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Integrating the technology acceptance model on online learning effectiveness of emerging adult learners in Guangzhou, China

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ABSTRACT

Due to the Zero-COVID policies implemented in China, students have accepted online education for curriculum learning for a considerable period of time. The objective of the current study was to determine the relationship between perceived usefulness, perceived ease of use, gender, and the online learning effectiveness of emerging adult learners in Guangzhou, China, who were enrolled in a continuing education program. The research framework was created in accordance with the Technology Acceptance Model (TAM). The convenient sampling and snowball sampling methods were used to collect 123 respondents for the study. Findings revealed that perceived usefulness and perceived ease of use were positively associated with online learning effectiveness, but gender was not. The study recommended that school administrators enhance students' perceived usefulness and perceived ease of use to improve the online learning effectiveness. The findings of this study will provide scholars with insights for improving the investment effectiveness of adult education programs. In addition, because online learning tends to be more adaptable and economical than traditional classes, the increase in learning effectiveness can provide schools with justifications to continue utilizing online education even after the pandemic.

Contribution/Originality: This research uncovered the online learning effectiveness of emerging adults who participated in special continuing education programs during the COVID-19 pandemic. Considering the Chinese government's policies regarding the development of skilled professionals and technicians, the program could be a ground-breaking initiative, making it worthy of investigation. As a result, this study will help to close the research gap by bringing the topic to the attention of other scholars.

1. INTRODUCTION

E-learning is another term for online learning. It is a product that combines modern educational technologies, educational concepts, and traditional education to meet new educational needs (Longjun Zhou, Wu, Zhou, & Li, 2020).

Its adaptability, variety, and ease of use make it ideal for adult education, a program that allows adults to return to school to learn vocational skills or obtain certification. In fact, for many years, online learning has been widely accepted as an excellent method of instruction in adult education and has emerged as a significant educational trend (Albiladi & Alshareef, 2019; Hockly, 2018). According to Sce.scut.edu.cn (2022) there were 53,659 students enrolled in its continuing education college in 2020, with 41,978 of them receiving online education. Due to the outbreak of COVID-19 in 2020, physical classes in continuing education were either halted or switched to virtual classes. Online education was widely used as a temporary substitute for avoiding social gatherings on an unprecedented scale. Since online education has become the primary option for schools as the pandemic worsened, the studies employ the Technology Acceptance Model (TAM) to assess how effective online education is. Several versions of the TAM have been used in empirical research, and the results of many of them confirm the TAM's reliability (e.g., (Rahimi, Nadri, Afshar, & Timpka, 2018; Venkatesh & Bala, 2008; Venkatesh & Davis, 2000)). The TAM's application in online education is significant because it has evolved into a robust and powerful model for predicting the acceptance of information technologies (Olushola & Abiola, 2017).

However, due to difficulties in student supervision, teacher-student interaction, and plagiarism prevention, teachers and schools have questioned the effectiveness of online education. Because of technical issues, virtual classes may have more scrap learning than physical classes. Even if the participants are able to manipulate the digital tools, simply having access to them does not guarantee improved academic performance (Escueta, Vincent, Andre, & Philip, 2017). Scholars have differing perspectives on the online learning effectiveness. While some recent studies support the idea that online learning can greatly benefit students (Sfenrianto, Tantrisna, Akbar, & Wahyudi, 2018; Yensy, 2020) others argue that it is less effective than traditional learning. Students recognize the value of online learning in terms of saving time and giving them more control over their learning process (Ejdys, 2021). However, when they were in higher learning phases when clinical practices were critical, Chinese undergraduate students with high academic performance were less satisfied with online learning modes and rated their effectiveness lower (Wang, Wang, & Wu, 2020).

