the expectation confirmation and technology acceptance theories, aim to explain the relationships between students' satisfaction with e-learning and their preparedness to utilize it in the future.

According to the research, user satisfaction is closely correlated with their propensity to utilize the system going forward, with confirmation and perceived utility being two important aspects impacting user satisfaction. Furthermore, factors impacting the continuing use of electronic learning systems in academic libraries were investigated using a structural equation model to examine the causal links between these factors and outcome variables. The results confirm that perceived value and satisfaction with the system can more effectively promote users' willingness to continue use (Hair et al., 2016).

2. Literature Review

2.1 Course Content Quality

Al-Adwan et al. (2019) believe that the definition of course content quality should be grounded in students' requirements, practicality, value, accuracy, completeness, and inherent effectiveness. For students, course content quality can serve as a criterion for assessing the benefits and utility of online course management systems (Tella, 2011). Course content quality is a crucial indicator of the quality of electronic learning systems. The practicality of course content determines the actual needs of students in e-learning (Cheng, 2012). They believe that the quality of the course material is the most important element influencing students' desire to learn (Cheng, 2020). By combining the perspectives of various scholars, I see that course content quality not only satisfies students' fundamental needs but also serves as a crucial criterion for assessing the quality of electronic learning systems. High-quality course content can better meet students' learning requirements and enhance the practicality and value of online course management systems,

thereby inspiring students' continuous willingness to learn.

H1: Course content quality has a significant impact on confirmation.

H2: Course content quality has a significant impact on satisfaction.

2.2 Confirmation

Confirmation refers to users' e-learning expectations (Bhattacharjee, 2001). According to Gupta et al. (2020), Confirmation indicates that the performance of e-learning is in line with the previously anticipated results. Confirmation is the endorsement of a product's real features and attributes by its users (McKinney et al., 2002). Confirmation involves comparing and evaluating users' expectations and experiences regarding information or service benefits and effects. This concept emphasizes the importance of products or services in meeting user needs, expectations, and values, providing valuable insights for enhancing user satisfaction and loyalty. Investigating Confirmation's particular uses and functions in diverse fields on this foundation will enhance comprehension of user behavior and requirements, offering strong backing for raising the caliber of goods and services.

H3: Confirmation has a significant impact on satisfaction.

2.3 Perceived Value

Perceived value is defined as the difference between perceived benefits and expenses, according to McDougall and Levesque (2000). When consumers use a product, they form an extensive and subjective assessment known as perceived value. This evaluation differs from the product's objective value since it reflects the users' subjective assessment of its value (Zeithaml, 1988). Xu et al. (2015) regard perceived value as a subjective evaluation of utilitarianism, which means that users believe a product has value as long as it meets their needs, regardless of the cost. They characterize perceived value as the subjective assessment of users' emotions during product usage, which can directly impact users' inclination to continue using the product and their overall satisfaction (Gallarza et al., 2017). Perceived value is a complex and individualized assessment that greatly influences user choices and actions.

H4: Perceived value has a significant impact on satisfaction.

2.4 Perceived Easiness

According to Gunawan et al. (2019), perceived easiness is the conviction that utilizing a specific technology requires no extra work on the user's side. Perceived easiness is the extent to which an individual believes utilizing information technology will simplify tasks and require less effort (Olivia & Marchyta, 2022). In conclusion, perceived easiness

encompasses the feeling of relaxation experienced by users without any external influence, as well as the confidence in saving time and effort and reducing the burden while using new products. The perceived easiness is manifested in users' acceptance of new products, enabling them to reduce the operational pressure and easily cope with various procedures during use.

H5: Perceived easiness has a significant impact on satisfaction.

2.5 Perceived Usefulness

The study defines perceived utility as the user's belief that utilizing the IB website will enhance their ability to do the activity at hand. Perceived usefulness directly affects customers' incentive to persist with IB services and desire to continue using them, according to Hoehle et al. (2012). Perceived usefulness is considered a reliable indicator for analyzing user behavior before and after adoption (Venkatesh et al., 2003). Perceived usefulness is the extent to which users feel their productivity has increased due to using something. According to Davis (1989), perceived usefulness refers to the degree to which users think a particular item would boost their productivity at work. As per Kim et al. (2019), perceived usefulness is important when evaluating technical goods and services. According to Mishra et al. (2023), it is defined as the extent to which an individual believes that utilizing a particular system will increase the productivity of their work. Perceived usefulness is the degree to which potential users believe an innovation or technology enhances performance (Gani et al., 2021). Numerous studies have shown that how beneficial users believe e-learning systems are is a key factor in determining how successful the systems are.

