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Abstract

This study aims to examine the crucial factors that significantly influence college undergraduate students' satisfaction and continuance intention to use E-Learning at a public university in Dezhou, China. The conceptual framework was developed from previous studies and finalized with key constructs: perceived ease of use, perceived usefulness, system quality, information quality, self-efficacy, satisfaction, and continuation intention. The target population is 493 undergraduates in four majors at a public college in Dezhou. The research applied a quantitative method using questionnaires distributed to the target group. The sampling techniques applied in this study include purposive, quota, and convenience sampling. The data were analyzed using confirmatory factor analysis (CFA) and structural equation modeling (SEM). The findings demonstrate that satisfaction strongly influenced continuance intention. Information quality, perceived ease of use, system quality, and perceived usefulness significantly impact satisfaction. Perceived ease of use and self-efficacy has a significant impact on perceived usefulness. University managers and educators should focus on enhancing student satisfaction and continuance intention to use e-learning more effectively by improving information and system quality in their institutions.

Keywords: E-Learning, System Quality, Information Quality, Satisfaction, Continuance Intention

Introduction

E-learning is the process of teaching and learning via the Internet or other digital resources. It creates a new learning strategy by fully using the abundance of resources made accessible by modern information technology and the new communication mechanisms in the learning environment. This learning technique will profoundly disrupt traditional teaching, changing how lessons are organized and how professors and students communicate with one another.

Internet and education may enhance the conventional authority connection between instructors and students, lessen students' teacher fear, increase effective communication

between teachers and students, and increase students' engagement in class, according to real Internet teaching proof (Lu, 2022). The current inescapable development trend in education is integrating the Internet and learning. Teaching in the e-learning mode includes a learning management system with a range of information tools and a wealth of information resources in addition to teaching using multimedia courseware and basic human-computer interaction. E-learning is a new educational approach that provides a new learning environment for computer-based instruction (Lan & Luo, 2022).

According to the literature, e-learning in Chinese universities is mostly demonstrated in business model, market size, and division of labor in the industrial chain throughout the golden decade of the explosive development of e-learning. There is a need for improvement in the college instructors' online teaching abilities, the adaptability of online teaching strategies, online teacher-student interaction, and online assignments and corrections. According to undergraduates' learning continuance intention surveys, productivity and instructional effectiveness are strongly correlated (Lan & Luo, 2022).

To construct a questionnaire that accurately captures the current state of e-learning continuance intention in China, based on prior research, this study examined the factors that have a major impact on using E-learning for students. Given the reasons above, a quantitative study is needed to examine what factors determine the continuance intention (CI) of using e-learning in public universities in Dezhou, China.

Literature Review

E-Learning in China

Several schools and universities in China are developing academically sound on-campus learning systems. These platforms are typically created after considering several factors, such as student learning aptitude, instructor knowledge transfer aptitude, preexisting instructional materials, and technological capabilities.

However, there are still some issues with online education in China, the most significant of which is the need for more academic research on online education. There were almost 576,200 academic publications in China's higher education sector, including journal articles and dissertations, as of March 2023, according to search results from China National Knowledge Network (CNKI), the country's most influential official academic website. Just 20,092 of them, mostly qualitative research, had an E-learning component. Few research was quantitative in nature. More research must be done using confirmatory factor analysis and structural equation modeling as statistical analytic techniques.

Information Quality

To satisfy learners' information demands throughout their quest for knowledge, information quality plays an important in this regard. The notion of information quality relates to the caliber of the information or material offered in the information system (Dubey & Sahu, 2023). Information quality is the main criterion for measuring the effectiveness of computer information systems. The user's view of the carrier transmitting data information is called the "information quality" concept based on digital libraries. Precision, format, responsiveness, ease, and completeness are all aspects of good information. Information quality significantly

impacts user satisfaction when using an e-learning system. Hence, information quality can predict user pleasure while utilizing a digital library (Masrek & Gaskin, 2016). When properly understood, information quality is the visible content displayed in the system and is often assessed in terms of relevance and security. These findings demonstrate that confidence is now a requirement for user happiness during the use process (Tam et al., 2020). Hence, a hypothesis is set:

Hypothesis 1: Information quality has a significant impact on satisfaction.

