

# Investigating factors affecting Chinese tertiary students' online-startup motivation based on the COM-B behaviour changing theory

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## Abstract

**Purpose** – This study aims to present the Chinese entrepreneurial environment and explore Chinese tertiary students' online-startup motivation on live streaming platforms. Based on the COM-B behaviour changing theory, this paper discovers various influencing factors from environmental opportunity and personal capability aspects. It analyses their effects under the cooperative system established among official departments, industries and universities. Meanwhile, considering social and cultural control, it also refers to the uncertainty-avoidance dimension from the Hofstede cultural theory and re-evaluates its influence on Chinese tertiary students' online-startup motivation.

**Design/methodology/approach** – The authors analyse 474 responses from online questionnaires through partial least squares path modelling and variance-based structural equation modelling. The paper claims that environmental opportunity and personal capability factors positively affect students' online-startup motivation, but uncertainty-avoidance thinking plays a negative role. The study also measures the importance-performance map analysis to explore additional findings and discuss managerial implications.

**Findings** – Both platform support and official department support positively impact Chinese tertiary students' online-startup motivation and entrepreneurial skills learned from universities are beneficial for them to build online-startup confidence. Meanwhile, influenced by the cooperative system implemented among official departments, industries and universities, official department support positively affects platform support and entrepreneurial skills. Conversely, influenced by Chinese traditional Confucian culture, uncertainty-avoidance thinking negatively affects tertiary students' online-startup motivation.

**Originality/value** – This paper demonstrates the analysis of Chinese tertiary students' online-startup motivation drawing on the COM-B behaviour changing and Hofstede cultural theories. Specifically, this study divides influencing factors into three specific aspects as follows: environmental opportunity, personal capability and social and cultural control. Unlike existing research applying traditional research models, the combination of the COM-B behaviour changing theory and the Hofstede cultural theory could be conducive to making the research model reflect influencing factors and present their different relationships.

**Keywords** Chinese tertiary students, COM-B behaviour changing theory, Cooperative system, Live streaming platform, Online-startup motivation

**Paper type** Research paper



## 1. Introduction

Online-startup established on live streaming platforms is a new mode of entrepreneurship that has developed dramatically in emerging economies due to the influence of the financial crisis and

the popularity of the internet (Song, 2015). According to the definition from the author Finkle (2018), online-startup refers to entrepreneurs starting an online business on live streaming platforms with the help of peer-to-peer technology. Unlike offline entrepreneurship, the online-startup mode on live streaming platforms is relatively flexible, with no strict requirements for venues, funds and labour management. It is conducive to harnessing entrepreneurs' talents and solving social employment problems (Finkle, 2018). Based on its strengths, various policies, such as entrepreneurship training strategy, tax relief, technology subsidy and online entrepreneurial insurance support, have been established in different countries to encourage local talents to engage in online-startup activities (Gordon, 2018; Ramos and Pedroso, 2021). Specifically, to promote the development of the knowledge economy, Chinese Governments have designed various policies to attract young entrepreneurs, especially tertiary students with innovative thinking and a wealth of expertise (He *et al.*, 2018). For instance, the human resources and social security bureau from Jiyuan, a third-tier city in China, has issued comprehensive entrepreneurship subsidies for young tertiary students, assisting them in building online-startup confidence (He *et al.*, 2018). Based on the solid support of Chinese official departments, the number of online-startups has reached 1.6 million during the fourth wave of entrepreneurship (Yu, 2018; Sun, 2019).

In addition to Chinese official support, the technical development of live streaming platforms in China has also brought convenience for online-startups, also known as platform support. Compared with the traditional social media platform, live streaming platforms can provide Chinese tertiary students with comprehensive functions to promote online business, like real-time interaction, virtual gift-sending system, group chat and online store functions (Wang, 2016). Meanwhile, perception of the external environment drives Chinese tertiary students' online-startup motivation (Kallas, 2019). Specifically, although the influence of the COVID-19 pandemic has increased the vulnerability of startups in emerging economies, live streaming platforms established by Bytedance, Pinduoduo and JingDong have found a comfortable online trading environment for Chinese tertiary students and taken the place of offline shopping mode in a short period (Addo *et al.*, 2020; Lv, 2021; Abbas and Liu, 2021). Therefore, whether it is official department support or platform support, both belong to external influences that can provide Chinese tertiary students with sound *Environmental opportunities*, affecting their online-startup motivation (Mayne, 2018).

Notably, young Chinese tertiary students have more chances to accept innovation and entrepreneurship education in universities and control various online-startup capabilities, such as information technology knowledge, live streaming interaction skills and online marketing strategies (Wei *et al.*, 2019; Zhu *et al.*, 2017). This means that they have significant advantages to promote online-startups on live streaming platforms. Entrepreneurial education in Western universities has been promoted earlier than China's, but the entrepreneurship education ecosystem in China has been developed comprehensively in recent years. As a collectivist state, Chinese Governments understand the importance of building relationships with other organisations (Alkhadher *et al.*, 2020). Specifically, the *Cooperative system* established among official departments, industries and universities, such as Renmin University, Shanghai Jiaotong University and Wuhan University, provides a broader platform for Chinese tertiary students, aiming to increase their entrepreneurial experience and help them to learn practical skills from industry experts (Huang *et al.*, 2020; Yu, 2018). Social resource sharing and multi-level cooperation could create a dynamic entrepreneurial atmosphere and accelerate online-startup evolution (Salamzadeh and Kirby, 2017). Like Innovation and Entrepreneurship Competitions in China, many novel online-startup training strategies add exciting elements to entrepreneurship education and attract Chinese tertiary students' online-startup interest. Overall, with the continuous improvement

of the online-startup environment, Chinese tertiary students' *Personal capability*, such as real-time interaction skills and online marketing skills, would be improved dramatically and their online-startup enthusiasm will continue to grow.

