FACTORS INFLUENCING USER'S CONTINUANCE USAGE WILLINGNESS OF E-LEARNING IN CHINA

JIN KAI

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FACTORS INFLUENCING USER'S CONTINUANCE USAGE WILLINGNESS OF E-LEARNING IN CHINA

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JIN KAI

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LIST OF ABBREVIATIONS

CUW	Continuance Usage Willingness
ICT	Information and Communication Technologies
TCT	Technology Continuance Theory
PU	Perceived Usefulness
QC	Information Quality
SQ	Service Quality
IS	Information System
PEOU	Perceived Ease of Use
IS Success Model	Information Systems Success Model
CT	Course Trial
PC	Perceived Cost
TEC	Technology Characteristics
TAC	Task Characteristics
TRU	Trust
PVC	Privacy
SEC	Security
SAT	Satisfaction
ATT	Attitude
EXP	Experience
TTF	Task Technology Fit
UTAUT	unified theory of acceptance and use of technology
CNNIC	China Internet Network Information Center
ICT	Information and Communications Technology
OECD	Organisation for Economic Co-operation and Development
UNESCO	United Nations Educational, Scientific and Cultural Organization
USM	Universiti Sains Malaysia

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FAKTOR-FAKTOR YANG MEMPENGARUHI KESANGGUPAN PENGGUNAAN BERTERUSAN PEMBELAJARAN ATAS TALIAN OLEH PENGGUNA DI CHINA

ABSTRAK

Pembelajaran dalam talian telah menjadi cara baharu bagi orang ramai untuk menerima pendidikan. Pada masa kini, skala pembelajaran dalam talian berkembang pesat, dan pasaran Perniagaan-ke-Pengguna (B2C) bagi industri pembelajaran dalam talian di China telah menjadi industri baharu yang menjadi perhatian umum. Namun, masalah penyeragaman produk, kesediaan rendah kadar pengguna baru mendaftar, dan kadar pengekalan yang rendah menjadi masalah yang ketara. Cara pengguna menggunakan aplikasi pembelajaran dalam talian dapat memberikan implikasi teori dan praktikal yang penting bagi para sarjana dan syarikat. Oleh itu, mengambil kira model Teori Kesinambungan Teknologi (TCT), model Kesesuaian Tugas-Teknologi (TTF), dan beberapa pembolehubah baru, kajian ini meneliti penentu yang mempengaruhi Kesediaan Penggunaan Terus (CUW) Pembelajaran Dalam Talian pengguna di China. Kajian ini mengkaji hubungan antara kepuasan, sikap, kepercayaan, privasi, keselamatan, Persepsi Kemudahan Penggunaan (PEOU), Kualiti Maklumat, Kualiti Perkhidmatan, TTF, ciri-ciri teknologi (TEC), ciri-ciri tugas (TAC), Percubaan Kursus, Persepsi Kos, Persepsi Kegunaan (PU), dan Kesediaan Penggunaan Terus (CUW) Pembelajaran Dalam Talian di dalam pasaran Pembelajaran Elektronik China. Kajian ini juga meneliti kesan penyederhanaan pengalaman dalam platform B2C. Paradigma positivis diguna pakai dalam kajian ini. Realisme dipilih untuk ontologi, dan empirisme dipilih untuk epistemologi. Metodologi kajian tinjauan telah digunakan dalam kajian ini, dan soal selidik telah

diedarkan kepada pengguna Pembelajaran Dalam Talian di China. Data telah dianalisis menggunakan SPSS dan SmartPLS. Sebanyak 365 responden dari bandar yang berbeza telah diterima. Di antara hipotesis yang diuji, dua belas diterima dan sembilan telah ditolak. Kualiti maklumat, kualiti perkhidmatan, percubaan kursus, dan persepsi kos tidak memberi kesan terhadap kepuasan. PU tidak memberi kesan terhadap CUW. PEOU tidak memberi kesan terhadap sikap. Privasi dan keselamatan memberi kesan terhadap kepercayaan. TEC dan TAC memberi kesan terhadap TTF. Kepercayaan dan TTF memberi kesan terhadap kepuasan. Kepuasan dan PU memberi kesan terhadap sikap. PEOU memberi kesan terhadap PU. PU tidak memberi kesan terhadap kepuasan. Kepuasan dan sikap memberi kesan terhadap CUW. Peranan penyederhanaan pengalaman disokong untuk kepuasan tetapi tidak disokong untuk PU dan sikap terhadap kesediaan penggunaan berterusan. Penemuan kajian ini memberikan pandangan berharga teantang penentu penggunaan terus Pembelajaran Dalam Talian dan memperluaskan pemahaman tentang penentu yang mendorong pengguna untuk terus menggunakan platform Pembelajaran Dalam Talian. Penyelidikan masa depan akan menggunakan reka bentuk membujur dan kaedah persampelan yang lebih mewakili untuk mengesahkan model yang dicadangkan.