H6: Perceived usefulness has a significant impact on satisfaction.

2.6 Satisfaction

According to Oliver (1980), satisfaction results from a person's favorable assessment and sentiment on a tool's general performance and service. Satisfaction can be defined as people's positive feelings and a high sense of trust in a particular product (Rust & Oliver, 1994). Satisfaction is a strong indicator for tourists when recommending and considering a return to a destination (Hung et al., 2021). In this context, satisfaction highlights users' recognition of the product and reflects people's trust and satisfaction in realizing their expectations and ideals.

H7: Satisfaction has a significant impact on continuance intention.

2.7 Continuance Intention

The user's choice to stick with a particular information technology they previously utilized is known as continuation intention (Nabavi et al., 2016). Once a technology or service has been adopted, users' tendency to keep using it is known as continuance intention. It signifies the user's willingness to persist in using, indicating that they have moved beyond the acceptance phase and are prepared to continue investing time, effort, or resources to reap the benefits of the technology or service (Bhattacharjee, 2001). Amoroso and Lim (2017) From their perspective, continuity intention characterizes a person's intention to remain with a specific technology, service, or commodity. According to Shang and Wu (2017), Continuous intention is defined as the intent or notion that users have regarding the ongoing use of e-learning.

3. Research Methods and Materials

3.1 Research Framework

This research examines the degree of satisfaction and desire among university students in Jiangxi Province to continue using e-learning. Researchers utilized three research models, ECM and TAM, along with three major theoretical frameworks that support and enhance the study. Seven variables are included in this study's conceptual framework: course material quality, satisfaction, perceived usefulness, perceived value, perceived ease of use, and intention to continue. These variables were employed to understand more about the elements influencing college students' happiness with and desire to continue using e-learning in Jiangxi, China.

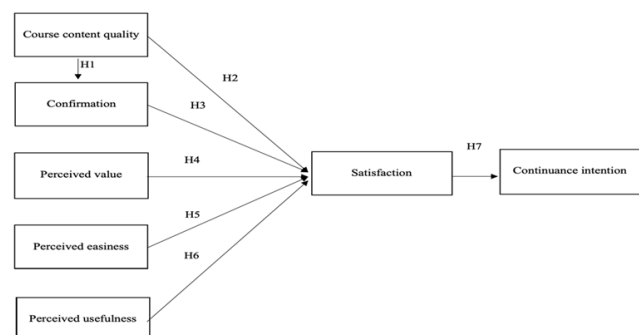


Figure 1: Conceptual Framework

H1: Course content quality has a significant impact on the confirmation.

H2: Course content quality has a significant impact on satisfaction.

H3: Confirmation has a significant impact on satisfaction.

H4: Perceived value has a significant impact on satisfaction.

H5: Perceived easiness has a significant impact on the satisfaction.

H6: Perceived usefulness has a significant impact on the satisfaction.

H7: Satisfaction has a significant impact on continuance intention.

3.2 Research Methodology

This approach emphasizes empirical verification by analyzing and testing the causal links and influencing factors between variables using survey data. Building upon quantitative research and previous studies, the author proposes a conceptual model for the present research with seven variables and seven hypotheses. A survey questionnaire, comprising electronic and paper versions using the WeChat Mini Program Questionnaire Star, is designed to collect data on the satisfaction and continuance intention of E-learning among students at a university in Jiangxi Province. The target population consists of undergraduate students at the university, and a sampling survey method is employed. Before forming the questionnaire, the author underwent various procedures, including selecting the target population, sampling units, sample size determination, literature review, questionnaire content planning, expert review, questionnaire audit, formal questionnaire distribution, and utilization.

3.3 Population and Sample Size

The main emphasis of this study is Jiangxi, China, college students' satisfaction with and intention to continue e-learning. Therefore, the target population consists of students from the Nanchang Institute of Science and Technology in Jiangxi who have experience with e-learning.

5,737 Junior college students at Nanchang Institute of Science and Technology. The author will conduct a sampling survey on these two groups. In terms of the sampling method, the author has chosen a multi-stage sampling method to assist in the sampling process, aiming to obtain more accurate research results. Researchers can secure the statistical reliability and representativeness of the study outcomes by determining the right sample size and assessing the responses. To accomplish this paper's research tasks, the minimum required sample size is 425. For this study, the author has chosen a sample size of 500 undergraduate and college students to gain a more comprehensive understanding of the research.

