Impact of Autonomous Motivation on College Students' Continuous Intention to Use Chaoxing Platform toward Hybrid Learning Context: TAM-PCASS Model

Zheng Zheng[1,4], Wan Ahmad Jaafar Wan Yahaya[1], Zhao Xin[2,4], Jiao Fengming[3,4]

[1]Center for Instructional Technology and Multimedia, Universiti Sains Malaysia, Penang, Malaysia, [2]School of Languages, Literacies and Translation, Universiti Sains Malaysia, Penang, Malaysia, [3]School of Humanities, Universiti Sains Malaysia, Penang, Malaysia, [4]Jitang College, North China University of Science and Technology, Tangshan, China
Email: zhengzheng@student.usm.my, candyzhaoxin@student.usm.my, jiaofengming@student.usm.my
Corresponding Author Email: wajwy@usm.my

Abstract
Hybrid learning integrates online instruction with in-person interaction, and the Chaoxing platform serves as an indispensable intermediary in higher education in China. The efficacy of hybrid learning hinges upon the learner's active engagement in the mobile technology educational process. Hence, this study integrates the technology acceptance model (TAM) with the perceived choice and awareness of self scale (PCASS) to develop a comprehensive model for assessing learners' continuous intention to use Chaoxing. The study identifies five constructs: perceived choice (PC), self-awareness (SA), perceived usefulness (PU), perceived ease of use (PEOU), and continuous intention to use (CI). 320 valid responses were obtained from undergraduate students at Jitang College, North China University of Science and Technology. The model's path coefficients are computed using SPSS and AMOS software. The empirical findings demonstrate that the two factors of autonomous motivation, specifically perceived choice and self-awareness, exert a substantial impact on continuous intention to use Chaoxing. Nevertheless, the importance of the perceived ease of use in relation to the continuous intention to use Chaoxing that of the perceived usefulness. This suggests that learners prioritize the information offered by the course. These findings can offer efficient pedagogical approaches for administrators and educators who can facilitate hybrid instruction using Chaoxing as a medium.
Keywords: Autonomous Motivation, Perceived Choice, Self-awareness, Continuous Intention, Chaoxing Platform, TAM

Introduction

Mobile learning has gained popularity among students in recent decades due to the convenience and flexibility afforded by mobile technology (Matumba & Rajkoomar, 2023; Ningsih et al., 2022; Vrana, 2018). This allows students to learn at any time and in any location, beyond the limitations of traditional classrooms. Universities have widely embraced hybrid learning through online platforms because to the rapid advancement of information and communication technologies.

Mobile learning has emerged as a crucial educational tool in higher education institutions, as it has the potential to positively impact learners' attitudes towards learning and enhance their perception of efficient and effortless learning activities (Acheampong & Agyemang, 2021; Giannakopoulos & Eybers, 2015). Mobile learning has the capability to facilitate diverse forms of learning at various levels. University students are particularly inclined to embrace mobile learning due to their frequent possession of personal mobile learning devices (Matumba & Rajkoomar, 2023). The Chaoxing software is an essential platform in Chinese higher education institutions, serving as a comprehensive course grading system for 901 universities across the country (Qin & Huang, 2022; Wang & Li, 2023). Chaoxing is a widely used educational platform in China, mostly among university students, and its continuous intention to use is a significant area of research.

In 2022, Zhu (2022) was done to investigate techniques for improving the sustained intention of Chinese university students to use the Chaoxing platform. It has been verified that the motivation of students has a beneficial effect on their ongoing purpose to utilize the Chaoxing platform. There is a direct correlation between the level of students' learning motivation and their continuous intention to use the Chaoxing platform. The more motivated students are, the more actively they are influenced to continue using it.

Luo et al (2021) introduced a research approach utilizing Self-Determination Theory (SDT) to elucidate the connection between students' basic psychological needs and their intrinsic and external motivations. The primary objective of the research was to examine the self-regulated online learning behaviors of college students. The theoretical framework incorporated three expanded dimensions of SDT as independent variables, however it did not provide a thorough investigation of the autonomy motivation. In addition, multiple surveys on the current situation of students' online learning show that their attendance rate and willingness to continue learning are poor (Pan, 2022; S. Wang et al., 2023; Yang et al., 2022). It is far from our expectations to help students achieve better learning outcomes through online learning platforms. The autonomy motivation in this study was categorized based on the Perceived Choice Awareness of Self Scale (PCASS) (Center for Self-determination Theory, 2017). The independent variables as perceived choice and self-awareness are characterized in this research which investigated the influence of continuous intention to use it in a hybrid learning environment, and evaluated how this desire is related to the perceived usefulness and perceived ease of use. Therefore, this study aims to explore the influencing factors of university students' continuous intention to use Chaoxing through empirical research and provide reasonable suggestions for improving the effectiveness of online teaching.