FACTORS INFLUENCING USER'S CONTINUANCE USAGE WILLINGNESS OF E-LEARNING IN CHINA

ABSTRACT

E-Learning has become a new way for people to receive an education. Nowadays, the scale of E-Learning is growing rapidly, and the Chinese Business-to-Consumer (B2C) market of the E-Learning industry is promising and has become a new industry of general concern. However, the homogenization problems of products, the low willingness of newly registered users rate, and low retention became prominent. How users use E-Learning apps may yield important theoretical and practical implications for scholars and companies. Thus, considering the Technology Continuance Theory (TCT) model, task technology fit (TTF) model, and with extra new variables, this study examined the determinants impacting the user' E-Learning Continuance Usage Willingness (CUW) in China. This study examined the relationship between Satisfaction, Attitude, Trust, Privacy, Security, Perceived Ease of Use (PEOU), Information Quality, Service Quality, TTF, technology characteristics (TEC), task characteristics (TAC), Course Trial, Perceived Cost, Perceived Usefulness (PU), and E-Learning Continuance Usage Willingness in the Chinese E-Learning market. It also examined the moderating effect of Experience in B2C platform. The positivist paradigm is adopted for this study. Realism is chosen for ontology, and empiricism is chosen for epistemology. A survey research methodology was adopted in this study, and the questionnaires was distributed to E-Learning users in China. The data was analyzed by SPSS and SmartPLS. Three hundred sixty-five respondents from different cities were accepted. Among the tested hypotheses, twelve were accepted, and nine were denied.

Information quality, service quality, course trial, and perceived cost had no impact on satisfaction. PU had no impact on CUW. PEOU had no impact on attitude. Privacy and security had an impact on trust. TEC and TAC had an impact on TTF. Trust and TTF had an impact on satisfaction. Satisfaction and PU had an impact on attitude. PEOU had an impact on PU. PU had no impact on satisfaction. Satisfaction and attitude had an impact on CUW. The moderating role of the experience was supported for satisfaction but not supported for PU and attitude towards continuance usage willingness. The findings of the research provided valuable insights into the determinants of when users continue to use E-Learning and extended the understanding of the determinant that drives users to keep utilizing the E-Learning platform. Future research will use longitudinal designs and more representative sampling methods to validate the proposed model.

CHAPTER 1

INTRODUCTION

1.1 Introduction

E-Learning has emerged as a new avenue for people to pursue their education. Nowadays, the scale of E-Learning is expanding quickly, and the market is promising and has become a new industry of general concern (Nikam, 2024; Liu, Han, & Li, 2010). The first chapter of this thesis consists of an overview of E-Learning, the world's digital economy, the Chinese Business-to-Consumer (B2C) E-Learning market, and E-Learning during the pandemic. This chapter further discussed the research problems. Next, the research objectives and questions, as well as the study's significance, were discussed. Last, this chapter includes a discussion of the definitions of key terms.

1.2 Background of the Study

The explosive expansion of data and information interaction brings about the rapid upgrading of knowledge. Drucker, the famous management scientist regarded as the father of modern management, pointed out that in the new economic order, knowledge is a critical factor of production than land, labor, and capital resources. The greatest challenge to the social order is the inequality of human access to knowledge.

In the era of a knowledge economy, knowledge occupies a dominant position in production. The acquisition of knowledge is essential to both enterprise

competition and self-enhancement. Education is an important way to acquire knowledge, and education equity is the foundation of social equity (Huang, 2017). Traditionally, E-Learning has been seen as an alternate course that adult learners looking for opportunities for higher education can take (Lockee, 2021). Fast forward to 2020, the COVID-19 pandemic and other advancements in education have made it feasible for remote learning to be widely used (Lockee, 2021).

1.2.1 E-Learning Definition

The phrase "E-Learning" or "online learning" is a term that describes a variety of learning practices and behaviors that involve the use of multimedia and Internet-based information technology. E-Learning has been around for nearly 20 years, but compared to the thousands of years of face-to-face education and the 200 years of history of distance education in the broad sense, it is a new way of learning. The COVID-19 crisis has created the chance to launch a massive experiment with online education at universities and institutions (Kim, Kim, & Han, 2021).

E-Learning breaks through traditional learning systems' time and geographical limitations and fully uses today's Internet technology. With its information system technology advancements and the enormous appeal of smartphones and other smart devices, E-Learning provides many convenient educational conditions. An innovative online-based educational approach is gradually being formed and developed (Chang, 2020). Compared with the traditional learning system, E-Learning offers the benefits of fragmented learning time, unlimited locations, high efficiency, and repeatable learning, which has a significant

part in advancing the transformation of the traditional “passive” classroom teaching mode to “interactive” E-Learning (Chang, 2020; Zhou & Li, 2022). It has been vital to the promotion of the transformation of a traditional “passive” classroom teaching mode to an “interactive” E-Learning mode (Wei & Li, 2019). Simultaneously, E-Learning provides users with more flexible and customized courses with simultaneous online communication and learning services through information technology platforms, thus realizing multi-dimensional interaction between learners and teachers and helping learners better understand course content and solve problems in the learning process (Liu & Yu, 2023; Hrastinski, 2008).