However, existing literature pays much attention to the overall environment of Chinese entrepreneurship, and few researchers focus on the specific topic of Chinese tertiary students' motivation to develop online-startups on live streaming platforms (Huang *et al.*, 2020; Yu, 2018; Cinar *et al.*, 2018). Although many Chinese tertiary students claim that they are interested and capable of starting a new business on live streaming platforms, most of them change their mind after graduation because of various difficulties, such as funds shortage, lack of entrepreneurial training and even parents' obstruction (Lei and Yan, 2017). Existing studies have presented a similar issue that many young Chinese tertiary students do not have enough confidence to promote online-startups (Olugbola, 2017; Ding *et al.*, 2020; Yan *et al.*, 2018). Still, few scholars systematically research what kinds of *Environmental opportunity* factors contribute to their entrepreneurial motivation and what *Capability* elements disadvantage. According to the individual intention studies proposed by Kallas (2019) and Mayne (2018), *Environmental opportunity* factors and *Personal capability* factors represent external and internal influences, respectively, and they cannot be ignored while analysing individual online entrepreneurial motivation. Thus, based on the arguments, the first research question is:

*How do Environmental opportunity and Personal capability factors affect Chinese tertiary students' motivation to promote online-startups on live streaming platforms under the Cooperative system?*

Based on the first research question, the paper establishes the research model based on the COM-B behaviour changing theory, supposing that both *Environmental opportunity* and *Personal capability* influence personal motivation and their final behaviour (Michie *et al.*, 2011; West and Michie, 2020). Combined with Chinese entrepreneurial background, the *Environmental opportunities* include live streaming platform support and official department support, and *Personal capability* means tertiary students' entrepreneurial skills. In addition to the COM-B behaviour changing theory, this paper also draws on the *social and cultural control* from the Hofstede cultural theory, especially the influence of uncertainty-avoidance cultural factor, to improve the research model's dimension, which considers China's specific social and cultural environment (Hofstede, 2009). Although the study applies the uncertainty-avoidance measurement from the Hofstede cultural model (Hofstede, 2009), it re-considers Chinese students' specific background and updates the score of uncertainty-avoidance factor, which existing studies have ignored. Meanwhile, due to lack of funds and entrepreneurial experiences, developing an online-startup could be a challenging career for Chinese tertiary students. In China's Confucianism, it would lead most students to have a conservative attitude towards the new entrepreneurial mode to avoid uncertain issues, also known as *san si er hou xing* (think thrice before you act) (Olugbola, 2017; Wu *et al.*, 2018; Lichang, 2004). This means that the uncertainty-avoidance thinking would significantly impact Chinese tertiary students' online-startup motivation rather than the low impact provided by the Hofstede cultural model, which has rarely been analysed by existing studies. Thus, the second research question is:

*How does uncertainty-avoidance thinking affect Chinese tertiary students' motivation to promote online-startups on live streaming platforms?*

The study results contribute to the theoretical and practical implications. For the theoretical contribution, the paper research studies Chinese tertiary students' online-startup motivation based on the COM-B behaviour changing theory and the Hofstede cultural theory. It divides influencing factors into three aspects as follows: *Environmental opportunity*, *Personal capability* and *Social and cultural control*. This research design makes the research model logical and

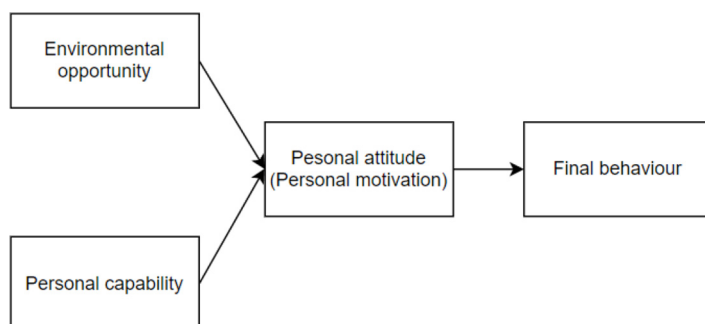
conforms to the particular online-startup environment for Chinese college entrepreneurs. Meanwhile, unlike prior research, this study is developed in a specific Chinese cultural background and explores Chinese tertiary students' online-startup motivation from a practical perspective. In detail, it investigates whether technical support and policy support could enhance Chinese students' confidence and encourage them to establish new businesses. Based on the data analysis results, the paper provides-related departments with suitable suggestions to build a more comfortable entrepreneurial environment for tertiary students.