Literature Review

Self-Determination theory

The Self-Determination Theory (SDT) is a widely recognized motivational framework that has been implemented across diverse domains and situations (Denneson et al., 2020; Evans,

2015; Fila & Purzer, 2017; Mills & Allen, 2020). SDT highlights the significance of inherent psychological needs, such as autonomy, competence, and relatedness, in motivating individuals to participate in activities (Mills & Allen, 2020). Although SDT has been extensively utilized in conventional in-person settings and demonstrated its efficacy, it has received limited attention in online learning contexts. Krauter (2023) indicates Ryan and Deci proposed that future research in Self-Determination Theory (SDT) should thoroughly investigate the ways in which technology in e-learning and remote classrooms might enhance student involvement and facilitate learning. Hence, SDT can provide insights into the process by which students develop motivation that is directly linked to their inclination to persist in utilizing online technologies.

The primary reason intrinsic or autonomous motivation was the focus of this study was because intrinsic motivation is not only vital to human physical, cognitive, and social development, it is this natural motivational predisposition that energizes a person to pursue one's interest through which growth in knowledge and skills transpire (Kulkarni, 2015). Intrinsically motivated individuals are compelled to action from within. Being that the desire for a person to learn must first come from within a person, using an autonomous/intrinsic motivation perspective to investigate the phenomenon of interest was compatible.

The SDT facilitates the understanding of the social conditions that enhance the normal development of perceived choice and self-awareness level (Center for Self-determination Theory, 2017). The SDT provided the explanatory framework on self-determination and perceived choice and self-awareness for this study. The enrichment of perceived choice, self-awareness and self-determination is optimized when the satisfaction of the three psychological needs requirements of autonomy, competence, and relatedness are met (Ryan & Sapp, 2007).

An expanded explanation of the psychological needs leads to an understanding from the SDT perspective and the supporting conditions of autonomous motivation (Fierro-Suero et al., 2022; Kurdi et al., 2024; Santana-Monagas & Núñez, 2022; Wang et al., 2022). The first psychological need is autonomy and it refers to an individual being the originator and source of one's behaviors. Autonomy is exhibited when an individual is allowed to behave in a manner consistent with their values and interests (Ryan & Sapp, 2007; Wang et al., 2022). Autonomy is also referred to as acting with self-determination, volition, and a having a sense of choice (Stone et al., 2009). But, as Stone et al. (2009) pointed out this does not mean independence because it is possible to act autonomously and still be dependent on others. Poile (2017) affirmed autonomy includes the freedom to choose the behavior and to modify the behavior if necessitated. The facilitation of increased autonomous behaviors is enhanced when autonomy is supported (Santana-Monagas & Núñez, 2022).

Ryan and Deci (2020) affirmed SDT focused on the social contextual conditions that enhance a healthy psychological growth and a natural process of perceived choice and self-awareness. Therefore, after individuals' psychological essentials of competence, autonomy, and relatedness are fulfilled, they would experience both a heightened level of perceived choice and self-awareness and mental health. The conjecture for this is people are intrinsically motivated when they have a greater sense of perceived choice and self-awareness, and this assumption is widely accepted(Deci & Ryan, 1980; Ryan et al., 2019; Ryan & Deci, 2020b).

Prior research has demonstrated that individuals are more inclined to achieve success in accomplishing a task when they perceive it as their free choice to undertake. Autonomous motivation refers to the act of engaging in an activity because it is believed to align with internal goals or desired results and originates from within oneself. Put simply, the conduct is

autonomous. The notion of self-determination is a psychological framework that centers on the inherent motivation and psychological requirements that propel human activity. Another requirement that has been brought up in the theory of self-determination is the necessity for autonomy. Autonomy is the innate human inclination to exert authority over one's own actions, choices, and overall existence. The need for autonomy is the necessity to be self-governing and have the liberty to make decisions that are in line with one's principles, preferences, and objectives.

Perceived Choice and Awareness of Self (PCASS)

A primary website provided contributory resources and references on the foundation of the theory used throughout this study. The self-determination theory (SDT) website (http://www.selfdeterminationtheory.org) was furnished with a comprehensive catalog of published work on the application of the theory. The website also accommodated a listing of all the various questionnaire established to measure constructs based on the theory. Each questionnaire listed contained a description of the measurement tool, the key for the tool and the various studies that utilized the tool were referenced. PCASS was downloaded from the website in this study.