Based on the above advantages, enterprises have developed innovative application services for E-Learning and promoted the digital transformation of the traditional system. Even today, E-Learning is still one of the complementary solutions to traditional learning systems. But soon, E-Learning seems to be more beneficial as a hybrid or blended learning environment and works well for continuing education in a variety of formats (Phelan, 2015).

E-Learning has grown tremendously to more segments. At the same time, with the rapid spread of intelligent terminals and the reduction of network costs, as well as the increasing demand for E-Learning, it might be claimed that E-Learning has become a commonly accepted learning method and will become the mainstream trend in education digitization (Palvia, Aeron, Gupta, Mahapatra, Parida, Rosner, & Sindhi, 2018).

Progress in information technology and the introduction of new technologies have played a critical part in the development of an E-Learning system. Technology's effectiveness impacts how learners interact with teachers and the learning experience they receive (Szymkowiak, Melović, Dabić, Jeganathan, & Kundi, 2021). Rubin's study found that learner satisfaction with learning management systems significantly influenced their satisfaction with online courses (Rubin, 2013). Learners' perceptions of information technologies related to online learning largely determine their perceptions of E-Learning (Szymkowiak et al., 2021). Thus, understanding the influencing key factors of information technologies in E-Learning and adopting appropriate improvements is beneficial to enhance learners' willingness to accept E-Learning (Alyoussef, 2023; Li, 2023; Buabeng-Andoh, 2012).

1.2.2 World's Digital Economy and E-Learning

The current world is really globalized thanks to an enormous number of information and communication technologies, mobile technology being among them. Mobile technology has changed many areas of human existence, affecting a number of sectors, including banking, traveling, and entertainment. Mobile technology has recently been employed in the field of education as well (Alyoussef, 2023; Karimi, 2016). The E-Learning market was valued at over 315 billion USD in 2021, and from 2022 to 2028, it is expected to grow at a compound annual growth rate of 20%. The E-Learning market size is set to cross 1 trillion USD by 2028, according to a new research report by Global Market Insights Inc. (Gminsights, 2021). More and more

educational institutions are using the Internet to provide rural and urban residents with courses, certificates, and degrees (Al-Fraihat, Joy, Masa'deh, & Sinclair, 2020).

During the last two decades, the use of smartphones and laptops, has grown exponentially, contributing to the rapid advancement of technology. Modern technologies and applications, like the whiteboard, which has completely redefined and turned traditional classrooms into web presentations, have become essential components of E-Learning, communication, resource sharing, and management for instructors and students. Users can upload and download files, participate in discussions, take live classes, sessions, and exams, and ask questions and leave feedback through direct links it provides (Al-shargabi, Sabri, & Aljawarneh, 2021; Alksasbeh, Abuhelaleh, Almaiah, AL-jaafreh, & Abukaraka, 2019).

The end-user segments of the global market are K-12, industrial, higher education, and professionals (Straitsresearch, 2024). The applications of using the Internet for education emerged early in the United States. The extent and caliber of online education in the United States are far ahead of other countries, which is inseparable from the importance of online teaching in colleges and universities in the United States. American online teaching platform has perfect and complete functions, such as MITOCW, Khan Academy, Coursera, Lynda.com, etc. MITOCW is one of the most popular ones, which is open to students on campus and to people outside the university who are interested in the courses, which helps to spread the knowledge of the university more widely in society, and has also been able to respond to and meet great needs, such as educational deficits caused by the COVID-19 pandemic (LaPlue,

2024). Coursera makes courses more accessible to individuals, corporations, and university users through high-quality online courses offered by leading universities, companies, or other academic institutions (Ayoub, Amin, & Wani, 2020).

During the forecast period, Asia is expected to become the second emerging region in the global E-Learning market. The rising use of smartphones and increased Internet usage will be the driving forces behind the growth of the Asian market. The economies of the nations that presently occupy the top spots, like China and Japan, will drive the growth of this region because of the abundance of educational institutions found in these nations (Straitsresearch, 2022).