The population for analysis in the current study constituted emerging adults in Guangzhou. Arnett (2000) coined the term "emerging adult" to describe the period of life between adolescence and adulthood. Emerging adults are typically adults in their late teens and early twenties. They are biologically adults but not psychologically (Meier, 2020). During this time, they consider themselves to be adolescents at times and full adults at others (Walton Wider et al., 2021). Most emerging adults who enroll in a continuing education college study for an Adult Diploma or, even better, a Full-Time Diploma. A special national program has been established for emerging adults in continuing education colleges; it allows them to obtain a full-time diploma certificate only if they pass a specific national exam and gain admission to a government-approved college. It is a valuable opportunity for students who left school and cannot be re-accepted by the college through traditional progression routes, especially given that the program is only open for recruitment for six years beginning in 2019. Students, however, cannot be truly graduated if they fail the national exam despite having successfully completed all of the modules required for full-time diploma students.

There is limited research available pertaining to the unique situation and characteristics of the target population. To begin with, the students differ from other adult learners, such as working employees and married parents who must balance work and family life, making research on working adult learners inapplicable. As a result, conducting research on this specific group of people is feasible. Meanwhile, the students' program is far too unique, even in China. Furthermore, while online education has changed since the pandemic's spread, the conclusions drawn in TAM studies are barely different from those before the pandemic. During the pandemic, online education is an extension of the original offline class, as it is in the form of class-based teaching by school teachers, rather than watching public classes of famous universities and educational institution tutorial videos (Chen et al., 2020). During the school lockdown, online learning is almost the only option left. Because of the scarcity of learning resources during the pandemic, all participants are forced to use the online learning approach (Al-Bashayreh, Almajali, Altamimi, Masa'deh, & Al-Okaily,

2022). As a result, even if the chosen system is difficult to use, everyone in the organization must learn how to use it and use it well, which means perceived ease of use is no longer as important as it was before the pandemic. Based on the analysis presented above, the researcher believes it is necessary to test whether TAM is still effective in influencing online learning during the pandemic.

The purpose of this study was to see if perceived usefulness (PU), perceived ease of use (PEOU), and gender are related to online learning effectiveness in adult education in Guangzhou, China. Perceived usefulness (PU) refers to users' belief that a system will help them perform better (Olushola & Abiola, 2017; Wu & Wang, 2005). Meanwhile, perceived ease of use (PEOU) is a person's belief that using an online information system is simple and requires the least amount of effort (Pal & Patra, 2021; Vitoria, Mislinawati, & Nurmasyitah, 2018). TAM is made up of two major constructs: PU and PEOU.

2. LITERATURE REVIEW

2.1. Underlying Theories

The Technology Acceptance Model (TAM) is one of the most widely used research models for predicting use, a person's intention to perform a specific behavior, and individual user acceptance of information systems and technology (Nadri, Rahimi, Afshar, Samadbeik, & Garavand, 2018). Developed by Davis (1989) TAM has been applied in various studies since then. It is the best-known measure among the robust measures developed to examine how well a technology "fits" with a learner's tasks (Rahmi, Birgoren, & Aktepe, 2018). Compared to other theoretical models, TAM has been proven to be effective in testing educational technology acceptance (Al-Emran & Granić, 2021).

The foundation of TAM is the Theory of Reasoned Action (TRA), developed by Ajzen and Fishbein (1975). TRA indicates that attitudes towards behavior and subjective norms can determine behavioral intention (Figure 1) (Ajzen & Fishbein, 1975). Davis (1989) developed TAM but he had the same doubt as many scholars did, which is "whether technology contributes to organizational performance" (Davis, 1989). Based on TRA, he proposed TAM as presented in Figure 1.

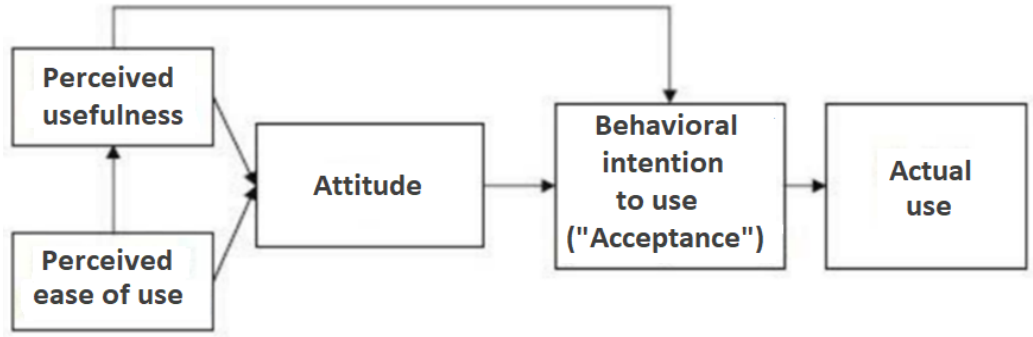

Figure 1. Technology acceptance model.