The need for autonomy refers to the desire to have a sense of control and independence in one's actions and decisions. It has two main aspects: perceived choice and self-awareness (Center for Self-determination Theory, 2017). Perceived choice refers to the feeling of having options and the ability to make decisions. When individuals perceive that they have a choice in their actions, they are more likely to feel autonomous and motivated to engage in those actions. This aspect of autonomy is closely related to the concept of willpower, as individuals need to feel a sense of willpower and the opportunity to choose in order to initiate and sustain a behavior. Self-awareness, on the other hand, involves recognizing oneself as the source of one's behaviors. It means being aware of one's own values, goals, and preferences, and aligning one's actions with these internal motivations. When individuals have a strong sense of self-awareness, they are more likely to feel autonomous and in control of their actions.

Perceived Choice

Perceived choice refers to an individual's subjective experience of having options and making decisions based on those options. It's the sense that one's actions are determined by their own volition and that they have some level of control over the outcomes(Chow et al., 2022; Isard & Szalma, 2015; Jellison & Harvey, 1973). Perceived choice can have a significant impact on various aspects of life, including decision-making, motivation, well-being, and even learning. Researchers in psychology often study perceived choice to understand how it affects human behavior and cognition(Ahmad Husairi & Rossi, 2024; Shin et al., 2023). It's worth noting that perceived choice doesn't necessarily mean having an infinite number of options but rather feeling that the options available align with one's values, preferences, and intentions. The concept of perceived choice is relevant in various fields, including education, marketing, organizational psychology, and more.

Self-Awareness

Self-awareness refers to the ability to reflectively acknowledge and comprehend one's own thoughts, emotions, behaviors, and experiences. It entails possessing a deep understanding of one's own personality, views, motivations, strengths, shortcomings, and the influence one exerts on others (Atmojo et al., 2020; Dirette, 2010). Self-awareness is an essential component of human consciousness and is seen as a crucial factor of emotional intelligence and personal growth.

Self-awareness is crucial for personal growth and effective interpersonal relationships. It allows you to identify areas for improvement, make informed decisions, and regulate your emotions (Hapsari et al., 2020; Johnston et al., 2021). People with higher levels of self-awareness tend to have a better understanding of their strengths and weaknesses, leading to more authentic and fulfilling lives.

Perceived Ease of Use

Researchers in the fields of user experience design and human-computer interaction (HCI) came up with the idea of perceived ease of use. How easy and how little mental effort a user anticipates a system or piece of technology to be is a good indicator of how usable it is (Bandara & Amarasena, 2018; Febrianda & Indayani, 2022). User experience is the subjective evaluation of how easy or hard it is to use a product, piece of software, or piece of technology by an individual.

A user-centered design and overall user experience are strong correlates of how easy something is to use. Companies and designers work hard to make goods and technologies that are user-friendly and enjoyable to use, in addition to being functional. As a result, the technology's market success, consumer happiness, and adoption rates are all boosted.

Perceived Usefulness

Individuals' subjective assessments of how well they think a given system or technology will perform their job responsibilities make up what is known as "perceived usefulness" in TAM (Scherer et al., 2015; Wong et al., 2023). Simply said, it's the degree to which people think a technology will help them achieve their goals, fix problems, or excel in their careers.

How useful people think a new piece of technology is has a major impact on whether or not they want to adopt and use it. When people see a technology as useful, they are more likely to use it. Because it helps designers and developers understand how users' perceptions of usefulness influence their behaviors, this idea is very important in the fields of human-computer interaction (HCI) and user experience design (Jamogha et al., 2022; Zhang et al., 2020). This essential component greatly affects how users feel about using and adopting technology. Higher rates of acceptance and adoption might be possible through the development of technologies that address user needs, offer real benefits, and align with their goals.

Continuous Intention to Use

A person's continuous intention to utilize a technology, system, product, or service is their persistent desire or willingness to keep utilizing it throughout time (Gupta et al., 2021). Technology adoption, user behavior, and user experience research are common settings for discussions of this issue.

If researchers in the area of technology acceptance and user behavior want to know if people will keep using a technology after they adopt it, they need to know their continuing intention to use (Kim-Soon et al., 2016; Yu & Cai, 2022). Continuous intention to use takes into account the elements that impact a user's desire to continue using the technology over an extended period, as opposed to early adoption, which may be impacted by factors like perceived usefulness and simplicity of use.

TAM Model

The Technology Acceptance Model (TAM) is a prevalent theoretical framework employed in the domain of information systems and the adoption of technology. Fred Davis first proposed the idea in 1986, and in 1989, he and colleagues Richard Bagozzi and Paul Warshaw refined it (Gupta et al., 2021; Kim-Soon et al., 2016). TAM seeks to elucidate and forecast consumers'

perception and adoption of novel technologies, contingent upon their assessments of utility and user-friendliness (Yu & Cai, 2022). The concept has exerted a significant impact on comprehending user behavior and directing the development of user-friendly technologies.

