pISSN: 1906 - 6406 The Scholar: Human Sciences
eISSN: 2586 - 9388 The Scholar: Human Sciences
http://www.assumptionjournal.au.edu/index.php/Scholar

Drivers of Behavioral Intention to Adopt Hybrid Education of Undergraduates in Arts and Design's in Chengdu, China

Lai Luo*, Krisana Kitcharoen, Charnsid Leelakasemsant, Thanatchaporn Jaruwanakul

Received: July 27, 2022. Revised: May 15, 2023. Accepted: June 2, 2023.

Abstract

Purpose: The purpose of this study is to determine drivers of behavioral intention to use hybrid education of undergraduate students in Arts and Design in three universities in Chengdu, China. The conceptual framework is developed from the major theories of technology adoption which are technology acceptance model (TAM) and unified theory of acceptance and use of technology (UTAUT) theories, containing perceived ease of use, perceived usefulness, performance expectancy, self-efficacy, effort expectancy, social influence, and behavioral intention. **Research design, data, and methods:** The researchers applied a quantitative study of questionnaire distribution to 500 participants. Sampling techniques involve judgmental sampling, quota sampling and convenience sampling. Before the data collection, Item Objective Congruence (IOC) Index and Cronbach's Alpha reliability test were ensured. Confirmatory Factor Analysis (CFA) and Structural Equation Model (SEM) are statistical methods used to measure goodness of fit, validity, reliability, and hypotheses testing. **Results:** Perceived ease of use has the strongest significant impact on both perceived usefulness and behavioral intention. Accordingly, behavioral intention is significantly impacted by self-efficacy, perceived usefulness, effort expectancy, performance expectance and social influence. **Conclusion:** Educators are recommended to maximize the effectiveness of hybrid teaching and learning, aiming to uplift students' successful adoption and academic achievement.

Keywords: Hybrid Education, Undergraduates, Self-Efficacy, Effort Expectancy, Behavioral Intention

JEL Classification Code: E44, F31, F37, G15

1. Introduction

The hybrid education is a combination of online and face-to-face teaching and learning (Doering, 2006). This blended education emphasizes on active and autonomous learning, which is advantageous in terms of convenience, adaptability, flexibility and time efficiency (Rivera et al., 2002). The major benefit of hybrid education is the reduction of time and effort for teachers and students to commute to sites or schools (Hochberg, 2006). This style of education is more useful for a modern world's education. A paradigm shift of education and technology has enlarged the

1 *Lai Luo, School of Fine Arts and Design, China and ASEAN College of Arts, Chengdu University, Sichuan, China. Email: llcddx@163.com
2 Krisana Kitcharoen, Lecturer, Graduate School of Business and Advanced Technology Management, Assumption University, Thailand. Email: krisana@au.edu
3 Charnsid Leelakasemsant, Graduate School of Business and Advanced Technology Management, Assumption University, Thailand. E-mail: charnsidllk@au.edu
4 Thanatchaporn Jaruwanakul, Associate Director, Strategic Policy Development, True Corporation Public Company Limited. Email: tjaruwanakul@gmail.com

capability of education to be anytime and anywhere. Regardless of asynchronous and synchronous connectivity, technology infrastructures offer efficient way of interaction between students and instructors to liberate from the constraints of time and location (Bates, 2005).

Since the outbreak of COVID-19 in January 2020, governments around the world have restricted physical classroom as a measure of health and safety. Online education had been an immediate and urgent plan for teachers and students to continue classes. During the recovery time of epidemic, full implementation of physical classroom has been restricted. Therefore, hybrid education is the best solution for the new normal. Regardless of the hybrid education's advantages, most students gain benefits from this model to continue their study. Furthermore, education institutes have prolonged hybrid education model for their market competitiveness (Doering, 2006).

1.1 Objectives of this Research

a) To investigate the causal relationship among perceived ease of use, perceived usefulness, performance expectancy, self-efficacy, effort expectancy, social influence, and behavioral intention to use hybrid education among undergraduate students in Arts and Design from three universities in Chengdu, China.

b) To examine the causal relationship from perceived ease of use toward perceived usefulness of using hybrid education among undergraduate students in Arts and Design from three universities in Chengdu, China.

c) To make recommendations to academic practitioners and higher education executives for better improvement of hybrid education for students' successful adoption and learning performance optimization.

1.2 Research Questions

a) Do perceived ease of use, perceived usefulness, performance expectancy, self-efficacy, effort expectancy, social influence have significant impact on behavioral intention to use hybrid education among undergraduate students in Arts and Design from three universities in Chengdu, China?

b) Does perceived ease of use have a significant impact on perceived usefulness of using hybrid education among undergraduate students in Arts and Design from three universities in Chengdu, China.

c) What are recommendations for academic practitioners and higher education executives for better improvement of hybrid education for students' successful adoption and learning performance optimization?