1.2.3 China's Digital Economy and B2C E-Learning Market

Human society is now living in a digital economy as a result of the new technological revolution, and digital technology is quickly and widely permeating every aspect of society and the economy. Deep social and economic transformations are being brought about by digital technology, which is also emerging as a frontrunner in innovation, development, and reform. The digital economy has become the "new engine" driving the world's economic development in the era of the information revolution. It will turn into a fresh catalyst for the world's economy recovery and expansion as well as a significant manifestation of a country's comprehensive national power in the new economic context (Xu & Zhang, 2020). The extent of the digital economy reached 5.2 trillion USD in China, the second largest in the world. China Internet Network Information Center (CNNIC) released the 53rd Statistical Report on the Development Status of China's Internet, which

shows that as of December 2021, there are 1. 092 billion Internet users in China, up 42.96 million from December 2023, and the Internet penetration rate reached 77.5% (CNNIC, 2024). By December 2023, 3.377 million 5G base stations were constructed and launched. 99.7% of Internet users reported accessing the web using a mobile device. In China, cell phones continue to be the most common means of accessing the Internet. The percentages of people who use tablets, TVs, laptops, and desktop computers to access the Internet were 26.6%, 22.5%, 30.3%, and 33.9%, in that order (CNNIC, 2022).

The early Chinese E-Learning apps or platforms were limited by the external environment, mainly because the internet technology was not mature enough and the usage rate of computers was not high. At that time, the majority of instruction in online education was still done through recording. Online learning activities were conducted and the courses were recorded as videos that were uploaded to the Internet. Students could perform very few tasks other than watch videos on websites. After the new millennium, some offline education institutions switched to online, and traditional training institutions started to compete in the E-Learning market. The time came in 2011. This year, E-Learning began to show a blowout development, and many internet companies devoted themselves to the E-Learning industry. With the introduction of whiteboard and live mode, the development of interoperability between a PC and a mobile device can be used in one-on-one instruction, dual teacher instruction, small and large classes (Chen & Bao, 2014; Anton, 2023).

The development of IT and the Internet's widespread use have been vital in advancing E-Learning development. E-Learning is gradually becoming a new mode of education with the Internet's explosive growth and the massive popularity of intelligent terminals like 5G cell phones in China (Xue & Mao, 2021). Over the past few years, the E-Learning market has been expanding and maintaining a high growth rate driven by technological innovation. An information system is crucial for E-Learning as it is both the E-Learning method and drives innovation in the E-Learning business model (Palvia et al., 2018).

The Chinese E-Learning market is growing rapidly. The government supported E-Learning. With the growing adoption of E-Learning by Internet users, the scale of E-Learning users has been growing rapidly. The latest report from CNNIC reveals that by 2025, China's E-Learning population is expected to reach 423 million, up from about two times compared to 2018 (iiMedia Research, 2021).

China's E-Learning market size was 432.8 billion RMB (66.5 billion USD) in 2020, up 24.79% from 346.8 billion RMB (53.4 billion USD) in 2019. The market size will reach 559.6 billion RMB (86.12 billion USD), and the user size is expected to reach 446 million in 2021 (iiMedia Research, 2021). The vast market is attracting many traditional education institutions and Internet enterprises. With the growing demand for E-Learning segments such as early childhood, K12, higher education, and vocational education, the E-Learning market shows a diversified development trend (Li & Liu, 2019). Currently, the domestic E-Learning market can be divided into language learning (e.g., 91tutors, 51talk), early childhood education (e.g.,

61time.com, Beva.com), K12 education (e.g., Xuezhi.com), study abroad consulting (e.g., Huatu.com), vocational education and skills upgrading (e.g., Dobei.com), examination and certification training (Hi learning.com).

The B2C mode (Business to Customer) describes the method of transaction used for offering educational and training services provided by enterprises are oriented toward individuals. The B2C model has a wide user base, with the number of users reaching millions and the market capacity reaching billions, which strongly attracts capital. Since the 2010s, B2C online education has experienced rapid development as a new educational approach (Zhu, Cao, Wang, & Ouyang, 2020). Currently, many E-Learning structures belong to the B2C model in terms of nature, such as Tencent Education, Yuanfudao, and Shangde Education. As industry competition intensifies and the "Internet for free" mindset spreads, many enterprises attempt to offer free course services to acquire more users. This has led to the existence of numerous free products in the online environment, making it difficult to charge individual users under the B2C model and thereby increasing the difficulty of project profitability (Lei & Shi, 2018).

1.2.4 E-Learning's Implementation During Pandemic

Since the COVID-19 pandemic, businesses have faced unprecedented challenges to remain open (Shaikh, Ung, Yang, & Chacon, 2022). The pandemic's aftermath is still being felt globally, severely affecting a variety of industries as well as aspects of our daily lives with severe financial and economic losses as well as

substantial uncertainty (OECD, 2021). Declines occurred in numerous industries during the COVID-19.