Perceived Ease of Use

According to several studies, perceived usability has been linked to students' overall satisfaction with e-learning technologies. Research has shown that users' satisfaction with e-learning products is influenced by their perceived usability (Ma et al., 2017). Perceived ease of use is when consumers choose a learning product because they think it will be beneficial. When users pick a learning product because they think it will be practical it indicates perceived ease of use. Because of its various features, including a user-friendly interface and excellent material, an e-school platform may give students a sense of ease of use. These features all impact students' happiness (Cheng, 2021). The choice is made because it is believed to be useful and effective. Users' experiences with online learning show how important perceived usability is for assuring users' ultimate enjoyment (Masrek & Gaskin, 2016). Thus, the researcher formulates the hypotheses below:

Hypothesis 2: Perceived ease of use has a significant impact on satisfaction.
Hypothesis 3: Perceived ease of use has a significant impact on perceived usefulness.

Self-Efficacy

Students must have confidence in their learning during classroom instruction as this might increase their commitment to the learning process. The psychological impact to oneself is extremely significant for both students and instructors, and endogenous motivation is a significant factor in encouraging both groups to continue their studying or teaching activity (Chia et al., 2020). In common terms, "confidence" and "self-efficacy" are nearly synonymous (Feng et al., 2022). The conduct is goal-oriented because of an internal drive from the heart (Zhang, 2016). When individuals have a high sense of self-efficacy, they believe in their own capabilities to perform well and achieve desired outcomes. This belief influences their perception of the usefulness of engaging in a particular learning activity or pursuing educational goals. They are more likely to see learning as a valuable endeavor that can lead to personal growth, development, and success. As a result, they approach learning tasks with a positive attitude, motivation, and a willingness to invest effort and persist in the face of challenges (Dubey & Sahu, 2023). Accordingly, a hypothesis is put forward:

Hypothesis 4: Self-efficacy has a significant impact on perceived usefulness.

System Quality

Users' perceptions of the effectiveness of information retrieval and transmission from the cyber library are connected to the system's quality. In various ISS deployment contexts, system perfection has been seen as a challenging determining element of satisfaction (Masrek & Gaskin, 2016). System quality influences satisfaction and depends on system and quality

attributes (Tam et al., 2020). System quality may be used to gauge the overall performance of an information processing system. With a rise in system quality, user perception of value and satisfaction has also increased. System quality refers to the information system's assessment feature. Information systems' functional quality is divided into categories based on system attributes, including reliability, availability, usability, user-friendliness, and reaction time (Huang et al., 2015). Therefore, a hypothesis is proposed:

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

Satisfaction

Whether or not the learning system's features are flawless, contentment is the most often used standardized index. Customer satisfaction surveys may assess how learners are satisfied with e-learning products or service. User happiness is typically a benchmark indicator of system quality success. Users' level of satisfaction with an online education platform is an assessment and summary of their feelings and experiences after learning how to utilize the platform (Tam et al., 2020). By weighted assessment score computation, the idea of "satisfaction" measures the degree (depth) of contentment (Chia et al., 2020). Whether the learning system's features are perfect or not, contentment is the most often utilized standardized measure. Whether this psychological state can be quantified by a number or not, pleased consumers are a prerequisite for customer loyalty (Zhang, 2016). Subsequently, a hypothesis is suggested:

Hypothesis 7: Satisfaction has a significant impact on continuance intention.

Perceived Usefulness

The term "perceived utility" describes the process by which a user evaluates the possible benefits of learning platform products before deciding (Cheng, 2021). The deciding element in this selection is the users' predefined assessment of the perceived usefulness of an online learning product. When picking a digital library, consumers frequently base their decision on the library's perceived utility (Franque et al., 2020). Users' predetermined judgment of an online learning product's perceived usefulness is the decisive element when making this decision (Cheng, 2019). The perceived utility is one of the main factors influencing users' overall happiness with the product (Fokides, 2017). When choosing an online learning platform, people create a future projection of how their academic performance will increase due to certain platform characteristics, also known as perceived usefulness. While the perceived utility is a need for selection, it is important (Masrek & Gaskin, 2016). Finally, a hypothesis is proposed:

Hypothesis 6: Perceived usefulness has a significant impact on satisfaction.