1.3 Significance of the Study

Due to hybrid education is in doubt on how students would adopt this model successfully and effectively, behavioral intention is an essential indicator to determining whether students embrace such learning pattern in a psychological level. Because behavior of the students determines the effectiveness of hybrid education, this study explores relevant factors affecting the system adoption to produce recommendations for educators to maximize the use of hybrid teaching and learning, aiming to uplift students' successful adoption and their leaning achievement.

2. Literature Review

2.1 Perceived Ease of Use

Perceived ease of use refers to an individual's belief in using a particular technology involves the least amount of effort (Davis, 1989). The perception of how simple it is to use a system represents an individual's innate motivation to engage or execute a certain action (Altin et al., 2008). Shin and Kang (2015) confirmed that this latent variable refers to a student's psychological assumption that hybrid learning is simple. The degree to which a student believes and is confident to use technology features can greatly predict the perception about its benefits and behavioral adoption (Raeisi & Lingjie, 2016). Numerous literatures have investigated the significant influence of perceived ease of use on perceived usefulness and behavioral intention to utilize the target technology system (Didyasarin et al., 2017). Thus, below hypotheses are proposed:

H1: Perceived ease of use has a significant impact on perceived usefulness of hybrid education among undergraduates in Arts and Design.

H3: Perceived ease of use has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.

2.2 Perceived Usefulness

According to Davis (1989), perceived usefulness revealed concern of an applicant to implement any given system technology with an expectation that it will improve his/her performance. This study relates perceived usefulness as the degree to which a student believes that a certain educational system may help him or her improve academic achievement (Huang & Liaw, 2018). Perceived usefulness is defined as a user's belief that using a technology will improve their performance (Chen & Tseng, 2012). In addition, Juhary (2014) conducted an empirical study to examine the original TAM aspects of perceived usefulness

and behavioral intentions of students to use the Learning Management System (LMS). Hence, a hypothesis is pursued:
H2: Perceived usefulness has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.

2.3 Performance Expectancy

Performance expectancy is a key determinant of behavioral intention to use various innovations in voluntary and involuntary situations (Venkatesh et al., 2003). It is characterized as the extent to which students believe that using hybrid learning will help them achieve higher learning performance (Duangekanong, 2022). The hybrid learning acquisition and adoption would be predicated by students' judgments of how straightforward it will be to use (Wang et al., 2009). Performance expectancy is an indispensable element of behavioral intention to accept hybrid education (Sung et al., 2015; Tarhini et al., 2017). Chao (2019) investigated that the students expect the better learning performance from the adoption of hybrid education which could convince them to accept to use the particular learning pattern. Consequently, a hypothesis is developed:
H4: Performance expectancy has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.

2.4 Self-Efficacy

Self-efficacy is determined to have a positive impact on intention to use a system technology. The system and its utility leads to the users' behavior being more inclined to adopt and utilize the system (Abbad, 2010). Self-efficacy is described as a student's confidence in his or her capacity to successfully use specific technology to produce results or to accomplish a given learning activity (Pintrich, 1999). Self-efficacy is also used to assess one's ability to complete an educational assignment with a particular objective (Fokides, 2017). When facing with a challenge, students with high self-efficacy are less likely to have low self-esteem about their abilities to use the system or technology. Self-efficacy is preoccupied with the appraisal of what someone potentially do with their capabilities (Cheung & Vogel, 2013). Accordingly, a following hypothesis is stated:
H5: Self-efficacy has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.

2.5 Effort Expectancy

Effort expectancy is explained as the system can be used with no complication (Venkatesh et al., 2003, 2012). Effort expectancy is similar to ease-of-use system which meets the users' expectation (Mahande & Malago, 2019). In the context of hybrid education, effort expectancy is recognized as a powerful predictor of students' behavioral intention (Ssekakubo et al., 2011). Bardakcı (2019) defined effort expectancy as students' understanding of how to use and gain benefits from hybrid learning. Students' level of comfort with hybrid education can promote their eagerness and willingness to accept such format (Onaolapo & Oyewole, 2018). Therefore, effort expectancy has a substantial impact on students' behavioral intention to adopt educational technology (Ngampornchai & Adams, 2016). Based on previous studies, a hypothesis is constructed:
H6: Effort expectancy has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.

2.6 Social Influence

Venkatesh et al. (2003) characterized social influence as a person's belief and consideration on others' opinions whether he or she should perform some behavior. Social influence is the extent to which an individual listens to people who are important to them for their views of new system usage. Social influence is defined as a shift of a person's perception, feeling, or attitude as a consequence of communication between groups or individuals (Fishbein & Ajzen, 1975). Venkatesh et al. (2012) signifies social influence as the degree to which other individuals (e.g., family, friends, etc.) that users consider as significant to them, presume they should embrace the technology. Lucas and Spitler (1999) clarifies that the influence of family friends and teachers has a great impact on students' decision to adopt hybrid learning. Subsequently, the assumptions lead to a hypothesis:
H7: Social influence has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.