3.4 Sampling Technique

Purposive sampling is widely used in research, particularly in case studies and within specific professional fields (Campbell et al., 2020). In contrast, stratified random sampling, a probabilistic technique, involves dividing the population into non-overlapping subgroups, or strata, and then randomly sampling from each stratum (Aoyama, 1954). In this study, the target population includes junior college students across various educational levels. To ensure representativeness within each stratum and to capture the diversity of feedback from students with different educational backgrounds, the researchers chose stratified random sampling. To obtain accurate statistical data, 500 junior college students from a university in Jiangxi province were selected for the sampling study.

Table 1: Sample Units and Sample Size

Three Main Grades	Junior college student user count	Propositional Sample Size
Fresh Year	2,354	205
Sophomore Year	1,685	147
Junior Year	1,698	148
Total	5,737	500

Source: Constructed by author

4. Results and Discussion

4.1 Demographic Information

Among the 500 associate degree students in higher education who participated in the survey, the grade distribution is as follows: first-year students accounted for 41%, second-year students for 29.4%, and third-year students for 29.6%. Regarding professional background, 26.8% of the students were majoring in E-commerce, 37.8% in big data and Accounting, 17.2% in Marketing management, 10% in Business administration, and 8.2% in Big Data Management and Application. Regarding mobile learning, 51.5% of students, 51.5%, reported using E-learning tools five times a week, while 48.5% of students used them only once a week.

Table 2: Demographic Profile

Demographic and General Data (N=500)		Frequency	Percentage
Level	Junior college student	500	100%
Grade	Year 1	205	41%
	Year 2	147	29.4%
	Year 3	148	29.6%
Major	E-commerce	134	26.8%
	Big Data and Accounti	189	37.8%
	Marketing management	86	17.2%
	Business Administration	50	10%

Demographic and General Data (N=500)		Frequency	Percentage
	Big Data Management	41	8.2%
Frequency of using mobile learning	Regular (5 times a week)	260	51.5%
	Rare (Once a week)	240	48.5%

4.2 Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) is a crucial analytical instrument for validating constructs. According to Ullman and Bentler (2012), the findings can offer compelling proof of the theoretical constructs' discriminant validity and convergence. Convergence manifests in the strong correlation

between indicators and constructs that are similar or overlapping in theory (Thompson, 2004).

According to the data in Table 3, the factor loadings range from 0.707 to 0.859, all exceeding the threshold of 0.5, indicating a strong association with the corresponding latent variables. The Composite Reliability (CR) values range from 0.807 to 0.919, all exceeding the minimum standard of 0.7, indicating the measurement tools' high internal consistency. Additionally, the Average Variance Extracted (AVE) values range from 0.582 to 0.699, all greater than 0.5, further demonstrating good performance in terms of convergent validity. Overall, perceived enjoyment, attitude, and usage intention variables exhibit strong convergent validity.

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

Variables	Source of Questionnaire (Measurement Indicator)	No. of Item	Cronbach's Alpha	Factors Loading	CR	AVE
Course content quality (CCQ)	Cheng (2020)	5	0.896	0.761-0.827	0.896	0.633
Confirmation (C)	Oh and Ma (2018)	3	0.821	0.707-0.829	0.823	0.609
Perceived value (PV)	Isik (2008)	3	0.807	0.759-0.765	0.807	0.582
Perceived easiness (PE)	Davis (1989)	3	0.874	0.833-0.839	0.874	0.699
Perceived usefulness (PU)	Cheok and Wong (2015)	3	0.825	0.750-0.828	0.828	0.617
Satisfaction (S)	Larsen et al. (2009)	5	0.919	0.804-0.859	0.919	0.694
Continuance intention (CI)	Chiu et al. (2007)	4	0.900	0.825-0.845	0.901	0.694

The following indicator values: CMIN/DF = 1.849, GFI = 0.927, AGFI = 0.908, NFI = 0.936, CFI = 0.969, TLI = 0.964, and RMSEA = 0.041, indicating that the model fits the data from the diploma student group well.

measurement items of different concepts is low, it indicates sufficient differences, and the measurement tool demonstrates discriminant validity.