Source: (Davis, 1989).

There are two belief constructs in TAM, namely, PU and PEOU. PU is the expectation of a user that the system will be useful to their job, and PEOU is the expectation that the system is user-friendly and easy to use (Ammenwerth, 2019). TAM shows that PU and PEOU are determinants of attitude and thus can influence the behavioral intention of use. The model was the foundation of TAM2 by Venkatesh and Davis (2000) and TAM by Venkatesh and Bala (2008) which included more external variables to explain more complicated situations. Quite a few models share similar belief constructs with TAM, such as the Theory of Planned Behavior (TPB) and the Unified Theory of Acceptance and Use of Technology (UTAUT). Therefore, sometimes TAM will be applied together with TPB or TRA (Buabeng-Andoh, 2018; Nadlifatin et al., 2020). UTAUT was developed by Venkatesh, Morris, Davis, and Davis (2003) on the basis of TAM3. Besides the four key determinants incorporated in the UTAUT model, namely,

performance expectancy, social influence, effort expectancy, and facilitation conditions, there are also four key moderators, including gender, age, voluntariness, and experience (Lai, 2017).

2.2. Relations between PU and Online Learning Effectiveness

The perspective of the learning medium's usefulness is considered to have good benefits for online learning (Fuady, Sutarjo, & Ernawati, 2021). Amin, Yousaf, Walia, and Bashir (2022) stated that PU is one of the factors positively contributing toward the online learning effectiveness of learners, including influencing their mastery of knowledge and obtaining satisfaction. More studies linked PU with online learning effectiveness with a mediator. PU influences PEOU and, as a result, the effectiveness of information technology (Fauzi, Wandira, Sepri, & Hafid, 2021). PU also has good and essential impacts on the intention to use a Learning Management System (LMS), which is vital to learning effectiveness (Al-Mamary, 2022). In line with that, PU is confirmed to be positively related to students' intention to adopt online learning approaches, and the adoption enables them to accomplish their learning tasks and enhance their learning effectiveness (Kimathi & Zhang, 2019). The research would love to identify whether there is a direct relationship between PU and online learning effectiveness, so the first hypothesis is:

H1: Perceived usefulness (PU) is positively related to online learning effectiveness in adult education in Guangzhou.

2.3. Relations between PEOU and Online Learning Effectiveness

PEOU has a positive and significant influence on both online learning strategies and online learning motivation, the two determinants of online learning effectiveness (Al-Azawei, Parslow, & Lundqvist, 2017). PEOU is also significantly related to perceived enjoyment, and meanwhile, perceived enjoyment has a direct impact on the educational effectiveness of smart applications (Al Amri & Almaiah, 2021). University management should make the online learning system more user-friendly to attract students to use it, which would improve their academic performance and make them learn effectively (Ibrahim, Ibrahim, Zukri, Yusof, & Roslan, 2019). For instance, educational platforms can enhance the stability and reliability of operations and improve the user interface and functionalities of the platforms (Koranteng, Sarsah, Kuada, & Gyamfi, 2020; Liqiu Zhou, Xue, & Li, 2022). Earlier research indicated that zoom is highly beneficial to online learning because students consider zoom simple and easy to operate (Fuady et al., 2021). However, the above studies seldom link PEOU and online learning effectiveness directly. To determine whether there is a direct correlation, the second hypothesis is drawn as below:

H2: Perceived ease of use (PEOU) is positively related to online learning effectiveness in adult education in Guangzhou.