2.7 Behavioral Intention

Behavioral intention underlies within various technology adoption theories and models (Ajzen, 1991; Davis, 1989; Fishbein & Ajzen, 1975). Behavioral intention is termed as a user's intention to do, act or use something (Fishbein & Ajzen, 1975). Behavioral intention can be a forecast of whether a person will perform some action in the future (Cigdem & Ozturk, 2016). It also demonstrates a student's desire to carry out a hybrid education (Uddin et al., 2020). There are numerous variables that can determine behavioral intention such as perceived ease of use, perceived usefulness, attitude, social influence etc. (Agarwal & Prasad, 1999). Behavioral intention can be both physical and psychological drive that predict the usage behavior (Cheung & Vogel, 2013). Zarmpou et al. (2012) added that

behavioral intention to use mobile platforms demonstrates the possibility of individuals' motivation to interact with the such technology.

3. Conceptual Framework

The conceptual framework is developed from the major theories of technology adoption which are technology acceptance model (TAM) and unified theory of acceptance and use of technology (UTAUT) theories. Three research models are adapted to investigate intention to adopt hybrid education of students, including Shin and Kang (2015), Cheung and Vogel (2013), and Attuquayefio and Addo (2014). A conceptual framework is illustrated in Figure 1, composing with perceived ease of use, perceived usefulness, performance expectancy, self-efficacy, effort expectancy, social influence, and behavioral intention. Furthermore, structural pathways between each latent construct are proposed in seven hypotheses as follows.

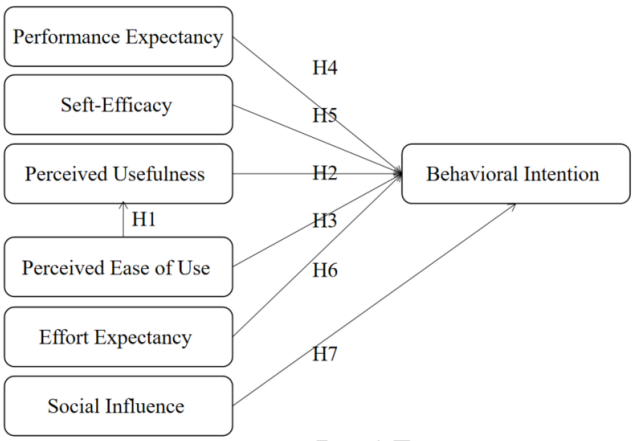

Figure 1: Conceptual Framework

H1: Perceived ease of use has a significant impact on perceived usefulness of hybrid education among undergraduates in Arts and Design.
H2: Perceived usefulness has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.
H3: Perceived ease of use has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.
H4: Performance expectancy has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.
H5: Self-efficacy has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.
H6: Effort expectancy has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.
H7: Social influence has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.

4. Research Methods and Materials

4.1 Research Methodology

The researchers adopted quantitative approach with nonprobability sampling technique to distribute questionnaires to 500 undergraduate students in Arts and Design program form three universities in Chengdu which are Chengdu University (CDU), Sichuan University (SCU), and Sichuan Conservatory of Music (SCM). The questionnaire is designed into three parts, including screening questions (Voß et al., 2021), demographic information (Lodico et al., 2006), and measuring items of five-point Likert scale, scoring from extreme disagreement (1) to extreme agreement (5) (Salkind, 2017).

Three experts with Ph.D. title and education industry background were invited to validate research instruments, applying item-objective congruence (IOC) index. IOC results present all items were reserved at score equal or above 0.67. Clark-Carter (2010) denoted 30 respondents are adequate for the pilot test, thus researchers carried out Cronbach's Alpha reliability test to determine internal consistency reliability of each construct, resulting all variables were approved at score equal or higher than 0.7 (Nunnally & Bernstein, 1994).

Following a validity and reliability assessment in the data collection, the paper-based and online questionnaires were distributed to 500 participants. IBM SPSS and AMOS were used to analyze the data. Confirmatory factor analysis (CFA) was used to evaluate factor loading, t-value, composite reliability (CR), average variance extracted (AVE), and discriminant validity. The structural equation model (SEM) was applied to test hypotheses.

4.2 Population and Sample Size

The target population of this study are undergraduate students in Arts and Design program from Chengdu University (CDU), Sichuan University (SCU), and Sichuan Conservatory of Music (SCM). According to Israel (1992), the minimum sample size for structural equation model is recommended to be around 200-500. Thus, researchers consider to collect the data of 500 students per appropriate.