Table 4: Goodness of Fit for Measurement Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	< 5.00 (Al-Mamary & Shamsuddin, 2015; Awang, 2012)	514.069/278 or 1.849
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.927
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.908
NFI	≥ 0.80 (Wu & Wang, 2006)	0.936
CFI	≥ 0.80 (Bentler, 1990)	0.969
TLI	≥ 0.80 (Sharma et al., 2005)	0.964
RMSEA	< 0.08 (Pedroso et al., 2016)	0.041
Model Summary		Acceptable Model Fit

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = goodness-of-fit index, AGFI = adjusted goodness-of-fit index, NFI = normalized fit index, CFI = comparative fit index, TLI = Tucker Lewis index, and RMSEA = root mean square error of approximation

Discriminant Validity refers to whether there are sufficient differences between different concepts or constructs within a measurement tool to distinguish them (Harris, 2004). The discriminant validity assessment examines the correlation between measurement items of different concepts, such as calculating Pearson or Spearman correlation coefficients. If the correlation between

Table 5: Discriminant Validity

	CCQ	C	PV	PE	PU	S	CI
CCQ	0.782						
C	0.472	0.807					
PV	0.520	0.412	0.730				
PE	0.570	0.544	0.658	0.770			
PU	0.443	0.367	0.482	0.453	0.782		
S	0.619	0.503	0.522	0.627	0.508	0.777	
CI	0.493	0.426	0.433	0.490	0.547	0.558	0.802

Note: The diagonally listed value is the AVE square roots of the variables
Source: Created by the author.

4.3 Structural Equation Model (SEM)

Savalei and Bentler (2006) pointed out that Structural Equation Modeling (SEM) is a statistical technique used for analyzing complex multivariate data. In fields such as marketing, SEM is widely recognized for its ability to handle multiple independent and dependent variables simultaneously and for allowing researchers to propose hypothetical structures involving latent variables. Table 5. shows the fit statistics of the structural model for junior college students before adjustments: the Chi-square to degrees of freedom ratio (CMIN/DF) is 3.245, the Goodness-

of-Fit Index (GFI) is 0.856, the Adjusted Goodness-of-Fit Index (AGFI) is 0.821, the Normed Fit Index (NFI) is 0.885, the Comparative Fit Index (CFI) is 0.917, the Tucker-Lewis Index (TLI) is 0.905, and the Root Mean Square Error of Approximation (RMSEA) is 0.067. Since the GFI value did not reach the standard of 0.85 or above, the model is considered to have poor fit and is unacceptable.

Table 6: Goodness of Fit for Structural Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	< 5.00 (Al-Mamary & Shamsuddin, 2015; Awang, 2012)	918.412/283 or 3.245
GFI	> 0.85 (Sica & Ghisi, 2007)	0.856
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.821
NFI	≥ 0.80 (Wu & Wang, 2006)	0.885
CFI	≥ 0.80 (Bentler, 1990)	0.917
TLI	≥ 0.80 (Sharma et al., 2005)	0.905
RMSEA	≤ 0.08 (Pedroso et al., 2016)	0.067
Model Summary		Acceptable Model Fit

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = goodness-of-fit index, AGFI = adjusted goodness-of-fit index, NFI = normalized fit index, CFI = comparative fit index, TLI = Tucker Lewis index, and RMSEA = root mean square error of approximation

4.4 Research Hypothesis Testing Result

Using p-values, the results are assessed to determine whether the regression analysis results align with the hypotheses proposed by the researcher. Standardized path coefficients are used to measure the strength of the effect of independent variables on dependent variables. These seven hypotheses have been tested based on Table 7. Specifically, when students choose e-learning, their perceived usefulness and ease of use positively influence their attitude toward online learning. In contrast, the compatibility of mobile learning affects their perception of enjoyment from the mobile learning experience. Additionally, compatibility, perceived enjoyment of mobile learning, attitude, cognitive needs, and social influence all directly impact students' intention to use mobile learning.

Table 7: Hypothesis Results of the Structural Equation Modeling

Hypothesis	(β)	t-value	Result
H1: CCQ→C	0.378	7.154*	Supported
H2: CCQ→S	0.111	2.192*	Supported
H3: C→S	0.193	3.647*	Supported
H4: PV→S	0.213	4.314*	Supported
H5: PE→S	0.286	5.984*	Supported
H6: PU→S	0.157	3.315*	Supported
H7: S→CI	0.325	6.547*	Supported

Note: * p<0.05

Source: Created by the author

The study, which focused on junior college students, discovered that course content quality significantly influences confirmation. The results of the initial sample data regression analysis corroborate this conclusion. According to the t-value of 7.154 and the standardized path coefficient of 0.378 for hypothesis H1, the quality of the course material significantly influences students' affirmation of e-learning. Furthermore, according to Mtebe and Raisamo (2020), excellent course materials might help junior college students concentrate more on their studies, which will help them meet their learning objectives and receive validation.