2.4. Relations between Gender and Online Learning Effectiveness

Female respondents are more serious in their studies through online platforms, whereas most male respondents tend to choose online games over online learning sites when given access to the internet (Daniels, Sarte, & Cruz, 2019). Female learners are more perseverant and engaged than males, yet males generally have more stable attitudes toward online learning (Yu, 2021). Male learners can use more learning strategies to improve technical skills than females, but they also have less strong self-regulation in the online learning context (Alghamdi, Karpinski, Lepp, & Barkley, 2020). Males and females have different perceptiveness even though they are taking the same computer training; male learners experience more positive attitudes and achieve higher scores in mixed-gender collaborative online learning classrooms (Mutambik, Lee, & Almuqrin, 2020). Female learners demonstrate better in single-gender settings and feel less reticence in mixed-gender learning groups (Almasri, 2022). The differences between females and males in terms of class engagement, learning strategies, and outcomes suggest the role gender plays in online education. Hence, the last hypothesis is drawn as:

H3: Gender is related to online learning effectiveness in adult education in Guangzhou.

This research adopts TAM and chooses one of the variables of UTAUT, gender, and develops the conceptual framework as seen in Figure 2.

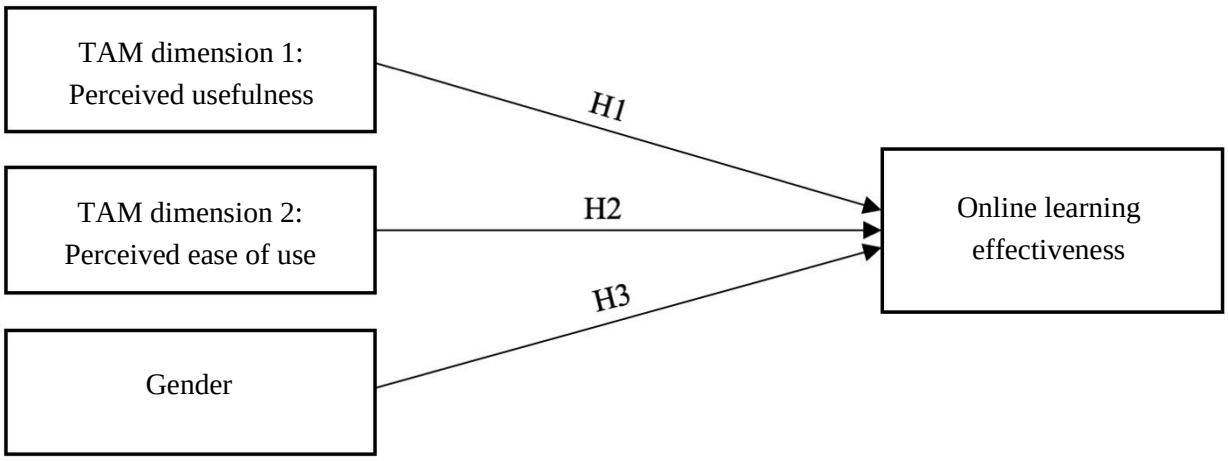

Figure 2. Research framework.

3. METHODS

3.1. Population and Sample

The ideal respondents of the survey were emerging adults pursuing continuing education at schools in Guangzhou, specifically, early emerging adults (EEA, age 18–21) and middle emerging adults (MEA, age 22–25) (Wider, Yuen, Ken, & Kuen, 2019). Owing to the time and resource constraints, convenient sampling and snowball sampling techniques were used. Sampling is an essential tool for research as the population of interest is usually too large for any project to include participants (Majid, 2018). The sample size was estimated with power analysis, given a statistical power of 0.95, a significance level of 0.05, and an effect size of 0.15. The calculation was conducted in G*Power and it indicated that 119 should be sufficient for the sample size. The selection of the sampling techniques was a reaction to the pandemic that greatly discouraged social gathering. Besides, the survey was delivered during China's summer vacation when students were not staying on campus, making data collection via physical meetings impossible to conduct. Thanks to social networking, the questionnaire was able to get responded very smoothly.

3.2. Data Collection Procedure

The questionnaire was delivered in July 2022 via an online platform such as WeChat and was open for around two weeks. The questionnaire was first shared with suitable students around the researcher; but due to the scarcity of ideal respondents accessed via convenient sampling, the researcher reached out to more samples through friends and students. Each participant was asked to make only a single attempt. A total of 130 responses were received from the participants, of which 123 were usable. According to the analysis above, the sample size was adequate for the research to carry on.