4.3 Sampling Techniques

The researchers applied sampling techniques of judgmental, quota and convenience samplings. Judgmental sampling was accounted to identify 2,100 undergraduate students in Arts and Design program who have at least one month experience with hybrid education from three public universities in Chengdu region of China. Additionally, 500 participants were calculated and proportionally divided in each subgroup per quota sampling (Table 1). Convenience sampling is to distribute paper-based and online questionnaires to 500 participants via the offices of student affairs.

Table 1: Quota Sampling

Target Public Universities	Student Grade	Population Size Total = 2,100	Proportional Sample Unit Size Total = 500
Chengdu University (CDU)	Freshman	180	43
	Sophomore	160	38
	Junior	150	36
	Senior	170	40
Sichuan University (SCU)	Freshman	220	52
	Sophomore	205	49
	Junior	205	49
	Senior	200	48
Sichuan Conservatory of Music (SCM)	Freshman	160	38
	Sophomore	160	38
	Junior	140	33
	Senior	150	36

Source: Created by the author.

5. Results and Discussion

5.1 Demographic Information

The demographical data of 500 respondents is 24.37% of males, and 75.63% of females. In terms of universities, 54% of students are from Chengdu University (CDU), 26% are from Sichuan University (SCU), and 20% are from Sichuan Conservatory of Music (SCM). For undergraduate year of study, there are 26.8% of freshmen, 26.67% of sophomores, 25% of juniors, and 21.5% of seniors. Students' selection of majors shows 24.5% of product designs, 21.8% of ring of art design, 9.3% of visual communication design, 20.2% of digital media art design, and 24.2% of the students have not yet determined their selection.

5.2 Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis (CFA) was used to verify the number of constructs and its factor loadings (Malhotra et al., 2004). The measurement model was measured by the goodness-of-fit indices, including CMIN/DF, GFI, AGFI, CFI, TLI and the RMSEA. As a result, this study confirms the goodness of fit in measurement model as shown in Table 2. According to the statistical summary in Table 3, all values were approved as of Cronbach's Alpha more than 0.80, factor loadings more than 0.30, t-value more than 1.98, p-value less than 0.50, composite reliability (CR) more than 0.70 and Average variance extracted (AVE) more than 0.50. Consequently, all estimates are significant.

Table 2: Goodness-of-Fit for Measurement Model

Fit Index	Acceptable Criteria	Source	After Adjustment Values
CMIN/DF	< 5.00	(Al-Mamary & Shamsuddin, 2015; Awang, 2012)	2.749
GFI	≥ 0.85	(Sica & Ghisi, 2007)	0.893
AGFI	≥ 0.80	(Sica & Ghisi, 2007)	0.870
NFI	≥ 0.80	(Wu & Wang, 2006)	0.897
CFI	≥ 0.80	(Bentler, 1990)	0.931
TLI	≥ 0.80	(Sharma et al., 2005)	0.922
RMSEA	< 0.08	(Pedroso et al., 2016)	0.059

Note: 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 = Normed fit index, CFI = Comparative fit index, TLI = Tucker-Lewis index, and RMSEA = Root mean square error of approximation.

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

Latent Variables	Source of Questionnaire	No. of Items	Cronbach's Alpha	Factors Loading	CR	AVE
Perceived Ease of Use (PEOU)	(Shin & Kang, 2015)	5	0.867	0.689-0.881	0.847	0.854
Perceived Usefulness (PU)	(Mtebe & Raisamo, 2014)	4	0.851	0.623-0.895	0.861	0.612
Performance Expectancy (PE)	(Mtebe & Raisamo, 2014)	4	0.870	0.637-0.976	0.885	0.665
Self-Efficacy (SE)	(Mtebe & Raisamo, 2014)	4	0.912	0.715-0.929	0.917	0.735
Effort Expectancy (EE)	(Mtebe & Raisamo, 2014)	4	0.880	0.659-0.881	0.885	0.660
Social Influence (SI)	(Mtebe & Raisamo, 2014)	4	0.885	0.651-0.879	0.891	0.674
Behavioral Intention (BI)	(Shin & Kang, 2015)	5	0.867	0.641-0.854	0.867	0.621

Source: Created by the author.

The convergent validity is determined when the value of CR is greater than AVE, while the AVE is higher than 0.50 (Hair et al., 2006). And the values of the discriminant validity which were examined and demonstrated in Table 3 exceeded the critical point values. Consequently, the convergent validity and the discriminant validity of this research are assured. Additionally, these matrix consoles the validation to assess structural model estimation.