Continuance Intention

Value perception significantly impacts users' happiness and desire to use a hybrid e-learning system in the future (Cheng, 2019). The term "continuous intention" describes users' plans to use an information system after getting it (Cheng, 2021). Persistent intention is a useful indicator of whether students plan to use online learning platforms in the future (Cheng, 2018). Exploring the elements that influence users' motivation to continue using a learning platform is important to determine its success. User satisfaction is an important factor

influencing the decision to keep using a product. When describing the continuation intention of an information system, intrinsic motivation focuses more on the users' emotions, experiences, and feelings, which can only be explained by external motivation (Cheng, 2020).

Research Methodology

Research Design

A screening question, demographic information, and scale items for all the observed variables make up the three components of the quantitative questionnaire utilized in this study. In order to make sure the samples met the criteria, the researcher used one screening question (Cooper & Schindler, 2014), which was originally created (by whom???) to differentiate and evaluate people with certain traits. Moreover, background information on the respondents, such as gender, major, and essential university information, was gathered through demographic surveys (Mertens, 2015). The researcher included 3 items to determine the students' demographic information: gender, university data, and the academic years.

In addition, 24 scale items adopted from the previous literature were utilized to evaluate the latent variables, which included 3 items for perceived ease of use, 4 items regarding perceived usefulness, 4 items connected to system quality, 3 items associated to information quality, 3 items correlated to self-efficacy, 4 items regarding satisfaction, and last 3 items connected with continuance intention. The scale used a five-point Likert scale, with a score of 5 denoting strong approval for the positive items and a score of 1 denoting strong disapproval for the negative ones (Salkind, 2017).

For sampling technique, this study includes purposive and quota, sampling. Purposive sampling was used to select 6,449 undergraduate students in four majors at Dezhou, China. A quota system was used to select 500 respondents from each of the four majors for the final stage of the selection of sample, as shown in Table 1. Online questionnaires were distributed to the 500 participants. Of the 500 questionnaires distributed 493 were valid and five were invalid.

Table 1

Quota Sampling

Target Population	School	Population Size Total = 6449	Proportional Sample Size Total = 500
Undergraduate Students at Dezhou University	Art	1807	140
	Law	1142	89
	Music	1638	127
	Foreign Language	1862	144

Research Population and Sample

Per purposive sampling, the research population is undergraduate students from four schools as its target population. They are the law school, the music school, the school of foreign languages, and the school of fine arts. The minimum sample size, according to Hair et al. (2010),

should be 200-500 respondents. Therefore, from a population of 6449 students, 500 students were chosen as the final sample size following screening and quota selection. There were 493 valid and five invalid data.

Data Analysis

Questionnaires were given out to undergraduates from four schools at Dezhou University. Before collecting the data, the validity and reliability of the questionnaire was done. The item-objective congruence (IOC) index was 0.75, indicating that all of the scale's items had good content validity. Also, a pilot test was performed to assess the research instrument's dependability and internal consistency. Several researchers suggested that a responder group of 10 to 30 people was appropriate for the pilot study. The pilot study was done with 40 students and the Cronbach's Alpha coefficient value yielded greater than 0.7., for all constructs, indicating adequate strength of association (Nunnally & Bernstein, 1994). The researchers used the statistical tools JAMOVI and AMOS to analyze the data. To evaluate the discriminant validity, average variance extracted (AVE), composite reliability (CR), along with factor loading were used, and the researcher also performed confirmatory factor analysis (CFA). The results of the hypotheses are that overall impacts of the correlations between the latent variables were then investigated using the structural equation model (SEM).

Demographics of Participants

The comprehensive demographic characteristics of 493 respondents are summarized in Table 2. Among the respondents, 38.1% were male and 61.9% were female, of whom 28% were enrolled in the Academy of Fine Arts, 25.4% in the Academy of Music, 28.8% in the Institute of Foreign Languages, and 17.8% in the Institute of Law. By school year, 7.9% were first-year students, 14.0% were sophomores, 78.1% were juniors 78.1%, and no seniors.