Chaoxing Platform
Chaoxing platform is one of the largest online learning platforms in China, serving millions of students and educators. Chaoxing platform offers a wide range of online courses in various subjects, including language learning, mathematics, science, humanities, and more. These courses are designed to be interactive and engaging, with multimedia content, quizzes, and assignments (Jiao, 2021; Zhao, 2021). It provides digital textbooks for students, which can be accessed online or downloaded for offline use. These textbooks are often enriched with interactive features such as videos, animations, and interactive exercises(Chen, 2022; J. Wang & Li, 2023).
In addition, Chaoxing platform includes virtual classrooms where students and teachers can interact in real-time. These virtual classrooms support features such as live video streaming, chat, and collaborative tools for group work and discussions (Qin & Huang, 2022). In addition, students can access their classes and course materials on the go with the Chaoxing platform's mobile app. This enables learning anytime and anywhere, providing flexibility and convenience for students.

Hybrid Learning
In the rapidly evolving landscape of education, the concept of learning has transcended the traditional confines of brick-and-mortar classrooms. Hybrid learning emerges as a dynamic and innovative educational approach that combines the best of both physical and digital realms (Wang & Li, 2023). This approach acknowledges the diverse learning styles of today's students and leverages technology to create a seamless fusion between in-person interactions and virtual resources. By intertwining face-to-face instruction with online components, hybrid learning seeks to revolutionize education, offering a flexible and personalized experience that adapts to the needs of modern learners.

Research Model and Hypothesis
This study formulates the following hypotheses based on a thorough review of literature and logical analysis.
H1: perceived choice has a positive impact on perceived usefulness
H2: perceived choice has a positive impact on perceived ease of use
H3: perceived choice has a positive impact on self-awareness
H4: perceived choice has a positive impact on continuous intention to use
H5: self-awareness has a positive impact on perceived usefulness
H6: self-awareness has a positive impact on perceived ease of use
H7: self-awareness has a positive impact on continuous intention to use
H8: perceived usefulness has a positive impact on continuous intention to use
H9: perceived ease of use has a positive impact on continuous intention to use
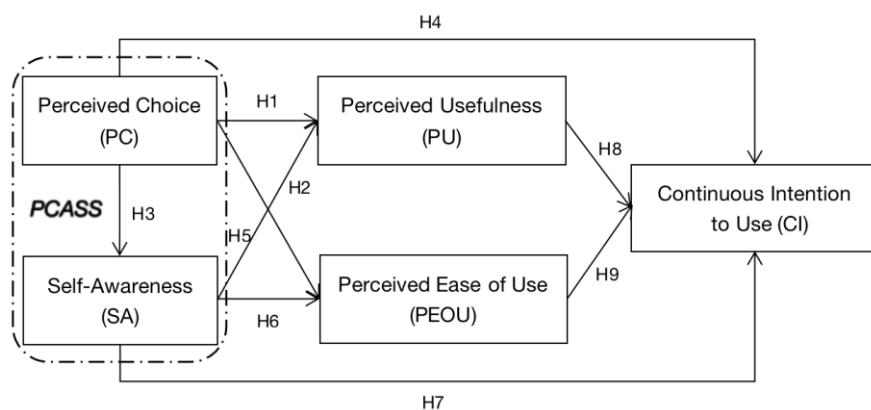
Figure 1: Research Model of the Study

Methodology

This study uses the two dimensions of the Self-Determination Theory as variables to establish a TAM-PCASS model for predicting learners' intention to continue using the Learning Portal. A quantitative research approach is adopted to test the hypothesized relationships in the model. The participants in this study are students from different majors and grades at North China University of Science and Technology. The courses offered by the university can be categorized into general courses (including required and elective courses), foundational courses, and elective courses in specific majors. These courses can all be found on the Chaoxing platform.

The preliminary version of the questionnaire was distributed to specialists in order to obtain their input and verify its efficacy. The revised questionnaire included of 5 categories and 20 sub-items, all assessed on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The design and modification of these questions were informed by prior research that examined the adoption, acceptance, and intention to sustain the use of different technological endeavors, such as mobile technology. The items pertaining to the constructs of perceived choice and self-awareness were modified from the PCASS scale. The items for the constructs of perceived usefulness and perceived ease of use were derived from the TAM model. The items measuring individuals' willingness to accept mobile technology were derived from three existing studies and were further enhanced by incorporating the Chaoxing idea and modifying the wording to align with the specific research environment.