3.3. Demographic Characteristics

The components that made up demographic profile of the respondent of this study included age, gender, education level, and whether or not someone used a cellular phone. This demographic profile of the participants is shown in Table 1. Among 123 respondents, 51.2% (n = 63) were females and 48.8% (n = 60) were males. In terms of age, early emerging adults (EEAs) accounted for 86.9% (n = 107) of the total sample size, and middle emerging adults (MEAs) accounted for around 13.1% (n = 16). As for education level, a total of 40.7% (n = 50) of participants were at the full-time diploma degree level. Given that they were studying in adult education colleges, it meant that they had successfully passed the national exam. Adult Education Diploma students accounted for 25.2% (n = 31) of the total sample.

Table 1. Demographic information about respondents (N = 123).

Demographic	Categories	Frequency	Percent (%)
Gender	Female	63	51.2
	Male	60	48.8
Age	18-19	42	34.1
	20-21	65	52.8
	22-25	16	13.1
Education level	Adult education diploma	31	25.2
	Full-time diploma	50	40.7
	Junior vocational education	27	22.0
	Senior high	15	12.2
Use cellular phone	Use for convenience only	83	67.5
	Use frequently	40	32.5

The remaining 34% (n = 42) had a lower level of education, which meant that they had not passed the two major national exams for diploma student recruitment last year. That was a dangerous signal that school managers should have responded to, as it indicated that about one-third of the students might not be able to obtain a graduation certificate at the end of the study journey. If the learning effectiveness of the students cannot be improved, the credit of the adult education program will be damaged, along with the school recruitment and business benefits. In terms of the use of cell phones, "using smartphones for convenience only" accounted for 67.5% (n = 83), and "using smart phones frequently" for 32.5% (n = 40). The results suggested that the implementation of online education had a solid technological social environment, which meant that almost every emerging adult student used their cellular phone for online learning.

3.4. Questionnaire Measures

The questionnaire measures were distributed across the three variables of the study: perceived usefulness, perceived ease of use, and the online learning effectiveness of emerging adult learners in Guangzhou, China, Responses were collected using the 5-Likert Scale (1-Strongly disagree to 5-Strongly agree). There were three sections in the questionnaire: 1) demographic information related; 2) online learning effectiveness; 3) PU and PEOU. The section on demographic information collected information about the respondents' age, gender, education level, and whether or not they used a cellular phone. The second section on online learning effectiveness, the dependent variable of the study, consisted of five items adapted from Kulal and Nayak (2020). The items evaluated five dimensions of online learning effectiveness (e.g., "helping students gain more knowledge," "increasing students' technological literacy," and "offering students sufficient support in learning"). If they agreed with the five dimensions, the scores for the dependent variable would be high. The Cronbach's alpha of these items was 0.882.

The third section comprised items related to PU and PEOU. The PU construct used four items adopted from Wu and Wang (2005) (e.g., "improving learning productivity," "improving learning performance," and "making class engagement easier"). The Cronbach's alpha was 0.906. The PEOU construct included four items (e.g., "learning to use an online learning platform is easy," "finding what is needed via an online learning platform is easy," and "becoming skilled in using an online learning platform is easy"). These four items were adopted from Wu and Wang (2005) as well. The Cronbach's alpha was 0.807.

3.5. Data Analysis

The data analysis was conducted using the Statistical Packages for Social Sciences (SPSS) version 26.0. To begin with, the demographic profile was analyzed and demonstrated with descriptive analysis such as frequency. Gender was one aspect of demographic information and a categorical variable. It was encoded to be a dummy variable. If the respondent was a female, it was equal to 1 otherwise, it was 0. After that, the Pearson correlation coefficient test was

performed to evaluate the type of linear relationship between two variables in each hypothesis. Finally, the research carried out the multiple linear regression (MLR) test to predict the predictive power of the independent variables.

Table 2. Descriptive statistics and correlations among variables (N = 123).