Table 4: Discriminant Validity

	PEOU	PU	PE	SE	EE	SI	BI
PEOU	**0.764**						
PU	0.421	**0.782**					
PE	0.344	0.31	**0.815**				
SE	0.388	0.321	0.304	**0.857**			
EE	0.444	0.287	0.293	0.315	**0.712**		
SI	0.35	0.343	0.254	0.266	0.313	**0.821**	
BI	0.388	0.317	0.276	0.347	0.361	0.269	**0.788**

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

5.4 Structural Equation Model (SEM)

The structural equation model (SEM) was conducted to estimate a fitness of structural model. Furthermore, SEM determines the causal relationship among each variable (Jaruwanakul, 2021). The results are illustrated in Table 5, adjusted by SPSS AMOS statistical program. Subsequently, all the values of CMIN/DF, GFI, AGFI, CFI, TLI and the RMSEA are within acceptable criteria. Consequently, goodness of fit of structural model is acceptable.

Table 5: Goodness of Fit for Structural Model

Fit Index	Acceptable Criteria	Source	After Adjustment Values
CMIN/DF	< 5.00	(Al-Mamary & Shamsuddin, 2015; Awang, 2012)	3.107
GFI	≥ 0.85	(Sica & Ghisi, 2007)	0.851
AGFI	≥ 0.80	(Sica & Ghisi, 2007)	0.819
NFI	≥ 0.80	(Wu & Wang, 2006)	0.883
CFI	≥ 0.80	(Bentler, 1990)	0.917
TLI	≥ 0.80	(Sharma et al., 2005)	0.906
RMSEA	< 0.08	(Pedroso et al., 2016)	0.065

Note: 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 = Normed fit index, CFI = Comparative fit index, TLI = Tucker-Lewis index, and RMSEA = Root mean square error of approximation.

5.5 Research Hypothesis Testing Result

The significance of each variable is determined by regression weights and R2 variance. Based on the results in Table 6, the support relationship has p-values less than 0.05. Perceived ease of use has the strongest impact on perceived usefulness with a standardized path coefficient (β) of 0.373 (t-value = 6.884***). Behavioral intention is strongly and significantly impacted by perceived ease of use at (β) of 0.203 (t-value = 3.719***), followed by self-efficacy at (β) of 0.185 (t-value = 3.983***), perceived usefulness of 0.159 (t-value = 3.062**), effort expectancy at (β) of 0.133 (t-value = 2.846**), performance expectancy at (β) of 0.103 (t-value = 2.281*), and social influence at (β) of 0.100 (t-value = 2.161*). Accordingly, all hypotheses are supported.

Table 6: Hypothesis Results of the Structural Equation Modeling

Hypothesis	(β)	S.E.	t-value	Result
H1: PEOU→PU	0.373	0.049	6.884***	Supported
H2: PU→BI	0.159	0.066	3.062**	Supported
H3: PEOU→BI	0.203	0.063	3.719***	Supported
H4: PE→BI	0.103	0.054	2.281*	Supported
H5: SE→BI	0.185	0.049	3.983***	Supported
H6: EE→BI	0.133	0.065	2.846**	Supported
H7: SI→BI	0.100	0.052	2.161*	Supported

Note: *** p<0.001, ** p<0.01, * p<0.05
Source: Created by the author.

Based on the results in Table 6, the following extensions can be obtained.

H1 confirms that perceived ease of use has the strongest significant impact on perceived usefulness, with a standardized path coefficient value of 0.373. Many scholars support this result when students assume that hybrid learning is simple, they are more likely to use it (Didyasarin et al., 2017; Raeisi & Lingjie, 2016; Shin & Kang, 2015).

In **H2**, perceived usefulness has a significant impact on behavioral intention supported by a standardized coefficient value of 0.159. Numerous literatures agree that perceived ease of use can determine perceived usefulness of hybrid education among undergraduates in Arts and Design (Huang & Liaw, 2018).

H3 shows the result that perceived ease of use significantly impacts behavioral intention, expressing a standardized coefficient value of 0.203. Many earlier studies indicated that when students perceive ease of use of hybrid education, they develop intentional behavior to use it (Venkatesh et al., 2003).

In term of **H4**, the finding supports that performance expectancy significantly impacts behavioral intention of hybrid education among undergraduates in Arts and Design, with a standardized value of 0.103. The higher a student desire to engage hybrid education, the greater the likelihood that behavioral intention will occur (Ajzen, 1991).

H5 supports the hypothesis result between self-efficacy and behavioral intention, representing a standardized coefficient value of 0.185. Self-efficacy is related to their academic progress, achievement, and performance

enhancement which arouse students to promote behavioral intention to adopt hybrid learning (Kanadl, 2017).

H6 presents the significant impact of effort expectancy on behavioral intention, with a standardized coefficient value of 0.133. Alharbi and Drew (2014) implies that students with effort expectancy will be led to their behavioral intention to adopt hybrid education.

The result of **H7** is aligned with previous studies that social influence supports behavioral intention, with a standardized coefficient value of 0.100. It can be interpreted that family, friends and teachers can dominate their behavioral intention to accept the use of hybrid learning (Kesharwani & Tripathy, 2012).