The quick spread of COVID-19 has had an unparalleled effect on the school system as of February 2020. In the absence of a planned and successful education response, COVID-19 is probably going to cause the worst disruption in educational possibilities worldwide in a generation, the OECD warned in June 2020 (Reimers & Schleicher, 2020). Schools in the majority, if not all, of the world's countries, have been closed for lengthy periods to avoid the spread of COVID-19 (Meinck, Raillon, & Strietholt, 2022). Many nations have created remote teaching and learning, using media and delivery techniques governed by local limits and resources. Additionally, although pandemic preparedness affected teaching and learning, schools faced additional problems monitoring student progress. Several educational institutions were early adopters of homeschooling and remote learning programs, providing free internet resources, shipping paper-based assignments to students' homes, and broadcasting educational content on public television and radio (Meinck et al., 2022).

Since 2020, the breakout of COVID-19 has interrupted offline schooling. Therefore, E-learning is now a necessary tool for the majority of students to finish their traditional education (Radha, Mahalakshmi, Kumar, & Saravanakumar, 2020). The popularity of E-Learning has reached an unprecedented height with the outbreak of the pandemic (Wang & Zhang, 2022). For students, during the lockdown, studying fully online was their only option due to these teaching modes. Following years of digital transformation, teachers started to gather resources, learn, and assess their

methods in order to get ready for the next phase of education. This crisis gave educators a chance to accelerate the global digital transformation of universities, which has been fueled by the Industrial Revolution 4.0 technological advancements (Ng, 2022).

In China, E-Learning products have blossomed in various segments, and “cloud classes” and “cloud training” have entered thousands of households and become one of the teaching modes of educational institutions at all levels. According to the survey, before the epidemic, 35.34% of respondents studied online for 0.5-2 hours per day on average, followed by 0-0.5 hours per day, accounting for 28.2% of respondents. The proportion of respondents who studied for 2-5 hours a day was the highest, at 35.71%; the proportion of those who studied for 0.5-2 hours was also relatively high, at 30.45%, and 16.17% of replyers studied online for more than five hours a day on average, which was a noteworthy rise in comparison to the pre-pandemic era (Yuan, 2021).

With the post-pandemic era and the double reduction policy (the Chinese government aimed to alleviate the burden of excessive homework and off-campus tutoring for students enrolled in compulsory education, short for “double reduction policy”), the E-Learning industry also gradually entered a cooling-off period. By the first quarter of 2022, several companies had already transformed and begun new businesses (Liang, 2022). The online education industry hit a low point in the third and fourth quarters of 2021 (Xue, 2022). Against this backdrop, many institutions

have shuttered their K-9 subject-specific training services, redirecting their focus towards quality education and vocational training (Wei, 2023; Deng, 2023).

1.3 Problem Statement

E-Learning is a major trend of future educational change, which has been accelerated by COVID-19 since 2020. According to UNESCO, during the period of educational stagnation, in order to guarantee stability and continuity of education, the great majority of states and regions chose online learning (UNESCO, 2021), and it is now a crucial component of contemporary educational systems in developed countries, emerging countries, and China (Nikou & Maslov, 2023; Aulakh, Roul, & Kaushal, 2023; Liu, Wang, Gao, & Hu, 2021). Competition in China's B2C E-Learning market is intensifying. There is fierce competition within the digital B2B market, and some players have already exited the market (Daniel & Felix, 2021). Twenty thousand E-Learning companies registered from January to May 2020, with a daily average of 140 (Gao & Wei, 2021). In a limited-demand market, excessive saturation can lead to the threat of severe product homogenization (Deng, 2023). Homogenization problems of products and the low willingness of newly registered users in the E-Learning industry are also becoming more prominent (Shi, 2021). Liu-Y (2021) conducted a comparison and analysis of the operational performance of several E-Learning companies, among which ShangDe was growth, while others, such as YD, Gaotu, and Zhangmen Education, showed a significant decline and were all in a loss-making state. In terms of products, the imperfection of E-Learning

products greatly reduces users' interest in accepting services, while online marketing increases information asymmetry between providers and users, resulting in users' mistrust (Hu, 2022). Chinese learners' acceptance of E-Learning is not high. According to a survey by iResearch Consulting, only 23% of respondents currently use E-Learning courses. An additional 34.2% chose traditional forms of training, and another 49.2% of respondents said they did not understand E-Learning courses or did not like this mode (iResearch, 2020).

While E-Learning is booming, the problem of its low learner retention rate is becoming increasingly evident (Jin & Normalini, 2024; Li, Nishimura, Yagami, & Park, 2021; Mu, Chen, & Ye, 2017). A survey by Duke University shows that MOOC learner attrition rates were as high as 90% (Li, Nishimura, Yagami, & Park, 2021; Perna, Ruby, & Boruch, 2013). E-Learning platforms in China face a major challenge of user attrition. E-Learning platforms have launched many courses priced at 1 yuan (1 RMB or 0.15 USD) or even free courses to seize the market at low prices. However, it was difficult for educational consumers to obtain refunds and protect their rights when platforms had false publicity, arbitrary suspension of classes or other disputes happened (Wang, Zheng, Li, & Zou, 2021). Long-term low-price strategies can easily lead to doubts about the teaching quality of online platforms. After selling products at low prices for a period of time, if the platform wants to increase prices and increase profits, the number of users will inevitably decrease (Hu, 2022). Discounts and push notifications will cause dissatisfaction among old users and affect the further expansion of the E-Learning platform (Lv, 2021; Hu, 2022).