No.	Variables	Mean	SD	1	2	3	4
1.	Online learning effectiveness	3.56	1.022	1			
2.	Perceived usefulness (PU)	3.67	1.012	0.465**	1		
3.	Perceived ease of use (PEOU)	3.64	0.958	0.454**	0.210*	1	
4.	Gender	0.51	0.502	0.154	0.119	-0.12	1

Note: **. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
Gender dummy: Female =1, Male = 0.

4. RESULTS

The Pearson correlation results are shown in Table 2. The Pearson correlation between gender and online learning effectiveness was not significant. As a result, gender was removed from the following multiple linear regression test and H3 was rejected.

The multiple linear regression test was carried out to identify the linearity of the predictor variables and outcome variables. The results in Table 3 supported that both PU and PEOU were able to predict online learning effectiveness. PU (β =0.387, p = 0.00) was the stronger predictor compared to PEOU (β=0.372, p = 0.00). The relationship was expressed as: DV (Online learning effectiveness) = 0.682 + 0.387 (PU) + 0.372 (PEOU). If PU increases by 1 unit, the Online Learning Effectiveness will increase by 0.387 given that PEOU is kept constant. Furthermore, the table also proved that both PU and PEOU were positively related to online learning effectiveness.

Table 3. Predictors of online learning effectiveness (N = 123).

Criterion variable	Predictor variable	*F*	R^2	*df*	Beta	*t*	*p*
Online learning effectiveness	PU	32.146**	0.349	(2.120)	0.387	5.137	0.000
	PEOU				0.372	4.940	0.000

Note: **p <0.001.

5. DISCUSSION

Adult education programs in China are delivered by high schools using formal educational management models. The formal models assume that organizations are hierarchical systems, and that managers should use rational approaches to achieve organizations' mutual goals (Muraru & Patrascu, 2017). The formal model's characteristics include formal structure, rational decision-making, and "top-down" leadership. As a result, school administrators should take a proactive leadership role in their students' learning. Given the findings of this study, school leaders in Guangzhou must take more proactive measures.

The survey confirmed that the online learning effectiveness was moderate (Mean = 3.56), echoing the findings of a study by scholars Zhou and Mou (2022) who found that positive attitudes toward online education has been steadily declining in China. According to the demographic profile, approximately one-third of the students may not graduate with a diploma certificate, which is consistent with the low online learning effectiveness. As a result, school administrators must provide adult education to improve students' online learning effectiveness. To do so, school administrators should consider the dimensions evaluated for online learning effectiveness. For example, if a student gains better technological literacy as a result of taking online education, he or she should be becoming more comfortable with online learning, which is beneficial to their learning at the time and may lead to self-learning in the future.

Meanwhile, based on the hypothesis test results, managers can improve learners' perceived usefulness (PU) and perceived ease of use (PEOU) in order to improve students' online learning effectiveness. There are several approaches that school administrators can take to improve students' PU. To begin, schools can improve students' PU by

increasing their productivity. Students' learning productivity will be listed and ranked in some online learning platforms, creating a competitive virtual environment conducive to their productivity improvement. Furthermore, schools can expand the e-knowledge bank to meet students' increasing demand for learning while competing with one another. A college may have limited resources to meet the learning needs of emerging adult learners, but school leaders can use this opportunity to gather as many digital resources as possible. After all, it is typically the leaders' responsibility to ensure that all elements of the organization align to empower school systems to leverage available resources in meaningful ways to improve student achievement and equity (Malik, 2018). School leaders of a continuing education program can seek collaboration from other colleges or departments, such as establishing a non-profit league within high schools or a mutual educational platform.

In addition, in order to foster inter-school cooperation, school leaders must adapt to changes based on student performance and feedback. Managers, for example, can optimize learning evaluation modes based on features of online education and social background to improve students' PU. Heads of teaching departments can make changes to assessments and increase the frequency of evaluation by replacing time-consuming assignments with small quizzes; they can also use closed-ended questions that can be marked automatically in seconds. As a result, students can receive immediate feedback and regular assessments of their performance, and because positive performance can increase their perceived usefulness, they may be able to learn more effectively. However, improving students' PU can be comprehensive but costly and time-consuming because it is a top-down process involving multiple parties. PEOU can be used by school administrators to improve students' effectiveness in the short term. According to the findings, emerging adult learners generally believed that technology was not an impediment to their learning, but it was not as efficient as they desired. From this vantage point, school administrators should examine the guidance and the learning platform to ensure that students are not inappropriately directed or distracted by irrelevant content while receiving education online.