6. Conclusions and Recommendation

6.1 Conclusion and Discussion

This research goals are achieved to determining key drivers of behavioral intention to use hybrid education of undergraduate students in Arts and Design in three universities in Chengdu, China. The hypotheses are developed to build a conceptual framework based on technology acceptance model (TAM) and unified theory of acceptance and use of technology (UTAUT) theories. Questionnaires were distributed to 500 undergraduate students who have at least one month experience with hybrid education program. Statistical analysis was conducted through a confirmatory factor analysis (CFA) and structural equation modeling (SEM) in order to validate the main influencers of behavioral intention to use hybrid education of undergraduate students.

The results indicate that perceived ease of use has the strongest impact on perceived usefulness and behavioral intention to adopt hybrid education among undergraduate students in Arts and Design. The results are consistent with previous researchers, which can be signified when students aware ease of use and benefits of using hybrid education, they tend to promote behavioral intention to accept such module to achieve their learning objectives.

Additionally, behavioral intention is significantly impacted by self-efficacy, perceived usefulness, effort expectancy, performance expectance and social influence. The findings point that the significance of student's adoption on hybrid education relies on how they perceive such learning is simple and useful. A student's confidence in his or her own capacity can also determine willingness to accept hybrid education. The influence of peers, teachers and parents can gear up student's motivation to adapt with hybrid education.

6.2 Recommendation

Facing with new challenges of modern education, educators (school's owners, teachers and other academic staff) have been forced to transform from traditional to new way of teaching, integrating innovation and technology into learning tools. Educational sector has been heading towards the new design of the program, process and resources to response with the digitalization. The rapid development of Internet technology has enabled students to accept hybrid education. Arts and Design program is a special curriculum and is different from others such as business administration, communications etc. This unique cirriculum requires largely active and practice learning characteristics. Therefore, the application of hybrid education and its relevant technologies can accelerate the learning efficiency and performance.

This quantitative research determines the significant drivers of behavioral intention to use hybrid education of undergraduate students in Arts and Design in three universities in Chengdu, China, which can produce recommendations for educators to maximize the use of hybrid teaching and learning, aiming to uplift students' successful adoption and their leaning achievement.

Stakeholders in educational sector need to reform and redesign teaching methods, materials and contents in responding with the new educational culture. The traditional education model is soon to be outdated. COVID-19 has set the new agenda to education institutes around the world that hybrid education could provide numerous advantages such as convenience, cost effectiveness and higher student satisfaction. Educators should optimize the results of this study to improve their existing or to develop their new hybrid education model that can greatly promote successful adoption of students.

For academic practitioners and researchers, they need a clear understanding of factors determining students' behavioral intention to adopt certain technologies. This study points technology acceptance model (TAM) and unified theory of acceptance and use of technology (UTAUT) as key theories which can be extended whether behavioral intention is significantly impacted by perceived ease of use, self-efficacy, perceived usefulness, effort expectancy, performance expectance and social influence in other context.

In addition, education industry is a backbone of the country's development. Hybrid education policies should be endorsed and supported by government. The investment of internet infrastructure as well as online learning system should be allocated. The social and interactive platforms should be keen to provide students with system and content quality due to hybrid education in developing countries does not enable independent learning according to students' needs. Therefore, government and universities should join

force to develop a learning management system that is more in line with the characteristics of hybrid education, and invest more in software, hardware and other resources for hybrid education to ensure the best students' learning efficiency and performance.

6.3 Limitation and Further Study

The primary objectives established for this research were the identification of factors influencing motivations for hybrid education adoption, using the case of undergraduate students in Arts and Design in three universities in Chengdu, China. Thus, the findings may only be applicable to the economic and regulatory environment in the China, which clearly are inadequate to provide more than indicative data on issues that may differ in other countries. The application of TAM and UTAUT has been demonstrated to produce the assumption of the case study. Therefore, future study should consider different models such as theory of plan behavior (TPB), information system (IS) success and several more. Additionally, comparative research should also be conducted to identify the relationships between different factors and to provide more professional implication of the findings.

References

Abbad, M. (2010). Learning From Group Interviews: Exploring Dimensions of Learning Management System Acceptance. *International Journal of Instructional Technology and Distance Learning, 7*(3), 25-39.

Agarwal, R., & Prasad, J. (1999). Are Individual Differences Germane to The Acceptance of New Information Technologies?. *Decision Sciences, 3*0(2), 361-391.

Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179-211.

Alharbi, S., & Drew, S. (2014). Mobile Learning-System Usage: Scale Development and Empirical Tests. *International Journal of Advanced Research in Artificial Intelligence, 3*(11), 31-47.

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.

Altin, C., Calisir, F., & Bayram, A. (2008). Understanding the behavioral intention to use ERP Systems: An Extended Technology Acceptance Model. *IEEE International Conference on Industrial Engineering and Engineering Management,* 2024-2028.