While the traditional offline education facilities continuous improving their course, E-Learning is facing the problem of losing students, and the share of E-Learning companies in the education market may decline (Qiu & Du, 2021). In several studies, the attrition rate of learners from E-Learning providers in China has also been as high as 15-40% (Jin & Normalini, 2024; Tan & Shao, 2015; Tan, Zhou, Shao, & Li, 2013).

The primary aim of any platform is to encourage repeated usage by existing and potential users, thus necessitating a deeper understanding of the factors influencing continuance usage to enhance the profitability of the business. The success of E-Learning is largely contingent upon users' willingness to continue using the platform. While there are numerous factors contributing to this willingness, determining people's satisfaction, attitudes, and perceived usefulness will be crucial to this endeavour due to the initial adoption and the sustained usage of an information system. In the E-Learning research area, satisfaction, attitude, and perceived usefulness significantly affect the continuance usage willingness (Shen & Liu, 2022; Al-Rahmi, Yahaya, Alamri, Alyoussef, Al-Rahmi, & Kamin, 2021; Chen & Song, 2021). Therefore, this study seeks to investigate satisfaction, attitudes, and perceived usefulness that impact users' continuance usage willingness.

The factors that determine a user's continuance usage are so important both for enterprise owners and theoretical researchers. Some gaps have been identified. First, there is not much research on people's CUW in mobile Internet context during a pandemic time (Gefen, Karahanna, & Straub, 2003; Zhou, Dai, & Zhang, 2007;

Zhang, Peng, & Wang, 2022; Koch, Frommeyer, & Schewe, 2020; Ha, Nguyen, Nguyen, & Nguye, 2019; Bhattacherjee & Premkumar, 2004; Bhattacherjee & Lin 2015; Yanxia, 2022; Guo & Ming, 2020).

Prior research has concentrated on the elements that influence users' continued use of E-Learning platforms based on theories such as the technology acceptance model (TCT) or the theory of planned behavior (TPB model), or the expectation confirmation theory (ECM) (Mustafa & Garcia, 2021; Kim, Kim, & Han, 2021; Yu, Chen, Yao, & Liu, 2021; Xu, Shen, Lin, & Chen, 2022; Ngafeeson & Gautam, 2021; Li, Yang, & Chen, 2022). Others focus on the statistical analysis of users' demographic characteristics, video viewing rate, assignment participation, study completion rate, pass rate, and other learning behaviors based on the data of the E-Learning platform (Liao & Wu, 2023; Wang, 2015; Li, Xu, & Sun, 2015). However, there is no agreement on the exact determinants of users' CUW. A comprehensive framework of an inclusive and general conceptual structure or accepted model of continuance usage willingness has yet to be generated (Han & Wu, 2022).

Second, most research on this subject did not concentrate on the continuance usage willingness for a specific application category (B2C E-Learning). Continuance usage willingness for an application depends on its categories (Yan, Filieri, & Gorton, 2021; Beldad & Hegner, 2018). Compared with other online apps, such as those for gaming, social networking applications, and business applications, B2C E-Learning applications have more complex interfaces and functionality, longer usage times, and

more complex interactions (Manegre & Sabiri, 2022; Hammouri, Al-Gasawneh, Abu-Shanab, Nusairat, & Akhorshaideh, 2021; Chin, Harris, & Brookshire, 2018). An inadequate amount of studies focused on B2C E-Learning applications (Jin, Lin, Zhao, Yu, & Su, 2021; Manegre & Sabiri, 2022). Especially insufficient research focusing on B2C E-Learning applications following the mobile Internet explosion during the pandemic (Dash, Chakraborty, & Alhathal, 2022).

Third, the research has shown that focusing just on technology advancements will not be sufficient to achieve B2C E-Learning (Mustafa & Garcia, 2021). The traditional technological theories in social and behavioral sciences may fall short in clarifying important theoretical questions. Those factors may not comprehensively reflect the users' CUW of the B2C E-Learning application (Qiao, Zhu, Guo, Sun, & Qin, 2021; Mo, Hsieh, Lin, Jin, & Su, 2021).