6. LIMITATIONS AND FUTURE RESEARCH

Some aspects of the research can still be improved. For example, while the research aimed to provide suggestions for adult education management, it was difficult to provide specific solutions for a specific model because the participants came from various colleges operating under various models. Inadequate knowledge of the educational management models used by the participants' colleges made it difficult to provide feasible and specific solutions. Despite the fact that most colleges used formal models, there were differences between the models covered by this umbrella term. As a result, the research could only provide general advice on topics such as hierarchy management structure, top-down management structure, and leadership. Even if the questionnaire had asked students about school educational models, they were unlikely to have any knowledge of them. Incorrect information could have resulted in worse outcomes. As a result, in the future, researchers can study one or more colleges under a specific educational management model and offer tailored solutions.

Aside from the difficulties in providing specific solutions based on educational management models, it was also difficult to conduct an in-depth analysis given the data collected. The close-ended questionnaire was the primary data collection tool. Fixed options, while effective for collecting concentrated responses, limit the information provided by respondents. For example, while the current data set could explain which construct had the greater predictive power, it could not provide reliable explanations for why. It is also difficult to determine why the effectiveness of online learning was less than satisfactory. Follow-up interviews or investigations are more than necessary if the researcher wants a robust and in-depth analysis of the topic.

Despite the fact that the data set was adequate, the small sample size limited the adaptability of the research results. Although TAM retained predictive power in online education studies, the special social conditions had an effect on the correlation of the two TAM constructs. PU and PEOU were confirmed to be uncorrelated in the multicollinearity test, despite the fact that in many previous studies, the two belief constructs were closely correlated

(Al-Azawei et al., 2017; Kimathi & Zhang, 2019; Nurkhin & Mukhibad, 2021; Pal & Patra, 2021; Rahimi et al., 2018). As a result, a sample size of 123 was insufficient to draw and validate a new conclusion, especially when compared to the total population of adult learners in Guangzhou (555,400) (Guangzhou Municipal Affairs Service Data Administration, 2002). Although G*Power analysis justified the sample size, when time and resources are limited, scholars can access more samples to obtain a more reliable conclusion.

Aside from data limitations, the simple conceptual framework influences the adaptability of the research results. There were only three independent variables and one dependent variable, and each independent variable only pointed to the dependent variable without being related to it. In reality, the situation is usually more complicated and involves more elements. For years, scholars have attempted to expand the TAM model with more external constructs, such as subjective norm in Venkatesh and Davis (2000) TAM 2 and perceived enjoyment in Venkatesh and Bala (2008) TAM 3. Scholars can add more variables in the future to make the model more adaptable to real-life situations and thus contribute to the advancement of online education. Even if scholars do not want to test other elements, they can run a test to see if gender is indirectly related to online learning effectiveness by bringing in some moderators. Last but not least, more dependent variable dimensions should be included and tested. Online learning effectiveness is a complex concept comprised of numerous components. This study adapts Kulal and Nayak (2020) questionnaire and employs the five dimensions to assess the online learning effectiveness. However, if more dimensions were considered, the evaluation of the online learning effectiveness would be more objective and comprehensive.

7. CONCLUSION

This research was conducted during COVID-19 and targeted a specific group of learners, which were emerging adults who were participating in adult education programs in Guangzhou, China. The research investigated the online learning effectiveness. TAM was instrumental in the development of the research framework, which consists of four variables (PU, PEOU, gender, and online learning effectiveness). According to the results of our research, a positive relationship exists between PU and PEOU and online learning effectiveness, while gender has no bearing on this. In order to find solutions for the management of adult education, it is recommended that decision makers and scholars collaborate, particularly for colleges that are adopting formal models for education management.

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