The questionnaire was divided into two sections: the first section gathered information on the demographic characteristics of the participants, such as gender, grade level, and major; the second section comprised the scales. The researchers established the questionnaire within an online survey platform and communicated the research objectives and participant selection criteria to the participants in written format. The questionnaire was completed by a total of 336 participants, and the analysis contained 320 valid responses. The data collected were analyzed using IBM SPSS Statistics 27.0 and Amos 27.0. The data were initially employed to assess their reliability and validity. Subsequently, they were subjected to tests for convergent and discriminant validity, fit indices, and the accuracy of the hypotheses.

Data Analysis

In this study, three stages of data analysis were carried out. The first phase was exploratory factor analysis (EFA), which used the instrument's main dimensions and internal reliability to build the model. The second phase was confirmatory factor analysis (CFA), which used the loading factors for each construct to confirm the constructs. Finally, the model was built and tested using AMOS 27.0. For the EFA analysis, SPSS version 27.0 was utilized.

Table 1
Demographic characteristics of the respondents

Measure	Category	Frequency	Percent (%)	Cumulative %
Gender	Female	102	31.9	31.9
	Male	218	68.1	100.0
Education background	Freshman	13	4.1	4.1
	Sophomore	212	66.3	70.3
	Junior	81	25.3	95.6
	Senior	14	4.4	100.0
Major	Arts	225	70.3	70.3
	Science	95	29.7	100.0

According to the table above, in terms of gender distribution, 31.9% of the participants were female and 68.1% were male. In terms of educational background, 4.1% of the participants were freshmen, followed by 66.3% who were sophomores. The remaining participants consisted of 25.3% juniors and 4.4% seniors. In terms of majors, most participants were from humanities and social sciences, accounting for 70.3%, while 29.7% were from science-related majors.

According to the table 2 of variance explanation rates in the exploratory factor analysis, Rotation Sums of Squared Loadings show that the variance explanation rates of the first to fifth factors are 14.134%, 13.925%, 13.843%, 13.675% and 12.959%, respectively. The cumulative variance explanation rate is 68.536% when the total of the five participants is considered. This cumulative variance explanation rate above 60%, which is considered an acceptable threshold (Trendafilov & Fontanella, 2019). The factor's information content in the original data increases as the variance interpretation rate becomes bigger.

Table 3
Cronbach's Alpha

Construct	Items	N	Cronbach's Alpha
PC	4	320	0.853
SA	4	320	0.849
PU	4	320	0.806
PEOU	4	320	0.841
CI	4	320	0.858

A Cronbach's alpha value greater than 0.7 indicates that the built variables in the scale have good internal consistency. The table above demonstrates that all dimensions of the questionnaire have Cronbach's Alpha values exceeding 0.7, indicating a high level of internal consistency (Bujang et al., 2018). This suggests that the survey results are very reliable.

Table 4
KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.915
Bartlett's Test of Sphericity	Approx. Chi-Square	3094.248
	df	190
	Sig.	.000

The above table shows that the KMO value is 0.915, which is higher than the standard deviation of 0.6. This proves that the data is suitable for undertaking factor analysis studies (Afandi et al., 2023). In addition, the data was found to be suitable for factor analysis after passing Bartlett's sphericity test (p<0.05).

Table 5
Factors loading coefficients after rotation

Rotated Component Matrix^a

	Component				
	1	2	3	4	5
CI4	.778				
CI1	.777				
CI3	.758				
CI2	.747				
SA1		.800			
SA3		.773			
SA4		.773			
SA2		.709			
PC2			.775		
PC4			.771		
PC3			.756		
PC1			.728		
PEOU1				.816	
PEOU2				.767	
PEOU4				.749	
PEOU3				.706	
PU2					.772
PU1					.765
PU3					.753
PU4					.672

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.^a
a. Rotation converged in 6 iterations.

In general, the factor load rotated component matrix of the data in this scale aligns with the scale and dimension divisions in the research design. Furthermore, it is evident that the load value of the associated elements in each dimension exceeds 0.6. Hence, the questionnaire employed in this study has a good level of validity and effectiveness, making it suitable for conducting further research and analysis.

Table 6
Goodness-of -fit indices for the proposed model

Parameters	Acceptable Level of Fit	Values
Chi-square/degree of freedom	<3	1.906
Goodness-of-fit index (GFI)	>0.9	0.919
Tucker-lewis index (TLI)	>0.9	0.942
Root mean square error of approximation (RMSEA)	<0.10	0.053

Comparative fit index (CFI)	>0.9	0.951
Increment fit index (IFI)	>0.9	0.951
Normed fit index (NFI)	>0.9	0.903

The table above demonstrates that the majority of the model fit indicators in the confirmatory factor analysis model used in this work, including CMIN/DF, RMSEA, CFI, NFI, TLI, and IFI, fulfill the established criteria (Fernando & Sooriyarachchi, 2022; Khemlani & Trafton, 2014). Therefore, the model fit can be considered satisfactory.