Finally, the rest of the paper has been structured as follows. Firstly, the existing literature about technical support and cultural influence on online-startups is reviewed, and theoretical foundations, such as the COM-B behaviour changing theory and the Hofstede cultural theory, are presented to discover the Chinese online-startup background. Secondly, the research model is built, and five hypotheses are explained. Thirdly, the methodology of this study is introduced, and the data analysis results are provided. In the final part, the key findings, implications and future studies are discussed.

## 2. Literature review

### 2.1 Com-B behaviour changing theory

COM-B behaviour changing theory is a systematical framework to analyse the relationship between influencing factors and individual motivation (Michie *et al.*, 2011; West and Michie, 2020) (Figure 1). As its establishment, this theory has been widely applied to research government measures, disease transmission, users' behaviour and other aspects (West *et al.*, 2020; Cane *et al.*, 2012; Michie and West, 2013). However, existing researchers tend to use case studies to analyse Chinese tertiary students' entrepreneurial intentions (Yao *et al.*, 2016; Hu and Ye, 2017), the disadvantage of which results from the lack of a holistic grasp of the relationship between entrepreneurial environment and entrepreneurial psychology. Unlike previous studies that use the traditional theory of planned behaviour research model (Tsordia and Papadimitriou, 2015; Li *et al.*, 2008; Kaijun and Sholihah, 2015), the COM-B behaviour Changing model is more conducive to grasping the change of the consciousness of the target group from the macro-level (West and Michie, 2020). According to the COM-B behaviour changing theory, *Environmental opportunities* in this study include platform support and official department support, and *Personal capability* specifically refers to Chinese tertiary students' entrepreneurial skills. Both of them significantly affect personal motivation and lead to final behaviour. Furthermore, considering China's social and cultural background, all of these factors would have an essential influence on Chinese tertiary students' online-startup motivation, which will be analysed in following parts.



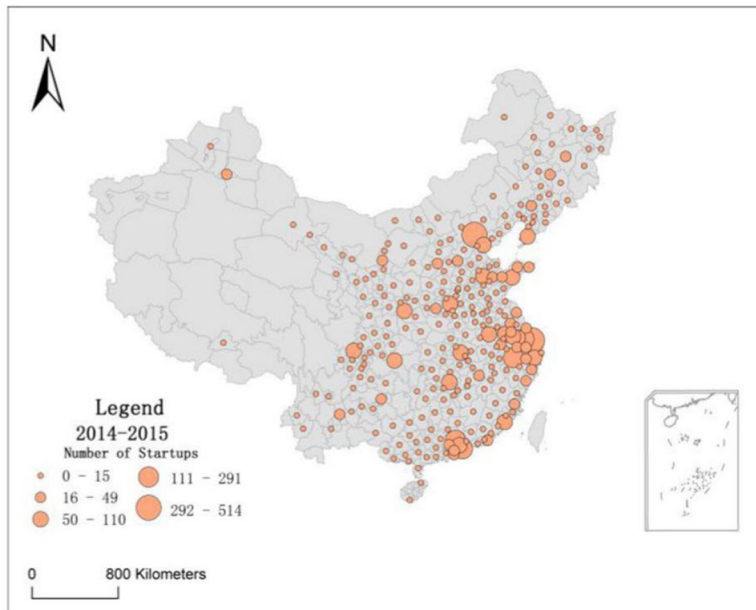
Sources: Michie *et al.* (2011); Mayne (2018)

Figure 1.  
COM-B behaviour  
changing model

2.2 The impact of environmental opportunity

On live streaming platforms, Chinese tertiary students can interact with online consumers in real-time and display various products through their online store functions, benefiting from the platform support (Ho and Rajadurai, 2020). Specifically, face-to-face virtual interaction and convenient shopping functions provide Chinese tertiary students with the technical opportunity to understand their consumers' shopping experience and improve their business gradually (Song et al., 2021). Unlike traditional social media platforms, the support of live streaming platforms can enrich users' engagement and decrease the emotional distance between live streamers and viewers, suitable for promoting online business in real-time and attracting college entrepreneurs' online-startup interest (Wang and Wu, 2019). For example, on the Taobao Live platform, more than 10,000 entrepreneurs advertise their products, like food, cars and clothes, and the live shopping promoted by Starbucks has attracted 180,000 consumers in 3 h, which is difficult to achieve on traditional social media platforms (Cai and Wohn, 2019; Chen and Xiong, 2019). Meanwhile, as mentioned before, different from offline-startups, developing online-startups has no strict requirements for sites, human resources and initial capital (Song et al., 2021). Therefore, all of these live streaming platform supports, including the technical support of live streaming functions and flexible online-startup environment, are beneficial for Chinese tertiary students to decrease their practical difficulties and enhance their online-startup motivation.