Regression analysis of the sample data in this study showed that the quality of the course content significantly impacted junior college students' satisfaction with course content. With a corresponding t-value of 2.192 and a standardized path coefficient of 0.111 for hypothesis H2, the data suggest that course content quality significantly determines students' happiness with e-learning. Junior college students' satisfaction will thus significantly improve if they believe that high-quality course material can improve their academic achievement. According to Lee (2006) research, students' satisfaction with e-learning increases when they have access to easily navigable, content-rich courses that fulfill their expectations and are updated regularly.

With a t-value of 3.647 and a normalized path coefficient for H3 of 0.193, confirmation considerably impacts reported satisfaction. The study supports Bhattacharjee (2001) findings by showing that junior college students' happiness with e-learning is influenced by confirmation. According to the research, undergraduates are more likely to feel satisfied and stick with e-learning if they think it lives up to their expectations.

Perceived value significantly influences satisfaction with e-learning. Specifically, the standardized path coefficient for hypothesis H4 is 0.213, with a corresponding t-value of 4.314. Based on the research by McDougall and Levesque (2000), this hypothesis is supported, indicating that perceived value has a significant impact on satisfaction. In other words, when junior college students perceive that the outcomes from e-learning are highly valued, their satisfaction increases, leading to a greater inclination to continue using the e-learning platform.

Moreover, perceived easiness also significantly affects satisfaction; the standardized path coefficient for hypothesis H5 is 0.286, with a t-value of 5.984. The study by Phuong et al. (2020) also confirmed this, pointing out that in the e-learning environment, users' perception of ease of use can enhance their satisfaction. This suggests that when junior college students find the e-learning platform easy to operate and use, their satisfaction with it is enhanced, potentially increasing their willingness to continue using it.

Perceived usefulness has a particularly significant impact on satisfaction; the standardized path coefficient for hypothesis H6 is 0.157, with a t-value of 3.315. This result indicates that the perceived usefulness of e-learning can enhance satisfaction. Seddon and Kiew (1994) explored the hypothesis regarding the relationship between perceived usefulness and satisfaction, which is also significantly demonstrated in this study. It can be understood that junior college students' satisfaction with e-learning is largely due to the system's ability to provide them with useful knowledge, enabling them to acquire more information.

Satisfaction significantly influences the intention to continue using e-learning, with a standardized path coefficient of 0.325 and a t-value of 6.547 for hypothesis H7. This data indicates that satisfaction is key to determining whether users will continue using the e-learning platform. Research by Zhang et al. (2015) and Chen (2010) supports this hypothesis. In summary, satisfaction with e-learning among junior college students will enhance their willingness to continue using the platform.

5. Conclusion and Recommendation

5.1 Conclusion and Discussion

This paper generally explores the key factors influencing the satisfaction and continued use intentions of university students in Jiangxi, China, when engaging in e-learning. With the progression of the times and continuous advancements in information technology, e-learning has become the preferred choice for most learners, especially during the widespread adoption of online learning during the COVID-19 pandemic. E-learning has greatly complemented traditional teaching methods. Therefore, studying the factors that influence university students' satisfaction with and continued use intentions for e-learning is crucial for understanding the advantages of online learning. E-learning offers flexibility and convenience unmatched by traditional education models and provides high-quality, personalized learning experiences, which have become integral to today's educational landscape. The author proposes seven hypotheses to examine the direct and indirect relationships between variables in this study. In the earlier chapters, this study integrates two major theories and three theoretical frameworks from previous research to form the study's conceptual framework.

According to the first framework study, students' intention to use cloud-based e-learning systems is significantly influenced by how well they perceive the

course material. According to the Expectation Confirmation Model (ECM), the study discovered that students' perceptions of interaction favorably impact their perceptions of confirmation, contentment, and perceived usefulness (PU), all of which are directly related to their desire to stick with the system. The findings suggest that encouraging the adoption and continuous use of e-learning platforms requires improving course content and engagement (Cheng, 2020). The second framework shows that users' satisfaction and perceived value significantly impact students' intention to stick with e-learning platforms (Chang, 2013). The third framework's study results indicate that users' perceived usefulness has a significantly positive impact on their satisfaction with e-learning, and perceived ease of use also has the same positive impact on e-learning satisfaction (Salimon et al., 2021).

Based on the above three frameworks, a fourth framework was integrated, encompassing course content quality, confirmation, perceived usefulness, perceived value, and perceived ease of use. These variables have been proven to influence users' satisfaction with e-learning and intention to continue using it.

5.2 Recommendation

The study's findings confirm that the quality of course content, confirmation, perceived value, perceived ease of use, and perceived usefulness positively influence student satisfaction with online learning and their intention to continue using it. These insights lead to several recommendations for online learning providers, researchers, educators, and institutions to enhance their platforms and course content, ultimately boosting student satisfaction and continued engagement.