Attuquayefio, S., & Addo, H. (2014). Using the UTAUT Model to Analyze Students' ICT Adoption. *International Journal of Education and Development using ICT, 10*(3), 75-86.

Awang, Z. (2012). *A Handbook on SEM Structural Equation Modelling: SEM Using AMOS Graphic* (5th ed.). Universiti Teknologi Mara Kelantan.

Bardakcı, S. (2019). Exploring High School Students' Educational Use of YouTube. *International Review of Research in Open and Distributed Learning, 20*(2), 260-278.

Bates, A. W. (2005). *Technology, E-Learning and Distance Education* (2nd ed.). Routledge.

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

Chao, C. M. (2019). Factors Determining the Behavioral Intention to Use Mobile Learning: An Application and Extension of The UTAUT Model. *Frontiers in Psychology, 10,* 1-14. https://doi.org/10.3389/fpsyg.2019.01652

Chen, H., & Tseng, H. (2012). Factors that influence acceptance of web-based e-learning systems for the in-service education of junior high school teachers in Taiwan. *Evaluation and Program Planning, 35*(3), 398-406.

Cheung, R., & Vogel, D. (2013). Predicting User Acceptance of Collaborative Technologies: An Extension of The Technology Acceptance Model for e-Learning. *Computers & Education, 63*(1), 160-175.

Cigdem, H., & Ozturk, M. (2016). Factors Affecting Students' Behavioral Intention to Use LMS at a Turkish Post-Secondary Vocational School. *International Review of Research in Open and Distributed Learning, 17*(3), 276-295.

Clark-Carter, D. (2010). *Quantitative Psychological Research: The Complete Student's Companion* (3rd ed.). Psychology Press-Taylor & Francis.

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly, 13*(3), 319-340.

Didyasarin, H., Vongurai, R., & Inthawadee, S. (2017). The Factors Impact Attitude Toward Using and Customer Satisfaction with Elderly Health Care Mobile Application Services: A Case Study of People in Bangkok Metropolitan, Thailand. *AU-GSB E-JOURNAL, 10*(1), 167-176.

Doering, A. (2006). Adventure Learning: Transformative Hybrid Online Education. *Distance Education, 27*(2), 197-215.

Duangekanong, S. (2022). Applications of Artificial Intelligence for Strategic Management of Organization. *ABAC ODI JOURNAL Vision. Action. Outcome, 9*(2), 202-217. https://doi.org/10.14456/abacodijournal.2022.13

Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Addison-Wesley.

Fokides, E. (2017). Greek Pre-service Teachers' Intentions to Use Computers as In-service Teachers. *Contemporary Educational Technology, 8*(1), 56-75.

Hair, J., Black, W., Babin, B., Anderson, R., & Tatham, R. (2006). *Multivariate Data Analysis* (6th ed.). Pearson Education.

Hochberg, J. M. (2006). Online Distance Education Pedagogy: Emulating the Practice of Global Business. *Distance Education, 27*(1), 129-133.

Huang, H., & Liaw, S. (2018). An Analysis of Learners' Intentions Toward Virtual Reality Learning Based on Constructivist and Technology Acceptance Approaches. *International Review of Research in Open and Distributed Learning, 19*(1), 91-115.

Israel, D. (1992). *Determining Sample Size*. University of Florida Cooperative Extension Service, Institute of Food and Agriculture Sciences, EDIS, Florida.

Jaruwanakul, T. (2021). Key Influencers of Innovative Work Behavior in Leading Thai Property Developers. *AU-GSB e-Journal, 14*(1), 61-70.

Juhary, J. (2014). Perceived Usefulness and Ease of Use of The Learning Management System as A Learning Tool. *International Education Studies, 7*(8), 23.

Kanadl, S. (2017). Prospective Teachers' Professional Self-Efficacy Beliefs in Terms of Their Perceived Autonomy Support and Attitudes Towards the Teaching Profession: A Mixed Methods Study. *Educational Sciences: Theory & Practice, 17*(5), 1847-1871.

Kesharwani, A., & Tripathy, T. (2012). Dimensionality of Perceived Risk and Its Impact on Internet Banking Adoption: An Empirical Investigation. *Services Marketing Quarterly, 33*(2), 177-193.

Lodico, G., Spaulding, T., & Voegtle, H. (2006). *Method in Educational Research: From Theory to Practice* (1st ed.). Jossey-Bass. Press.

Lucas, H. C., & Spitler, V. K. (1999). Technology Use and Performance: A Field Study of Broker Workstations. *Decision Sciences, 30*(2), 291-311.

Mahande, R., & Malago, J. (2019). An E-Learning Acceptance Evaluation Through UTAUT Model in A Postgraduate Program. *Journal of Educators Online, 16*(2), 1-10.