The study concluded that factors influencing user's continued use of E-Learning platforms might come from different perspectives. User satisfaction is essential for the adoption and CUW of the E-Learning platforms (Mustafa & Garcia, 2021). Gao, Vongurai, Phothikitti, & Kitcharoen (2022) emphasized that attitude was the significant factor influencing behavioral intentions on E-Learning platforms. However, little evidence has been studied on E-Learning (Chen, Zhou, Jin, & Liu, 2021; Chen & Song, 2021; Chao, 2019; Joo, So & Kim, 2018). PU is the most important factor in both "satisfaction with online teaching" and "intention to continue use" (Qin, Fang, & Zhou, 2022; Bhattacherjee, 2001; Chen & Song, 2021; Sørebø, Halvari, Gulli, & Kristiansen, 2009; Haldar, & Goel, 2019; Sukendro,

Habibi, Khaeruddin, Indrayana, Syahruddin, Makadada, & Hakim, 2020). Still, there was inconsistent research regarding the positive impact of PU on CUW (Foroughi, Sitthisirinan, Iranmanesh, Nikbin, & Ghobakhloo, 2023; Malik, Israel, & Kumar, 2018; Islam, Mantymaki, & Bhattacherjee, 2017). Trust could explain the use of E-Learning systems (Sarosa & Setyowati, 2022). However, "trust" and "satisfaction" have a direct (Sarkar, Chauhan, & Khare, 2020) or indirect determinant (Cao, Gong, Liu, Adeel, & Yu, 2018; Rodríguez-Torrico, Jos´e-Cabezudo, & San-Martín, 2019). In the study, we need further research on trust. Security and privacy are the determinants of trust. Wang investigated trust, privacy and security in universities (Wang, Lam, Chiu, Lung, & Ho, 2020). Technology's trust, security, and privacy have not yet been addressed (Baby & Kannammal, 2020). Chen examined the relationship between satisfaction and trial / price (Chen, Jiao, & Li, 2019). However, the evidence supporting this claim remains limited (Tang, Zhang, & Akram, 2019). Reducing the cost of apps is not a solution, and reducing the selling price or even free is meaningful for initially attracting users but does little to ensure sustained adoption of applications (Dastane, Fandos-Roig, & Sánchez-García, 2023; Hsu & Lin, 2015). Last but not least, experience plays a moderate role of the framework. Learning experience could effectively enhance users' knowledge and motivational gain (Ng, 2022). However, no one has combined these factors together to consider the effect on satisfaction and the indirect effect on the willingness to continue use.

Last, studies on continuance usage willingness for E-learning have been implemented in Western nations. Little research is on B2C E-Learning in China in

the post-pandemic era. At the same time, in the post-pandemic era, environmental changes have led to changes in the elements that affect the CUW of E-Learning. The CUW framework or model needs to be revised according to the post-pandemic era. There are no studies on revised continued use patterns in the years after the pandemic.

In short, this research seeks to address these issues by creating and confirming a conceptual model of the connections among variables affecting users' CUW of the Chinese B2C E-Learning platforms in the post-pandemic era.

1.4 Research Objectives

1. To identify the influence of information quality, service quality, TTF, course trial, perceived cost, trust, and perceived usefulness on the satisfaction towards the continuance usage willingness of E-Learning.

2. To identify the influence of technology characteristics and task characteristics on TTF towards the continuance usage willingness of E-Learning.

3. To identify the influence of perceived ease of use on perceived usefulness towards the continuance usage willingness of E-Learning.

4. To identify the influence of perceived ease of use, perceived usefulness and satisfaction on attitude toward the continuance usage willingness of E-Learning.

5. To identify the influence of satisfaction, attitude, and perceived usefulness on continuance usage willingness of E-Learning in China in the post-pandemic era.

6. To identify the influence of privacy and security on trust towards the continuance usage willingness of E-Learning.

7. To investigate whether B2C experience moderates the relationship between satisfaction and continuance usage willingness.

8. To investigate whether B2C experience moderates the relationship between perceived usefulness and continuance usage willingness.

9. To investigate whether B2C experience moderates the relationship between attitude and continuance usage willingness.

1.5 Research Questions

1. What is the influence of information quality, service quality, TTF, course trial, perceived cost, trust, and perceived usefulness on the satisfaction towards the continuance usage willingness of E-Learning?

2. What is the influence of technology characteristics and task characteristics on TTF towards the continuance usage willingness of E-Learning?

3. What is the influence of perceived ease of use on perceived usefulness towards the continuance usage willingness of E-Learning?

4. What is the influence of perceived ease of use, perceived usefulness, and satisfaction on attitude toward the continuance usage willingness of E-Learning?

5. What is the influence of satisfaction, attitude, and perceived usefulness on continuance usage willingness of E-Learning in China in the post-pandemic era?