Moreover, to accelerate industrial innovation and solve the problem of employment, official department support is an essential *Environmental opportunity* factor for Chinese tertiary students. Considering some Chinese tertiary students from third-tier cities and rural areas, financial pressure is a primary challenge for their online-startup plan (Jia and Lu, 2020). Based on their low-income level and economic pressure, Chinese official departments would enhance tertiary students' online-startup enthusiasm through effective ways, such as venture capital



**Figure 2.**  
Distribution of  
startups in China  
between 2014 and  
2015

Source: Pan and Yang (2019)

supports, tax cuts and the relaxation of loan lines (Leong *et al.*, 2017). As Figure 2 shows, with the improvement of official department supports, the number of new businesses established by Chinese students has increased from 3.2% to 6.3% between 2014 and 2015 (Pan and Yang, 2019). Attracted by improved official supports, increasingly more online-startups will be found in China's east, central and even west areas (Pan and Yang, 2019). Meanwhile, influenced by the COVID-19 pandemic, official department supports, such as microfinance and direct subsidies, are necessary for small businesses and can enhance tertiary entrepreneurs' confidence (Brown and Rocha, 2020; Siraj *et al.*, 2018). Thus, department support and platform support are two vital *Environmental opportunity* factors, positively affecting Chinese tertiary students' online-startup motivation.

### 2.3 The impact of personal capability

The entrepreneurship education system has been established in Western countries since the 1940s, and its primary purpose is to provide many internships for young people to experience the entrepreneurial process and improve their *Personal capabilities* (Arthur *et al.*, 2012). Similar to the Western entrepreneurial education system, the education system built in China also focusses on tertiary students' entrepreneurial experiences and implements pilot programs in some industries (Yu, 2018). During this process, Chinese tertiary students have some opportunities to communicate with experienced entrepreneurs and get their financial supports to promote online-startups. Meanwhile, to attract tertiary students' online-startup intention, some attractive national competitions have been held in many provinces, i.e. Innovation and Entrepreneurship Competition (Yan *et al.*, 2018). In detail, the participants in competitions display their online-startup plan at first, and a sound entrepreneurial project can be richly funded after the judges of the screening. This competition strategy could encourage Chinese tertiary students to build entrepreneurial spirit and foster entrepreneurial capabilities, including live streaming marketing knowledge, online communication skills and team cooperative skills (Yan *et al.*, 2018). Therefore, Chinese tertiary students' improved entrepreneurial skills play a vital impact on their online-startup motivation.

### 2.4 Entrepreneurial environment under the cooperative system

The *Cooperative system* established by official departments and network industries could improve the platform support. It not only enhances technical support but also provides a broader platform for Chinese tertiary students to increase their online entrepreneurial experience and learn practical skills from industry experts (Huang *et al.*, 2020). As entrepreneurial policy improves, many live streaming platforms, such as Taobao Live, Kuaishou and TikTok, have implemented particular business channels for young entrepreneurs and encouraged the development of the live streaming industry (Zheng and Ni, 2020). Besides the cooperation between official departments and business platforms, many official departments design various educational strategies for universities, aiming to encourage tertiary students to promote online-startups and reduce their entrepreneurial burden. For example, local educational departments work with universities to establish entrepreneurial guidance centres where young tertiary students can communicate with experienced entrepreneurs and learn valuable entrepreneurial skills from them (Ding *et al.*, 2019). Thus, under the *Cooperative system*, the official department support positively affects platform support and students' entrepreneurial skill factors.

### 2.5 Social and cultural control influence

The uncertainty-avoidance thinking plays a significant role in Chinese tertiary students' online-startup process, which needs to be analysed in the research. Based on the Hofstede

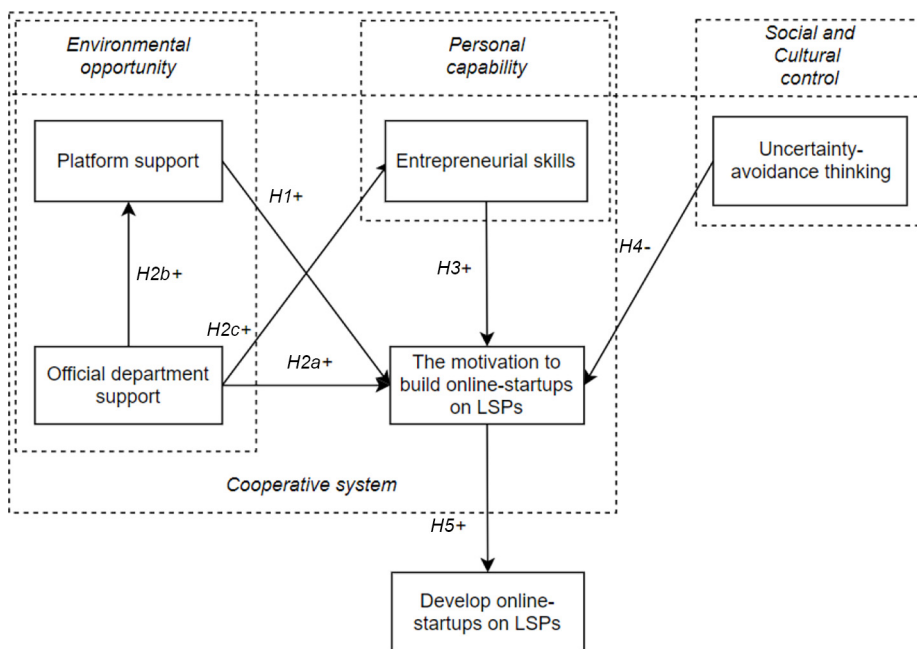
cultural dimension definition (2010), uncertainty-avoidance thinking indicates that individuals have an inherent mindset to avoid unstructured situations. Unlike Western tertiary students' entrepreneurial motivations, Chinese tertiary students' entrepreneurial goals pay more attention to practicality and effectiveness (Yan *et al.*, 2018; Liu *et al.*, 2019). This results that they have more stringent requirements on themselves to avoid unnecessary mistakes, and their online-startup motivation would be influenced by uncertainty-avoidance thinking (Yan *et al.*, 2018; Liu *et al.*, 2019). According to the Hofstede cultural model (2010), the uncertainty-avoidance score in China is low, but the result cannot be applied to Chinese tertiary students' specific situations. This can be explained based on two reasons. Firstly, influenced by the traditional thinking characteristics, especially Confucianism, Chinese tertiary students are more likely to implement new careers with complete certainty instead of uncertainty, also known as *san si er hou xing* (Wang, 2016). This would interpret why most Chinese tertiary students prefer to find stable jobs rather than develop challenging online-startups. In addition to traditional thinking influence, most Chinese tertiary students do not have sufficient funding sources and face financial pressure (Ratten, 2014). While local governments can provide a certain amount of funds for young entrepreneurs, more than 90% of them are still concerned about the source of future venture capital (Xi and He, 2020). All potential difficulties, such as funds shortage, parents' obstruction and COVID-19 pandemic, would increase Chinese tertiary students' psychological burden and engender their uncertainty-avoidance thinking, negatively affecting their online-startup motivation. Therefore, this paper will re-analyse the uncertainty-avoidance thinking under Chinese social and cultural background and explore its influence on Chinese students' online-startup motivation, which prior studies have ignored.