Malhotra, N., Kim, S., & Agarwal, J. (2004). Internet Users' Information Privacy Concerns (IUIPC): The Construct, the Scale, and a Causal Model. *Information Systems Research, 15*(4), 336-355. https://doi.org/10.1287/isre.1040.0032

Mtebe, J., & Raisamo, R. (2014). Investigating Perceived Barriers to the Use of Open Educational Resources in Higher Education in Tanzania. *International Review of Research in Open and Distance Learning, 15*(2), 43-66. https://doi.org/10.19173/irrodl.v15i2.1803

Ngampornchai, A., & Adams, J. (2016). Students' Acceptance and Readiness for e-Learning in Northeastern Thailand. *International Journal of Educational Technology in Higher Education, 13*(34), 1-13.

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.

Onaolapo, S., & Oyewole, O. (2018). Performance Expectancy, Effort Expectancy, And Facilitating Conditions as Factors Influencing Smart Phones Use for Mobile Learning by Postgraduate Students of The University of Ibadan. *Interdisciplinary Journal of E-Skills and Lifelong Learning, 14*(1), 96-115.

Pedroso, R., Zanetello, L., Guimaraes, L., Pettenon, M., Goncalves, V., Scherer, J., Kessler, F., & Pechansky, F. (2016). Confirmatory factor analysis (CFA) of the crack use relapse scale (CURS). *Archives of Clinical Psychiatry, 43*(3), 37-40.

Pintrich, R. (1999). The Role of Motivation in Promoting and Sustaining Self-Regulated Learning. *International Journal of Educational Research, 31*(6), 459-470.

Raeisi, S., & Lingjie, M. (2016). Factors influencing to m-commerce adoption in China. *The International Journal of Business & Management, 4*(3), 372-384.

Rivera, J. C., McAlister, M. K., & Rice, M. (2002). A Comparison of Student Outcomes & Satisfaction Between Traditional & Web-Based Course Offerings. *Online Journal of Distance Learning Administration, 5*(3), 151-179.

Salkind, J. (2017). *Exploring Research* (9th ed.). Pearson Press.

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.

Shin, W. S., & Kang, M. (2015). The Use of a Mobile Learning Management System at an Online University and Its Effect on Learning Satisfaction and Achievement. *International Review of Research in Open and Distributed Learning, 16*(3), 110-130.

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

Ssekakubo, G., Suleman, H., & Marsden, G. (2011). Issues of Adoption: Have E-Learning Management Systems Fulfilled their Potential in Developing Countries?. *In Proceedings of the South African Institute of Computer Scientists and Information Technologists Conference on Knowledge, Innovation and Leadership in a Diverse, Multidisciplinary Environment, 23*, 1-238.

Sung, H.-N., Jeong, D.-Y., Jeong, Y.-S., & Shin, J.-I. (2015). The Relationship among Self-Efficacy, Social Influence, Performance Expectancy, Effort Expectancy, and Behavioral Intention in Mobile Learning Service. *International Journal of U- and e- Service, Science and Technology, 8*(9), 197-206. https://doi.org/10.14257/ijunesst.2015.8.9.21

Tarhini, A., Deh, R. M., Al-Busaidi, K. A., Mohammed, A. B., & Maqableh, M. (2017). Factors influencing students' adoption of e-learning: A structural equation modeling approach. *Journal of International Education in Business, 10*(2), 164-182. https://doi.org/10.1108/JIEB-09-2016-0032

Uddin, M., Alam, M., Mamun, A., Uz-Zaman Khan, T., & Akter, A. (2020). A Study of the Adoption and Implementation of Enterprise Resource Planning (ERP): Identification of Moderators and Mediator. *Journal of Open Innovation Technology Market and Complexity, 6,* 1-18. http://doi.org/10.3390/joitmc6010002

Venkatesh, V., Morris, M. G., Hall, M., Davis, G. B., Davis, F. D., & Walton, S. M. (2003). User Acceptance of Information Technology: Toward A Unified View 1. *MIS Quarterly, 27*(3), 425-478.

Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. *MIS Quarterly, 36*(1), 157-178.

Voß, H., Scholz-Kreisel, P., Richter, C., Ringel, F., Singer, S., & Renovanz, M. (2021). Development Of Screening Questions for Doctor–Patient Consultation Assessing the Quality of Life and Psychosocial Burden of Glioma Patients: An Explorative Study. *Quality of Life Research, 4*(1), 1513-1522.

Wang, Y., Wu, M., & Wang, H. (2009). Investigating the Determinants and Age and Gender Differences in The Acceptance of Mobile Learning. *British Journal of Educational Technology, 40*(1), 92-119.

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

Zarmpou, T., Saprikis, V., Markos, A., & Vlachopoulou, M. (2012). Modeling Users' Acceptance of Mobile Services. *Electronic Commerce Research, 12*(2), 225-248.