Table 2

The demographic data

Demographic and General Data (n=493)	Category	Frequency	Percentage
Gender	Male	188	38.1%
	Female	305	61.9%
School	Art	138	28%
	Law	88	17.8%
	Music	125	25.4%
	Foreign Language	142	28.8%
Academic Year	Freshman	39	7.9%
	Sophomore	69	14%
	Junior	385	78.1%
	Senior	0	0%

Results and Discussion

Confirmatory factor analysis (CFA) was used to determine if the observed variables' components and loading counts matched expectations based on theories or presumptions. According to Table 3, an acceptable factor loading threshold was 0.5 or higher (Hair et al., 2006). Cronbach's Alpha coefficient values were greater than 0.7, indicating adequate strength of association (Nunnally & Bernstein, 1994). In addition, Fornell and Larcker (1981) suggested that CR and AVE values of 0.7 or more and 0.5 or more respectively were considered acceptable. Table 3 demonstrates that the average extracted variance (AVE) values were all greater than 0.50, the factor loading values were above 0.50, and the composite reliability (CR) was over 0.70. Therefore, this study confirms convergent validity.

Table 3

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

Variables	Source of Questionnaire	No. of Item	CA	Factors Loading	CR	AVE
Perceived Ease of Use (PEOU)	Vululleh (2018)	3	0.837	0.780-0.809	0.839	0.634
Perceived Usefulness (PU)	Vululleh (2018)	4	0.828	0.777-0.802	0.871	0.628
System Quality (SQ)	Masrek and Gaskin (2016)	4	0.838	0.738-0.823	0.863	0.612
Information Quality (IQ)	Masrek and Gaskin (2016)	3	0.861	0.756-0.793	0.822	0.606
Self-Efficacy (SE)	Dubey and Sahu (2023)	3	0.859	0.739-0.822	0.817	0.599
Satisfaction (S)	Cheng (2018)	4	0.846	0.773-0.808	0.864	0.613
Continuance Intention (CI)	Cheng (2018)	3	0.847	0.787-0.841	0.854	0.662

Table 4 illustrates the results of the discriminant validity. There were no correlations between any two latent variables that exceeded 0.80. The value indicated on the diagonal is the square root of the average variance extracted (AVE), which was calculated according to Liu et al. (2020). Furthermore, the square root of the AVE for each variable was higher than its correlation coefficient with other variables. This suggests that the model demonstrated good discriminant validity.

Table 4

Square roots of AVEs and correlation matrix

	IQ	PEOU	SE	SQ	SAT	PU	CI
IQ	**0.778**						
PEOU	0.303	**0.796**					
SE	0.220	0.300	**0.774**				

	IQ	PEOU	SE	SQ	SAT	PU	CI
SQ	0.257	0.363	0.396	**0.782**			
SAT	0.287	0.427	0.361	0.529	**0.783**		
PU	0.137	0.310	0.308	0.357	0.396	**0.792**	
CI	0.206	0.379	0.277	0.402	0.436	0.301	**0.814**

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

The absolute threshold of the chi-square value to the degree of freedom (CMIN/DF), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), comparative fit index (CFI), normalized fit index (NFI), Tucker Lewis index (TLI), and root mean square error of approximation (RMSEA) are within acceptable criteria, as shown in Table 5. As a result, all these metrics for the goodness of fit used in the CFA testing for this scientific study were acceptable. In addition, the researchers used CMIN/DF, GFI, AGFI, NFI, CFI, TLI, and RMSEA as model fit indicators for the CFA test.

Table 5

Goodness of Fit for Measurement Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	< 3.00 (Hair et al., 2006)	1.231
GFI	> 0.90 (Sica & Ghisi, 2007)	0.956
AGFI	> 0.80 (Sica & Ghisi, 2007)	0.942
RMSEA	< 0.05 (Pedroso et al., 2016)	0.022
CFI	> 0.90 (Hair et al., 2006)	0.991
NFI	> 0.90 (Hair et al., 2006)	0.953
TLI	> 0.90 (Hair et al., 2006)	0.989
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, RMSEA = Root mean square error of approximation, CFI = Comparative fit index, NFI = Normed fit index and TLI = Tucker–Lewis index

Structural Equation Modeling (SEM)

This study followed the CFA assessment using the structural equation modelling (SEM) verification. The SEM approach is used to assess a particular combination of linear coefficients to determine whether the proposed causality explanation fits. SEM also investigates the causal link between the traits in the given matrix and considers any bias in judgment or dishonesty in the coefficient (Rattanaburi, 2021). Table 6 shows that the combined values of CMIN/DF, GFI, AGFI, CFI, NFI, TLI, and RMSEA were all over allowable limits after being corrected using AMOS version 24. The results show that the SEM's goodness of fit was proven.