### 3. Research model and hypotheses

Both *Environmental opportunity* and *Personal capability* factors directly impact personal motivation, proved by the COM-B behaviour changing model (Michie *et al.*, 2011). To be specific, *Environmental opportunity* factors include platform support and official department support, and *Personal capability* includes tertiary students' entrepreneurial skills. Meanwhile, as Figure 3 shows, influenced by the *Cooperative system* established among official departments, industries and universities, official department support would not only affect Chinese tertiary students' online-startup motivation but also have strong relationships with platform support and entrepreneurial skill factors. Except for the COM-B behaviour Changing model, this paper also studies *Social and cultural control*. It draws on the uncertainty-avoidance thinking factor from the Hofstede culture model to reflect Chinese tertiary students' conservative attitude that is rarely explored in existing literature (Hofstede *et al.*, 2010). Based on the COM-B behaviour Changing model and the Hofstede culture model, the research model for this study has been built, as Figure 3 shows.

#### 3.1 Platform support and official department support

Unlike traditional social media platforms, Chinese tertiary students can interact with their consumers face to face and understand their shopping experience based on live streaming platform supports. Various functions are convenient for tertiary students to innovate and promote online-startups, including real-time video interaction, group chat and online product display (Wang, 2016). According to user engagement mechanisms, product interactivity and communication immediacy based on platform support can foster compelling user experiences and boost online business sales, which is attractive for college entrepreneurs (Wang and Wu, 2019). Meanwhile, different from the offline-startup form,



**Figure 3.**  
Research model

implementing online-startups on live streaming platforms has no strict requirements for sites, human resources and initial capitals. This creates a comfortable environment for Chinese tertiary students to implement their entrepreneurial plans and enhance their online-startup confidence (Song *et al.*, 2021). The paper, thus proposes as follows:

*H1.* Platform support positively affects Chinese tertiary students' online-startup motivation.

Official department support is an essential external factor influencing Chinese tertiary students' online-startup motivation (Reshetnikova, 2018). Specifically, to accelerate industrial innovation, local governments cooperate with universities to establish entrepreneurial guidance centres and hold entrepreneurship contests to enhance tertiary students' entrepreneurial enthusiasm (Ding *et al.*, 2019). To solve the problem of financial pressure on tertiary students, the local governments in Shanghai, Shenzhen and Nanjing, provide financial support for tertiary students if they have an improved business project, and the supports include tax relief, interest-free loans and startup funds (Guo, 2019). As an *Environmental opportunity* factor, this kind of support from Chinese official departments could decrease tertiary students' financial pressure and enhance their online-startup motivation (Mayne, 2018). Therefore, the study proposes as follows:

*H2a.* Official department support positively affects Chinese tertiary students' online-startup motivation.

As a collectivist state, the *Cooperative system* established among official departments, network industries and universities can provide chances for Chinese tertiary students to increase their entrepreneurial experience and learn practical skills from industry experts



(Huang *et al.*, 2020; Alkhadher *et al.*, 2020; Hofstede, 2009). In 2021, 4,000 Chinese tertiary students participated in the College Students Live Streaming Entrepreneurship Competition (Feng, 2021). This is helpful for platform managers to understand the needs of tertiary students, and thus improve platform support. Meanwhile, many official departments also design various educational strategies to encourage tertiary students to promote online-startups. For instance, more and more entrepreneurial guidance centres have been built in universities, aiming to increase the internship opportunities for tertiary students and help them understand the online-startup process (Ding *et al.*, 2019). Thus, influenced by the *Cooperative system*, official department support could positively affect platform support and entrepreneurial skill factors, and the paper proposes as follows:

H2b. Official department support positively affects platform support.

H2c. Official department support positively affects Chinese tertiary students' entrepreneurial skills.