Regarding perceived easiness, design a user-friendly interface that allows students to navigate and use the platform's features effortlessly. Provide timely and efficient technical support to resolve issues and ensure a smooth learning experience. Optimize the platform's performance across various devices to enable students to learn anytime and anywhere. In terms of practical course design, create content closely related to real-life applications and career development to ensure students can apply what they learn in their actual work. Offer rich case studies and practical projects to help students translate theoretical knowledge into practical skills and invite industry experts to lecture and participate in discussions, providing students with firsthand industry information and experience. By implementing these measures, online learning platforms can become more engaging and effective, thus enhancing student satisfaction and their intention to continue using the platform.

5.3 Limitation and Further Study

This study explores various factors influencing college students' satisfaction with e-learning and their intention to continue using it, offering practical insights for e-learning providers, researchers, educators, and institutions. However, it is important to recognize certain limitations of this research.

Firstly, the study may be limited by the sample selection. If the sample is concentrated in specific regions or academic disciplines, it might not fully represent the e-learning experiences of all college students. Future research could address this by broadening the sample to include more regions and disciplines, leading to more representative findings.

Secondly, while the study examines multiple aspects of the e-learning experience, there may be other relevant variables that were not explored, such as individual learning motivation, social support, and the learning environment. These factors could also play a significant role in shaping students' satisfaction and their intention to continue using online learning. Future research could investigate these additional factors to gain a more comprehensive understanding.

Lastly, although the conclusions and recommendations from this study provide valuable guidance for enhancing current e-learning platforms, the effectiveness of these recommendations may differ depending on the technological environments and educational contexts. Therefore, e-learning providers should customize and adapt these recommendations to suit local conditions.

References

- Al-Adwan, A. S., Albelbisi, N. A., Hujran, O., Al-Rahmi, W. M., & Al-Rahmi, A. M. (2019). Developing a comprehensive understanding of the acceptance of mobile learning in higher education: A systematic review and structural equation modeling. *Education and Information Technologies*, 24(4), 2675-2697.
- Al-Mamary, Y. H., & Shamsuddin, A. (2015). Testing of the technology acceptance model in context of Yemen. *Mediterranean Journal of Social Sciences*, 6(4), 268-273. <https://doi.org/10.5901/mjss.2015.v6n4s1p268>
- Amoroso, D. L., & Lim, R. (2017). The mediating effect of habit on continuance intention. *International Journal of Information Management*, 37(6), 693-702. <https://doi.org/10.1016/j.ijinfomgt.2017.05.003>
- Aoyama, H. (1954). A study of stratified random sampling. *Ann. Inst. Stat. Math*, 6(1), 1-36. <https://doi.org/10.1007/bf02960514>
- Awang, Z. (2012). *Structural equation modeling using AMOS graphic* (1st ed.). Penerbit Universiti Teknologi MARA.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107(2), 238-246. <https://doi.org/10.1037/0033-2909.107.2.238>
- Bhattacharjee, A. (2001). Understanding information systems continuance: An expectation-confirmation model. *MIS Quarterly*, 25(3), 351-370. <https://doi.org/10.2307/3250921>
- Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., & Walker, K. (2020). Purposive sampling: complex or simple? Research case examples. *Journal of research in Nursing*, 25(8), 652-661. <https://doi.org/10.1177/1744987120927206>
- Chang, C. C. (2013). Exploring the determinants of e-learning systems continuance intention in academic libraries. *Library Management*, 34(1/2), 40-55. <https://doi.org/10.1108/01435121311298261>
- Chen, C. W. (2010). Impact of quality antecedents on taxpayer satisfaction with online tax-filing systems—An empirical study. *Information & Management*, 47(5-6), 308-315. <https://doi.org/10.1016/j.im.2010.06.005>
- Cheng, Y. M. (2012). The effects of information systems quality on nurses' acceptance of the electronic learning system. *Journal of Nursing Research*, 20(1), 19-31. <https://doi.org/10.1097/jnr.0b013e31824777aa>
- Cheng, Y. M. (2020). Students' satisfaction and continuance intention of the cloud-based e-learning system: roles of interactivity and course quality factors. *Education+ Training*, 62(9), 1037-1059. <https://doi.org/10.1108/et-10-2019-0245>
- Cheok, M. L., & Wong, S. L. (2015). Predictors of e-learning satisfaction in teaching and learning for school teachers: A literature review. *International Journal of Instruction*, 8(1), 75-90. <https://doi.org/10.12973/iji.2015.816a>
- Chiu, C. M., Sun, S. Y., Sun, P. C., & Ju, T. L. (2007). An Empirical Analysis of the Antecedents of Web-based Learning Continuance. *Computers & Education*, 49(4), 1224-1245. <https://doi.org/10.1016/j.compedu.2006.01.010>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340. <https://doi.org/10.2307/249008>
- Gallarza, M., Gil-Saura, I., & Arteaga-Moreno, F. (2017). Exploring competing models on sacrifices, quality, value, satisfaction and loyalty with PLS and partial correlations. *European Journal of Tourism Research*, 17(17), 116-135. <https://doi.org/10.54055/ejtr.v17i.297>
- Gani, A., Mohammed, M. N., & Abdulrahman, A. (2021). Understanding the impact of COVID-19 pandemic on virtual learning in higher education institutions. *Journal of Educational Technology Systems*, 50(2), 129-148. <https://doi.org/10.1177/00472395211000117>
- Gunawan, F., Ali, M. M., & Nugroho, A. (2019). Analysis of the effects of perceived ease of use and perceived usefulness on consumer attitude and their impacts on purchase decision on PT Tokopedia in Jabodetabek. *European Journal of Business and Management Research*, 4(5), 23-45. <https://doi.org/10.24018/ejbmr.2019.4.5.100>
- Gupta, A., Yousaf, A., & Mishra, A. (2020). How pre-adoption expectancies shape post-adoption continuance intentions: An extended expectation-confirmation model. *International Journal of Information Management*, 52, 102094. <https://doi.org/10.1016/j.ijinfomgt.2020.102094>

- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). SAGE Publications.
- Harris, R. D. (2004). Organizational task environments: An evaluation of convergent and discriminant validity. *Journal of Management Studies*, 41(5), 857-882. <https://doi.org/10.1111/j.1467-6486.2004.00456.x>
- Hoehle, H., Huff, S., & Goode, S. (2012). The role of continuous trust in information systems continuance. *Journal of Computer Information Systems*, 52(4), 1-9.
- Hung, V. V., Dey, S. K., Vaculcikova, Z., & Anh, L. T. H. (2021). The influence of tourists' experience on destination loyalty: A case study of Hue City, Vietnam. *Sustainability*, 13(16), 8889. <https://doi.org/10.3390/su13168889>
- Isik, H. (2008). The Effects of Combination of the History Subjects with Local History on the Success of Students in Primary School. *Uluslararası Sosyal Arastirmalar Dergisi*, 2(3), 290-310.
- Kim, T., Chiu, W., & Chow, M. K. F. (2019). Sport technology consumers: Segmenting users of sports wearable devices based on technology readiness. *Sport, Business and Management: An International Journal*, 9(2), 134-145. <https://doi.org/10.1108/sbm-02-2018-0011>
- Larsen, T. J., Sørenbø, A. M., & Sørenbø, Ø. (2009). The role of task-technology fit as users' motivation to continue information system use. *Computers in Human behavior*, 25(3), 778-784. <https://doi.org/10.1016/j.chb.2009.02.006>
- Lee, Y. C. (2006). An empirical investigation into factors influencing the adoption of an e-learning system. *Online information review*, 30(5), 517-541. <https://doi.org/10.1108/14684520610706406>
- McDougall, G. H., & Levesque, T. (2000). Customer satisfaction with services: putting perceived value into the equation. *Journal of services marketing*, 14(5), 392-410. <https://doi.org/10.1108/08876040010340937>
- McKinney, V., Yoon, K., & Zahedi, F. M. (2002). The measurement of web-customer satisfaction: An expectation and disconfirmation approach. *Information systems research*, 13(3), 296-315. <https://doi.org/10.1287/isre.13.3.296.76>
- Mishra, A., Shukla, A., Rana, N. P., Currie, W. L., & Dwivedi, Y. K. (2023). Re-examining post-acceptance model of information systems continuance: A revised theoretical model using MASEM approach. *International Journal of Information Management*, 68, 102571. <https://doi.org/10.1016/j.ijinfomgt.2022.102571>
- Mtebe, J. S., & Raisamo, R. (2020). Examining factors influencing the use of e-learning systems in higher education in Tanzania. *International Journal of Educational Technology in Higher Education*, 17(1), 1-15.
- Nabavi, A., Taghavi-Fard, M. T., Hanafizadeh, P., & Taghva, M. R. (2016). Information technology continuance intention: A systematic literature review. *International Journal of E-Business Research (IJEER)*, 12(1), 58-95. <https://doi.org/10.4018/ijeer.2016010104>
- Oh, J. H., & Ma, J. (2018). Multi-stage expectation-confirmation framework for salespeople expectation management. *Journal of Business & Industrial Marketing*, 33(8), 1165-1175. <https://doi.org/10.1108/jbim-01-2018-0027>
- Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17(4), 460-469. <https://doi.org/10.1177/002224378001700405>
- Olivia, M., & Marchyta, N. K. (2022). *The influence of perceived ease of use and perceived usefulness on E-wallet continuance intention: intervening role of customer satisfaction* [Doctoral dissertation]. Petra Christian University.