Table 7
Factor Loading Coefficients

Path			Estimate	AVE	CR
PC4	<---	PC	.769		
PC3	<---	PC	.781		
PC2	<---	PC	.762	0.5918	0.8529
PC1	<---	PC	.765		
SA4	<---	SA	.753		
SA3	<---	SA	.762		
SA2	<---	SA	.767	0.5841	0.8489
SA1	<---	SA	.775		
PU1	<---	PU	.690		
PU2	<---	PU	.737		
PU3	<---	PU	.775	0.5126	0.8073
PU4	<---	PU	.656		
PEOU4	<---	PEOU	.807		
PEOU3	<---	PEOU	.733		
PEOU2	<---	PEOU	.715	0.5693	0.8407
PEOU1	<---	PEOU	.760		
CI1	<---	CI	.738		
CI2	<---	CI	.758		
CI3	<---	CI	.771	0.604	0.8589
CI4	<---	CI	.838		

From the table provided, it is evident that the absolute values of the standardized load system exceed 0.6 and are statistically significant in terms of measurement relationships. This indicates a strong and reliable measurement connection. Furthermore, the Average Variance Extracted (AVE) values for all five factors are above 0.5, and the Composite Reliability (CR) values are all above 0.7. This indicates that the analytical data demonstrates strong convergence validity (Kumari & Sharma, 2020; Mehdizadeh et al., 2023).

Table 6
Discriminant validity

	CI	PEOU	PU	SA	PC
CI	0.777				
PEOU	0.57	0.755			
PU	0.538	0.52	0.716		

| SA | 0.574 | 0.499 | 0.519 | 0.764 | |
| PC | 0.593 | 0.58 | 0.529 | 0.597 | 0.591 |

A discriminatory validity analysis is performed. The CI of the construct is 0.777, which exceeds the maximum absolute value of the correlation coefficient (0.569) between variables. This indicates that the notion demonstrates robust discriminating validity. The discriminative validity of PEOU is demonstrated by its AVE square root value of 0.755, which exceeds the greatest absolute value of the correlation coefficient between components (0.533), indicating its remarkable capacity to discriminate. The square root of AVE for PU is 0.716, which is greater than the maximum absolute value of the correlation coefficient between components (0.524). This indicates that PU exhibits robust discriminative validity. Regarding the subject of SA, the square root of AVE has a value of 0.764, which exceeds the maximum absolute value of the correlation coefficient between factors (0.597). This indicates that the AVE demonstrates robust discriminatory validity.

The aforementioned findings validate the reliability of the research measuring tools employed in this work, hence affirming their suitability for hypothesis testing. The initial model was analyzed using path analysis, focusing on the standardized path coefficient, standard error (S.E), and critical ratio (C.R.). The outcome is displayed in Table 7.

Table 7
Hypothesis Testing of the Study

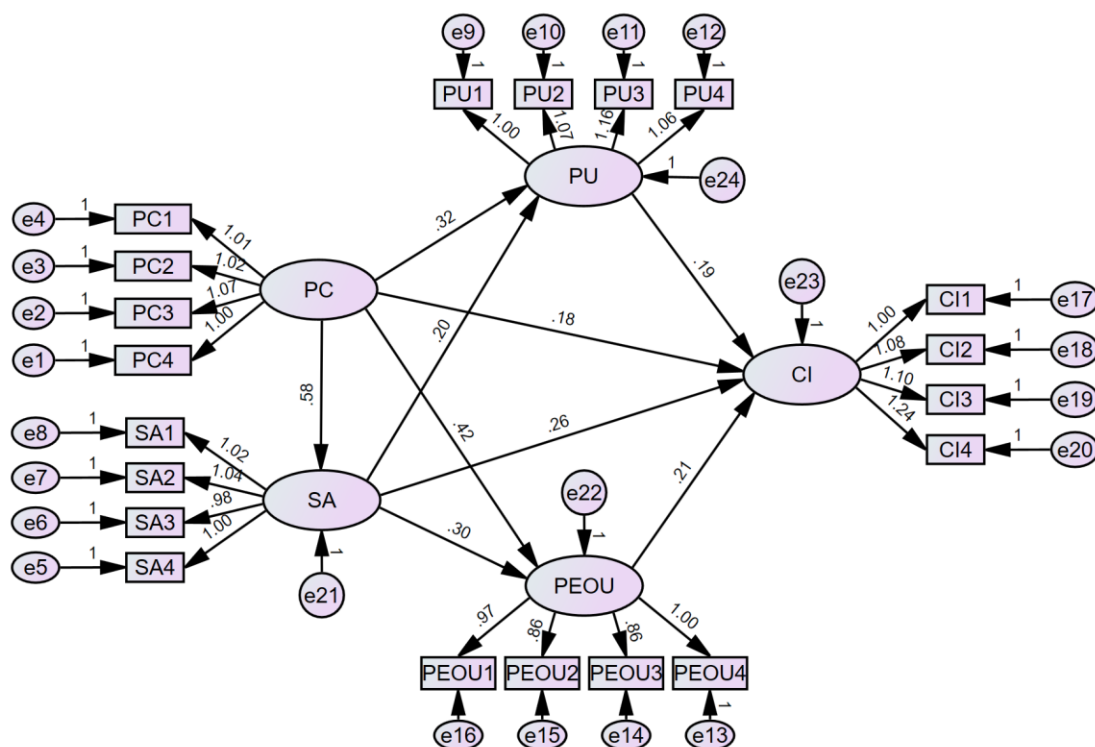|			Estimate	S.E.	C.R.	P
SA	<---	PC	0.575	0.070	8.260	***
PU	<---	PC	0.319	0.072	4.456	***
PEOU	<---	SA	0.300	0.090	3.332	***
PU	<---	SA	0.195	0.071	2.742	0.006
PEOU	<---	PC	0.420	0.088	4.789	***
CI	<---	PU	0.187	0.094	1.994	0.046
CI	<---	PEOU	0.213	0.069	3.077	0.002
CI	<---	PC	0.176	0.080	2.195	0.028
CI	<---	SA	0.259	0.079	3.282	0.001