### 3.2 Entrepreneurial skills

Compared with other age groups, young tertiary students have more chances to learn entrepreneurial skills in universities and accept online-startup training (Yan *et al.*, 2018). This is why Chinese Governments' entrepreneurial support policies are aimed primarily at tertiary students rather than other groups. With the improvement of the entrepreneurial educational system, tertiary students' entrepreneurship projects have shifted from the classroom to society (Yu, 2018). For instance, through the guidance of the university entrepreneurial centres, Chinese tertiary students can find a suitable company for internship training according to their entrepreneurship plan, which is beneficial for them to increase their capabilities and improve the online-startup design. Furthermore, the provision of high-quality entrepreneurship education is an efficient way for tertiary students to learn practicable entrepreneurial skills, such as live streaming marketing skills, online shop operation methods and human resources management knowledge (Mensah *et al.*, 2021). As *Personal capability* factors, most entrepreneurial skills can be directly used in Chinese tertiary students' online-startups and enhance their online-startup motivation (Mayne, 2018). Thus, the paper posits as follows:

H3. Entrepreneurial skills positively affect Chinese tertiary students' online-startup motivation.

### 3.3 Uncertainty-avoidance thinking

Unlike prior studies, this paper considers the specific effect of *Social and cultural control* on Chinese tertiary students, and it claims that the uncertainty-avoidance would significantly influence their online-startup motivation. Uncertainty-avoidance thinking is caused by two different reasons. To be specific, unlike other age groups of entrepreneurs, most Chinese tertiary students are between 18 and 23 years old and lack venture capital and entrepreneurial experiences, resulting in them avoiding uncertain issues and reducing unnecessary expenses (Olugbola, 2017; Wu *et al.*, 2018). At the same time, influenced by traditional Confucianism, Chinese tertiary students will be cautious about unknown business areas, thus avoiding unnecessary issues (Elstein and Tian, 2020). Although this way of thinking can reduce their future entrepreneurial risk, it could negatively affect their

motivation to develop online-startups. Based on the arguments mentioned above, the paper proposes as follows:

*H4.* Uncertainty-avoidance thinking negatively affects Chinese tertiary students' online-startup motivation.

According to the COM-B behaviour changing theory (2011), individuals' motivation would directly affect their final behaviour, which has been identified by existing studies. In detail, Chinese tertiary students' online-startup motivation would positively affect them to develop online-startup on live streaming platforms. Therefore, the study posits as follows:

*H5.* Chinese tertiary students' online-startup motivation positively affects them to develop online-startups on live streaming platforms.

## 4. Methodology

### 4.1 Research setting

The online questionnaire method has been used to promote data collection and test the research model. Compared with other surveying methods, the online questionnaire can help researchers collect data from different user groups from different areas (Rowley, 2014; Nayak and Narayan, 2019). Its advantages help to conduct extensive investigations under the influence of the COVID-19 situation. Meanwhile, this study uses Chinese tertiary students as research samples and promotes an online survey among universities and colleges to analyse their online-startup motivation. During the fourth wave of entrepreneurship, the number of online-startups in China has reached 1.6 million, and most of them are developed by tertiary students, which has certain representativeness for the data collection (Yu, 2018; Sun, 2019). Based on the development of the online-startup environment and the increasing number of tertiary entrepreneurs, the Chinese online-startup environment is chosen as the research context.

### 4.2 Measurement

All constructs measured in this paper are based on previous studies. Platform support is measured using three questions from Balasubramanian *et al.* (2014), and official department support is measured in the paper from Abbasi *et al.* (2011), Richman *et al.* (1993) and Suurmeijer *et al.* (1995). According to Linan's report (2008), three-question items measure Chinese tertiary students' entrepreneurial skills. Adapted from Lee's entrepreneurial study (2017), the motivation to build online-startups is measured through three questions. Based on the previous papers related to uncertainty-avoidance thinking written by Osorio *et al.* (2017), three items about tertiary students' uncertainty-avoidance thinking have been designed in this paper. Developing online-startup behaviour is measured using three questions from Linan (2008) and Silveira *et al.* (2017). In addition to basic information statistics, the question items are shown in Table 1. The paper uses the Likert seven-point scale with a range from the lowest score = 1 to the highest score = 7, increasing data analysis accuracy (Dawes, 2008).

### 4.3 Data collection

The Tencent Questionnaire platform was chosen as the questionnaire design platform because its academic function design and multi-language option were convenient for Chinese users to fill in, which existing scholars had identified and proved (Lai *et al.*, 2020; Xue *et al.*, 2021). Many filtering questions had been added before the formal questionnaire,