Table 6

Goodness of Fit for Structural Model

Index	Acceptable Criterion	Statistical Values
CMIN/DF	< 3.00 (Hair et al., 2006)	2.315
GFI	> 0.90 (Sica & Ghisi, 2007)	0.908
AGFI	> 0.80 (Sica & Ghisi, 2007)	0.886
NFI	< 0.05 (Pedroso et al., 2016)	0.052
CFI	> 0.90 (Hair et al., 2006)	0.945
TLI	> 0.90 (Hair et al., 2006)	0.907
RMSEA	> 0.90 (Hair et al., 2006)	0.937
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, RMSEA = Root mean square error of approximation, CFI = Comparative fit index, NFI = Normed fit index and TLI = Tucker–Lewis index

Hypothesis Outcomes

The results shown in Table 7 indicate that satisfaction directly and substantially impacted continuing intention, with a standardized path coefficient of 0.508 (t-value = 9.088***) representing the largest impact effects in this quantitative method. The second-powerful significant interaction impact on satisfaction is provided by system quality, with a t-value of 9.242*** at 0.471.

Additionally, self-efficacy significantly influenced perceived usefulness with the β at 0.285 (t-value at 5.457***), while perceived ease of use markedly impacted perceived usefulness with the β at 0.277 (t-value at 5.396***), as well as perceived ease of use which significantly influenced satisfaction with β at 0.276 (t-value at 5.553***). Moreover, system quality was also examined and determined to substantially impact satisfaction with the β of 0.234 (t-value of 4.864***). Consequently, information quality exhibited the least significant influence on satisfaction in this quantifiable investigation, with 0.131 (t-value at 2.843**).

Table 7

Summary of hypothesis tests

Hypothesis	Standardized path coefficient (β)	t-value	Testing result
H1: Information quality has a significant impact on satisfaction.	0.131	2.843**	Supported
H2: Perceived ease of use has a significant impact on satisfaction.	0.276	5.553***	Supported
H3: Perceived ease of use has a significant impact on perceived usefulness.	0.277	5.396***	Supported

Hypothesis	Standardized path coefficient (β)	t-value	Testing result
H4: Self-efficacy has a significant impact on perceived usefulness.	0.285	5.457***	Supported
H5: System quality has a significant impact on satisfaction.	0.471	9.242***	Supported
H6: Perceived usefulness has a significant impact on satisfaction.	0.234	4.864***	Supported
H7: Satisfaction has a significant impact on continuance intention.	0.508	9.088***	Supported

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

Discussion

The results in Table 7 show that, with a standardized path coefficient of 0.131, H1 confirms the quality of the information is a key factor in determining satisfaction. However, the study of Chen and Tsai (2019) contradicted this result who stated that while satisfaction had to be affected by information quality, the reverse was not true. In addition, several earlier scientific randomized studies have demonstrated that information quality functions only when the intermediating parameter satisfaction between other traits, such as willingness, is high.

With a standardized path coefficient of 0.276 in H2, the research showed that perceived ease of use is one of the key aspects of perceived ease of use. Student satisfaction is positively impacted by perceived simplicity of usage. According to several recent studies, perceived simplicity of use favors customer satisfaction among users of this kind of software framework.

In terms of H3 it was found that perceived usefulness and ease of use were substantially correlated, as shown by the standardized path coefficient value of 0.277 of the active influence. Perceived ease of use is one of the primary dominant real impact components of perceived usefulness, according to TAM predictive basis, which holds that a person would develop the tendency towards becoming conscious of technologies as beneficial and functional if they perceived their use as benefits.

With a standardized path coefficient value of 0.285, H4 also showed that self-efficacy substantially influenced participants' perceptions of usefulness. When looked at how motivated college students were to utilize technology, they discovered that perceived usefulness was impacted by self-efficacy. According to most researchers, perceived utility mediates the connection between self-efficacy and performance expectations.