Figure 2: Path Analysis of the Study

All of the path coefficients exhibit statistical significance and align with the anticipated direction. The results verified that external factors could encompass PC and SA. Hypotheses 1, 2, 3, and 4 were validated, validating the theoretical impact of PC on PU, PEOU, SA, and CI. This finding demonstrates that PC usage driven by autonomous motivation has a substantial impact on PU and PEOU under the TAM. This discovery fills a gap in the field. Hypotheses 5, 6, and 7 were confirmed, reaffirming the impact of SA on PU, PEOU, and CI (Galaige et al., 2018; Hossain & Mahmud, 2016a; Iancu & Iancu, 2023; Yao et al., 2022). These findings align with prior research outcomes. The findings also confirmed Hypotheses 8 and 9, indicating that an increased level of PU and PEOU will result in a higher level of CI. This aligns with several studies that have utilized the TAM (Akritidi et al., 2022; Hossain & Mahmud, 2016; Tang & Chen, 2011). The findings from Figure 2 demonstrate that the TAM and PCASS models can effectively be integrated to forecast learners' sustained intention to utilize Chaoxing.

Discussion

By analyzing the path coefficient, this study discusses the comprehensive factors that affect learners' willingness to continue using Chaoxing software and the relationship between these factors. The growing use of Chaoxing software shows its vitality and sustainability. Overall, all path coefficients are significant and in the expected direction, suggesting that external variables, PC and SA, have a significant impact on the outcome variable.

As shown in Figure 2, PU and PEOU have a significant relationship with CI, which is consistent with the research conclusions of many TAM models. Therefore, in this study, Chaoxing platform, a popular learning software, is used as a mobile technology in TAM model, and its internal relationship is also valid. In the context of hybrid teaching, the author proposes to use two variables in PCASS as external variables, and concludes that PC has strong significance for SA, which makes up for the gap in this field. On the other hand, it also fully demonstrates that learners' perceived hoice can positively affect self-awareness in

autonomous motivation. The significance of PC for PEOU is stronger than that for PU (path coefficients are 0.420 and 0.319, respectively), which means that learners pay more attention to the easy-to-use characteristics of Chaoxing platform than the usefulness of this software. Similarly, the significance of SA for PEOU is also higher than that for PU (path coefficients are 0.300 and 0.195, respectively), which can be interpreted as indicating that learners' self-awareness of the ease of use of the software platform is higher than its usefulness.

The learners' autonomous motivation to utilize the platform has a more significant influence on PEOU compared to PU, suggesting that learners prioritize the course's content. A course that offers an abundance of resources has the potential to enhance learners' motivation and passion, hence diminishing the perceived level of difficulty associated with its utilization. Learners will be more inclined to utilize this mobile technology if the interface and communication tools are both wealthier and more user-friendly. In hybrid learning, the primary factor that influences the willingness to continue using the Chaoxing platform is the level of user-friendliness of the learning materials. The course's overarching design will enhance students' self-assurance and inquisitiveness towards learning. Hence, educators must exercise great caution when formulating the curriculum to cater to the requirements of students.

The influence of SA on CI (path coefficient 0.259) is greater than that of PC on CI (path coefficient 0.176). Although the P-value is less than 0.05, in hybrid learning, learners can promote their intention of continuous learning through insight into their own learning motivation, strengths, weaknesses, and influence on others. PC enables learners to feel that the options available are aligned with their own values, preferences, and intentions, which also plays a good role in the continuous use of mobile technology for learning. From this we can infer, learners' self-awareness is more willing to continuously use mobile technology than perceived choice.