**Table 1.**  
List of questionnaire  
contents

Variable	Item	Measurement
<i>Platform support</i> (Balasubramanian <i>et al.</i> , 2014)	PS1	It is easy to identify functions on the platform
	PS2	This platform is useful for sharing information
	PS3	Interaction between users and live streamers is convenient
<i>Official department support</i> (Suurmeijer <i>et al.</i> , 1995; Richman <i>et al.</i> , 1993; Abbasi <i>et al.</i> , 2011)	OS1	In general, I am satisfied with the overall quality of official department support for online-startup
	OS2	If necessary, official departments will help, for example, when you need financial support or training support
	OS3	It is important for my development to get support from official departments
	OS4	Official departments provide enough services for young entrepreneurs
<i>Entrepreneurial skills</i> (Linan, 2008)	ES1	Starting an online business and keeping it viable would be easy for me
	ES2	I am able to control the creation process of a new business
	ES3	I know all about the practical details needed to start an online business
<i>Motivation to build online-startups</i> (Lee-Ross, 2017)	MB1	To me, being an entrepreneur suggests advantages, not disadvantages and a career as an entrepreneur is attractive to me
	MB2	I am determined to create an online business in the future
	MB3	My professional goal is to become an entrepreneur on LSPs
<i>Uncertainty-avoidance thinking</i> (Osorio <i>et al.</i> , 2017)	UA1	I am not confident about my skills and abilities to run my own business
	UA2	I would not be certain of success if I started my own business
	UA3	I have not known enough to start my own business
<i>Develop online-startup</i> (Silveira <i>et al.</i> , 2017; Linan, 2008)	DO1	I will create a business venture in the future
	DO2	Certainly, I will establish my own online business
	DO3	After graduation, I will prefer to pursue an entrepreneurial career

aiming to focus on the target respondents who were Chinese tertiary students and interested in developing online-startups on live streaming platforms. Between February 2021 and March 2021, 513 online questionnaires were received from 24 provinces, including China's developed and less-developed regions. Among these 513 questionnaires, inappropriate responses had been deleted, including the incomplete response, same responses, same IP address and unmatched educational background. Finally, 474 questionnaires were valid for this study, and the rate of return was 92.39%.

## 5. Data analysis

### 5.1 Descriptive statistics

Among these 474 respondents (Table 2), 52.5% (249) of them are female and 47.5% (225) are male. More than 58% (279) of them are between 21 and 30 years old, and more than 23% (111) of them are between 31 and 40 years old. Few of them are under 20 years old or above 41 years old. Meanwhile, among these respondents, 52.4% (248) are undergraduate students, 19% (90) are postgraduate students, and 25.9% (123) are from junior colleges, covering all student groups. Regarding the most familiar live streaming platform, 34.4% (163) of them choose the Kuaishou platform, and 28.9% (137) prefer to use the TikTok live streaming platform. In total, 18.8% (89) of them choose the Taobao Live platform and 17.93% (85) choose others.

This study applies the variance-based structural equation modelling (SEM) and partial least squares (PLS) path modelling based on SmartPLS 2.0 to promote data analysis and test

**Table 2.**  
Basic information of  
respondents (N =  
474)

Demographic variables	Category	Frequency	(%)
<i>Gender</i>	Female	249	52.5
	Male	225	47.5
<i>Age</i>	<=20	51	10.8
	21–30	279	58.9
	31–40	111	23.3
	>=41	33	7
<i>Education background</i>	Junior college	123	25.9
	Undergraduate	248	52.4
	Master	90	19
	Doctor	13	2.7
<i>Most familiar live streaming platform</i>	Kuaishou	163	34.4
	TikTok	137	28.9
	Taobao Live	89	18.8
	Others	85	17.93

the research model. The analysis of both the measurement model and structural model is conducted through SmartPLS, which is reasonable for the study and fits the research purpose (Chin *et al.*, 2003; Chin, 1998; Hair *et al.*, 2019). According to the research results proposed by Hair *et al.* (2019), PLS-SEM is a causal-predictive approach to SEM, and it can be applied to test a theoretical framework from a prediction perspective. Meanwhile, the improved functions on SmartPLS 2.0 are beneficial to implement PLS-SEM analysis, leading to a better understanding of the research model (Sarstedt and Cheah, 2019; Hair *et al.*, 2017).

### 5.2 Measurement model

The evaluation of reliability, convergent validity and discriminant validity can be applied to check the measurement model, as proved by prior studies (Hair *et al.*, 1998; Henseler *et al.*, 2015). Firstly, based on the study results provided by the author Chin (1998), the criteria including average variance extracted (AVE), composite reliability (CR) and Cronbach's alpha should be used to assess the reliability of the research model. To be specific, AVE needs to be greater than 0.50, CR needs to be higher than 0.70 and Cronbach's alpha needs to be greater than 0.70 (Chin, 1998). As Table 3 shows, all data results meet the requirements, claiming acceptable reliabilities.

As the study promoted by Chin (1998) shows, the convergent validity and discriminant validity can be examined through confirmatory factor analysis. According to the factor loadings and cross-loadings presented in Table 4, the markers' loadings in each construct are highly correlated, and each marked construct is significantly greater than other constructs, indicating

Constructs	AVE	CR	Cronbach's alpha
DO	0.757	0.903	0.840
ES	0.724	0.887	0.810
MB	0.747	0.898	0.831
OS	0.691	0.900	0.851
PS	0.763	0.906	0.845
UA	0.871	0.953	0.927

**Table 3.**Results of AVE, CR  
and Cronbach's alpha

**Notes:** PS = platform support; OS = official department support; ES = entrepreneurial skills; MB = motivation to build online-startups; UA = uncertainty-avoidance thinking; DO = develop online-startup

the convergent validity and discriminant validity of this research model are acceptable (Clark and Watson, 2016; Chin, 1998). Specifically, based on Table 4, the range of marked items is from 0.806 to 0.938, which is higher than 0.707, meeting the convergent validity requirement (Hwang and Lee, 2012). Meanwhile, the AVE results shown in Table 3 are more significant than the proposed AVE value of 0.50, stating a sufficient degree of convergent validity (Afthanorhan, 2013).