6. What is the influence of privacy and security on trust towards the continuance usage willingness of E-Learning?

7. Does B2C experience moderates the relationship between satisfaction and continuance usage willingness?

8. Does B2C experience moderates the relationship between perceived usefulness and continuance usage willingness?

9. Does B2C experience moderates the relationship between attitude and continuance usage willingness?

1.6 Scope of the Study

The research's scope is to investigate what determinants impact the CUW of B2C E-Learning platforms in China. This study is quantitative research on fourteen IVs that determined the CUW of B2C E-Learning platforms. The geographical scope of this study is selected Chengdu (38.9% of the distribution), Shenzhen (29.1% of the distribution), and Deyang (a small city that represents other distribution) in China (iiMedia, 2020). The study was conducted on E-Learning users who already used, have experience with the platform, and age above 18 years old and above.

1.7 Significance of the Study

The research provides several important theoretical and practical ramifications knowledge by modeling and integrating the determinants of the E-Learning's CUW. The theoretical and practical significance of the study will be

examined in order to determine its significance, and discussed in the following sections.

1.7.1 Theoretical Significance

First, the goal of this research is to offer the determinants and will close the knowledge gap in research around the continued using the applications. The contribution involves incorporating the TTF model into the TCT model. This research significantly advances the field of E-Learning CUW by adding TTF elements to the idea of TCT, IS success factors, course trial, perceived cost, privacy, security, and trust factors together, which were not previously addressed at the same time. This is significant because no studies have investigated the factors of continuance usage willingness simultaneously. Most online learning research concentrated on the antecedents and fundamental components among the theory of planned behavior (TPB), unified theory of acceptance and use of technology (UTAUT), and technology acceptance model (TAM) models. This research is novel because it offers a more thorough analysis of customers' continued usage intention by integrating TTF and TCT.

Second, E-Learning is unique because of the specific category of application. However, most research on this subject did not concentrate on this particular application. Three factors, attitude, satisfaction, and perceived usefulness, are investigated to see if they represent the most significant antecedents in driving CUW. The findings can offer theoretical implications for the continuance usage willingness

of E-Learning. This adds new factors into the E-Learning's continuance usage willingness explanations.

Third, this research advances knowledge by expanding the aspects of satisfaction by determining trust, perceived cost, course trial, QC, SQ, TTF, and PU as the antecedents. On the other hand, this study also contributes to the links between attitude, PU, PEOU, and satisfaction.

Fourth, CUW in B2C E-Learning has its features. The study researches the other determinants for users to continue using and will fill up the gap in research related to the E-Learning platform' continued use, such as perceived usefulness, service quality, information quality, price, free trial, trust, privacy, and security. Those factors are new features, and E-Learning contains more personal and interactive information. The study adds new knowledge based on research on perceived usefulness, service quality, information quality, price, free trial, trust, privacy, and security.

Last, studies on continuance usage willingness for B2C E-Learning have been researched in Western countries. However, the repetition of the pandemic has changed the traditional way of education in China. Institutions have to increase the number of online courses required by regulations or profit requirements. Those factors the study mentions have changed and need to be reconsidered. In the post-pandemic period, Filling the gap in studies and integrating relevant theories to expand a new model for analyzing the important variables affecting users' continuance usage willingness is vital.

1.7.2 Practical Significance

First, competition in China's B2C E-Learning market is intensifying. E-Learning companies can only develop more effective marketing strategies by understanding the elements that impact consumers' continuance usage willingness and truly achieving the purpose of commercializing E-Learning. Companies maintain their advantages in this competitive environment by applying these factors to the application. The product managers can design new versions of applications and provide updated applications through the factors. The marketing managers can specify the segment market and truly customers through the factors. This research can help education technology companies improve their products by providing insights that enable them to more effectively fulfill their users' basic needs.

Second, education is a scarce resource. E-Learning provides an alternative choice. However, the homogenization problems of products caused confusion about choices. The findings will guide consumer behavior and help the customers truly understand the continuance usage willingness. This research can help users choose the platforms that meet their core needs.

1.8 Definition of Key Terms

In this section, various key terms, constructs, and variables are briefly defined and explained.

1.8.1 E-Learning

E-Learning is often associated with online learning, web-based education, open learning, or distance education. E-learning is a broad concept that refers to people's learning methods and behavior using Internet information technology and multimedia as a communication medium (Liu & Yu, 2023; Kumar, Wotto, & Bélanger, 2018).

1.8.2 B2C

Is used to describe businesses that only sell their products directly to consumers, with no middle person or third-party retailer facilitating the sale (Shopify, 2023)

1.8.3 B2C E-Learning Platforms

The E-Learning platform is a cohesive collection of interactive online services. When selling directly to individuals (B2C), the process of enrolling and managing learners will be the same each time. Each learner will typically enroll in the same course as other learners through a shopping cart (Andy, 2021).

1.8.4 Information System

The associated networks of computer hardware and software that individuals and organizations use to gather, analyze, filter, produce, and distribute data (Piccoli & Pigni, 2018)