Limitation and Further Research
The study's participants consisted exclusively of students from Jitang College of North China University of Science and Technology. This characteristic of the sample population poses a drawback to the study, since it restricts the generalizability of the findings.

Conclusion and Future Study
This study constructs a fundamental model of the sustained intention to use Chaoxing platforms by Chaoxing learners, drawing upon TAM and the PCASS. It further examines the factors that impact the ongoing utilization of Chaoxing platforms among college students in the context of hybrid learning. The study employed IBM SPSS Statistics 27.0 and Amos 27.0 for empirical analysis. This study found 5 components based on the TAM and PCASS scales. Perceived choice (PC), self-awareness (SA), perceived usefulness (PU), perceived ease of use (PEOU), and continuous intention to use (CI). Nine hypotheses were formulated and subsequently subjected to rigorous statistical testing, all of which yielded statistically significant results.

In the former study, PU and PEOU have a positive effect on CI, which is also confirmed in this study. In the process of using Chaoxing platform, college students fully feel that the rich resources provided by the platform play an important role in their learning. At the same time, the use of Chaoxing can also carry out remote synchronous learning and carry out cooperation functions with peers. With the continuous improvement of technology, the access, use, interaction, and other aspects of the platform are becoming easier and easier. Barrier-free learning and communication will have a better sense of the use experience of the

platform, thus increasing the evaluation of the sense of ease of use of the platform, and thus the willingness to continue to use the platform will be stronger.

PC and SA were introduced into this study as two external variables, and their positive promoting effects on PU, PEOU and CI were empirically studied. This means that in the hybrid learning context, the perceived choice and self-awareness of Chaoxing will positively affect the intention to continue to use, and the degree of influence of self-awareness is higher than that of perceived choice. This finding has implications for hybrid educators, who develop self-awareness in learners that allows them to identify areas for improvement and make informed decisions that benefit the sustainable development of education.

These findings can provide effective teaching strategies for administrators and educators who can help hybrid teaching with Chaoxing as medium. The limitation of this study is that the data were collected from students of various grades in Jitang College of North China University of Science and Technology, and they have different personal characteristics. While the number of questionnaires collected meets basic needs, these samples do not represent the whole picture. In the future, the research object can be expanded to more colleges and universities to understand the impact of learners' autonomous motivation more fully on their willingness to continue using mobile technology in the context of hybrid learning.

This paper conducts an extensive investigation based on the research conducted by (Luo et al., 2021). The three dimensions of SDT were identified as external variables. These variables were further categorized into two parts based on the PCASS scale: perceived choice and self-awareness. The study examined the impact of these two variables on college students' intention to continue using the platform in a hybrid learning environment. The research findings not only compensate for the influence of college students' perceived choice and self-awareness on their intention to continue using the Chaoxing platform, but also validate the previous empirical study on the TAM model. Specifically, it confirms that perceived usefulness and perceived ease of use have significant impacts on the intention to continue using the platform. Since the conclusion shows that the importance of the perceived ease of use in relation to the continuous intention to use Chaoxing that of the perceived usefulness, which indicates that learners prioritize the information provided by the curriculum. This implies that hybrid educators should focus on enhancing the curriculum information presented by the platform. Additionally, educators can foster learners' perceived choice and self-awareness, enabling them to identify areas for improvement and make informed decisions that contribute to the sustainability of education.

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Table 2

Variance Explanation Rate

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	Variance %	Cumulative %	Total	Variance %	Cumulative %	Total	Variance %	Cumulative %
1	7.800	38.999	38.999	7.800	38.999	38.999	2.827	14.134	14.134
2	1.629	8.145	47.144	1.629	8.145	47.144	2.785	13.925	28.059
3	1.526	7.630	54.775	1.526	7.630	54.775	2.769	13.843	41.902
4	1.421	7.105	61.879	1.421	7.105	61.879	2.735	13.675	55.577
5	1.331	6.657	68.536	1.331	6.657	68.536	2.592	12.959	68.536
6	.613	3.064	71.600						
7	.586	2.931	74.532						
8	.540	2.700	77.232						
9	.504	2.520	79.752						
10	.474	2.368	82.120						
11	.452	2.260	84.381						
12	.439	2.194	86.574						
13	.415	2.075	88.649						
14	.406	2.028	90.677						
15	.375	1.875	92.553						
16	.343	1.714	94.267						
17	.327	1.634	95.900						
18	.289	1.447	97.348						
19	.267	1.337	98.684						
20	.263	1.316	100.000						