- Pedroso, C. B., Da Silva, A. L., & Tate, W. L. (2016). Sales and Operations Planning (S&OP): Insights from a multi-case study of Brazilian Organizations. *International Journal of Production Economics*, 182, 213-229. <https://doi.org/10.1016/j.ijpe.2016.08.035>
- Phuong, N. N. D., Luan, L. T., Dong, V. V., & Khanh, N. L. N. (2020). Examining customers' continuance intentions towards e-wallet usage: The emergence of mobile payment acceptance in Vietnam. *The Journal of Asian Finance, Economics and Business*, 7(9), 505-516. <https://doi.org/10.13106/jafeb.2020.vol7.no9.505>
- Rust, R. T., & Oliver, R. L. (1994). Service quality: Insights and managerial implications from the frontier. In R. T. Rust & R. L. Oliver (Eds.), *Service quality: New directions in theory and practice* (pp. 1-20). SAGE Publications.
- Salimon, M. G., Sanuri, S. M. M., Aliyu, O. A., Perumal, S., & Yusr, M. M. (2021). E-learning satisfaction and retention: A concurrent perspective of cognitive absorption, perceived social presence and technology acceptance model. *Journal of Systems and Information Technology*, 23(1), 109-129. <https://doi.org/10.1108/jsit-02-2020-0029>
- Savalei, V., & Bentler, P. M. (2006). Structural equation modeling. *The handbook of marketing research: Uses, misuses, and future advances*, 330, 36.
- Seddon, P. B., & Kiew, M. Y. (1994). A partial test and development of the DeLone and McLean model of information systems success. *Australian Journal of Information Systems*, 4(1), 90-109. <https://doi.org/10.7/ajis.v4i1.253>
- Shang, D., & Wu, W. (2017). Understanding mobile shopping consumers' continuance intention. *Industrial Management & Data Systems*, 117(1), 213-227.
- Sharma, G. P., Verma, R. C., & Pathare, P. (2005). Mathematical modeling of infrared radiation thin layer drying of onion slices. *Journal of Food Engineering*, 71(3), 282-286. <https://doi.org/10.1016/j.jfoodeng.2005.02.010>
- Sica, C., & Ghisi, M. (2007). The Italian versions of the Beck Anxiety Inventory and the Beck Depression Inventory-II: Psychometric properties and discriminant power. In M. A. Lange (Ed.), *Leading-edge psychological tests and testing research* (pp. 27-50). Nova Science Publishers.
- Tella, A. (2011). Reliability and factor analysis of a blackboard course management system success: A scale development and validation in an educational context. *Journal of Information Technology Education: Research*, 10(1), 55-80.

- Thompson, B. (2004). *Exploratory and confirmatory factor analysis: Understanding concepts and applications*. American Psychological Association. <https://doi.org/10.1037/10694-000>
- Ullman, J. B., & Bentler, P. M. (2012). Structural equation modeling. In J. R. Levesque (Ed.), *Handbook of psychology* (pp. 359-386). Wiley.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478. <https://doi.org/10.2307/30036540>
- Wu, J. H., & Wang, Y. M. (2006). Measuring KMS success: A respecification of the DeLone and McLean's model. *Information and Management*, 43(6), 728-739. <https://doi.org/10.1016/j.im.2006.05.002>
- Xu, C., Peak, D., & Prybutok, V. (2015). A customer value, satisfaction, and loyalty perspective of mobile application recommendations. *Decision Support Systems*, 79, 171-183. <https://doi.org/10.1016/j.dss.2015.08.008>
- Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. *Journal of marketing*, 52(3), 2-22. <https://doi.org/10.2307/1251446>
- Zhang, H., Lu, Y., Gupta, S., & Gao, P. (2015). Understanding group-buying websites continuance: An extension of expectation confirmation model. *Internet research*, 25(5), 767-793. <https://doi.org/10.1108/intr-05-2014-0127>