With a standardized path coefficient value of 0.471, H5 further demonstrated that system quality considerably influenced satisfaction in this experiment. System quality considerably influences satisfaction. System quality considerably raises instructor satisfaction in an LMS environment. Google Classroom teacher satisfaction has a positive effect on system quality. According to certain experts, system quality positively influences satisfaction, which is more pronounced.

As for H6, it was found that satisfaction and perceived usefulness had a strong link,

with a common coefficient value of 0.234. Several studies have also demonstrated the importance of satisfaction with perceived usefulness. Also, it has been demonstrated in several prior academic research that perceived usefulness affects other elements through satisfaction.

With a standardized path coefficient value of 0.508 indicating the strongest significance in this quantification analysis, the standardized path coefficient results for H7 verified the hypothesis that satisfaction had a substantial consequence on continuation intention. The study results show that when determining satisfaction, students heavily consider whether cloud-based e-learning systems meet or surpass expectations. Customer satisfaction is an important element affecting the desire to continue using virtual e-learning systems (Fokides, 2017). It makes sense to assume that if customers like using cloud computing services, they will be more likely to do so in the future. Satisfaction is the main factor influencing continuance intention.

Conclusion and Recommendations

Conclusion

This study aimed to identify the variables that significantly affected undergraduate students' satisfaction with their e-learning experiences and desire to continue doing so at Dezhou University, China. Seven hypotheses are presented in the conceptual framework: perceived utility, perceived ease of use, system quality, information quality, self-efficacy, and satisfaction. 493 undergraduate students with e-learning experience provided their answers to questionnaires to assess the interaction between these factors.

To ascertain if the data fit into a certain theoretically generated measurement model, confirmatory factor analysis (CFA) is utilized. Similarly, structural equation modeling (SEM) was employed to assess the link between actual and possible factors influencing satisfaction and continuation intention and test hypotheses. It is discovered that the most important and potent relationship exists between satisfaction and continuing intention. Moreover, satisfaction is highly influenced by perceived ease of use, information quality, and perceived utility.

Recommendations

Following are some useful recommendations from the researchers for future online education based on the findings of this study. First, satisfaction construct impacts students' intentions to continue their e-learning. E-learning is a popular choice among students due to its favorable effects on their well-being. To increase student acceptance of and continued usage of this learning platform, school teaching units should completely develop and implement e-learning,

Second, students' intention to continue e-learning is increased by positive e-learning satisfaction. In this study, the findings demonstrate that satisfaction strongly influenced continuance intention. Information quality, perceived ease of use, system quality, and perceived usefulness significantly impact satisfaction. Perceived ease of use and self-efficacy has a significant impact on perceived usefulness. To ensure that students understand how much simpler and clearer the various learning operations of the online learning platform are, teaching units should focus on improving the quality of students' e-learning systems in future teaching

practices. This will be reflected in further optimizing the program design of the online learning platform and providing the corresponding tutorial documents and manual assistance. As a result, this recommendation will significantly raise students' positive usage satisfaction and intention to continue studying via e-learning.

Teachers should also provide several textbooks on e-learning platforms explaining the technical aspects of e-learning in terms of perceived usefulness. Several tasks can be presented based on the complexity of the software operations. An e-learning platform can offer video lessons outside of class, depending on the professional qualities of each college specialization. This may assist in resolving the students' learning issues, helping them understand how e-learning may support successful learning. Teachers should create appropriate learning plans for students based on the professional requirements of each school, reasonably improve interface functions, and provide rich and useful information regarding self-efficacy, system quality, and information quality.

Finally, when teachers emphasize e-learning's perceived ease of use, perceived usefulness, information quality, and system quality as well as students' sense of self-efficacy, students' satisfaction with online learning will be positively improved based on the above conditions, thus increasing their continuance intention to the learning platform.

Limitations and Further Study

This quantitative research has several limitations. Only one public university in Dezhou, China, was used as the population and sample. While only seven potential variables were examined within the conceptual framework, future studies could include other variables. Furthermore, future researchers should consider conducting qualitative study for better insight and interpretation.

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