In addition to the convergent validity, the discriminant validity can be evaluated by examining the Fornell–Larcker criterion. The AVEs' square root on the diagonals can assess whether the discriminant validity is acceptable (Chin, 1998; Fornell and Larcker, 1981). A latent construct needs to interpret the variance of its own indicator rather than the variance of other latent constructs (Henseler et al., 2015). Specifically, the AVEs' square root on the diagonals in Table 5 is significantly greater than other correlations, supporting the discriminant validity (Fornell and Larcker, 1981).

### 5.3 Common method bias

Because some correlations of the constructs are relatively high, it might lead to common method bias. The single-factor test and the measured latent-factor test can be applied to

Indicators	DO	ES	MB	OS	PS	UA
DO1	<b>0.869</b>	0.618	0.631	0.616	0.575	0.315
DO2	<b>0.880</b>	0.655	0.688	0.635	0.619	0.282
DO3	<b>0.862</b>	0.599	0.688	0.598	0.585	0.326
ES1	0.584	<b>0.843</b>	0.631	0.647	0.610	0.296
ES2	0.645	<b>0.858</b>	0.673	0.676	0.638	0.299
ES3	0.600	<b>0.852</b>	0.672	0.642	0.567	0.271
MB1	0.658	0.648	<b>0.862</b>	0.657	0.626	0.163
MB2	0.686	0.711	<b>0.870</b>	0.712	0.677	0.281
MB3	0.651	0.646	<b>0.861</b>	0.624	0.590	0.144
OS1	0.543	0.583	0.580	<b>0.816</b>	0.685	0.328
OS2	0.609	0.660	0.685	<b>0.866</b>	0.761	0.243
OS3	0.627	0.642	0.658	<b>0.806</b>	0.652	0.350
OS4	0.571	0.670	0.628	<b>0.837</b>	0.662	0.264
PS1	0.591	0.597	0.622	0.716	<b>0.879</b>	0.232
PS2	0.624	0.644	0.655	0.730	<b>0.894</b>	0.259
PS3	0.571	0.620	0.639	0.731	<b>0.847</b>	0.247
UA1	0.306	0.316	0.170	0.301	0.245	<b>0.926</b>
UA2	0.343	0.329	0.233	0.349	0.300	<b>0.936</b>
UA3	0.334	0.305	0.228	0.336	0.239	<b>0.938</b>

**Table 4.**  
Factor loadings and cross-loadings

Constructs	AVE	DO	ES	MB	OS	PS	UA
DO	0.757	<b>0.870</b>					
ES	0.724	0.717	<b>0.851</b>				
MB	0.747	0.770	0.774	<b>0.864</b>			
OS	0.691	0.708	0.770	0.770	<b>0.832</b>		
PS	0.763	0.682	0.711	0.732	0.830	<b>0.874</b>	
UA	0.871	0.353	0.339	0.229	0.355	0.282	<b>0.933</b>

**Table 5.**  
Discriminant validity for the measurement model according to Fornell–Larcker criterion

**Note:** The diagonals represent the square root of average variance extracted (AVE) and the lower cells represent the correlation among constructs

examine the common method bias of this research, as Table 6 shows (Podsakoff *et al.*, 2003). Combined with the features of Smart PLS and the research model, the study applies the measured latent-factor test designed by the researcher Liang (Liang *et al.*, 2007; Rönkkö and Ylitalo, 2011). As Table 6 claims, the average of trait factors explains 75.6% of the overall variance, and the standard of method factors can define 1% of the overall variance. Therefore, the ratio between the average of trait factors and the average of method factors is 74.095, higher than 39, indicating common method bias is not serious and the correlations of the constructs are acceptable (Liang *et al.*, 2007; Rönkkö and Ylitalo, 2011).

#### 5.4 Structural model

This paper uses bootstrapping on SmartPLS 2.0 to evaluate the path significances and the *t*-statistical test of each path (Hair Jr *et al.*, 2016). According to Table 7 and Figure 4, *t*-statistics results are significantly greater than 1.96 ( $p < 0.001$ ), supporting all hypotheses (Hair Jr *et al.*, 2016). Specifically, platform support has a significant positive effect on Chinese tertiary students' motivation to promote online-startups ( $\beta = 0.197$ ,  $t = 3.671$ ,  $p < 0.001$ ), supporting *H1*. Official department support positively affects Chinese tertiary students' online-startup motivation ( $\beta = 0.304$ ,  $t = 4.678$ ,  $p < 0.001$ ), platform support ( $\beta = 0.831$ ,  $t = 57.705$ ,  $p < 0.001$ ) and entrepreneurial skills ( $\beta = 0.426$ ,  $t = 11.132$ ,  $p < 0.001$ ), supporting *H2a*, *H2b* and *H2c*. Entrepreneurial skills positively correlate with their online-startup motivation ( $\beta = 0.426$ ,  $t = 11.132$ ,  $p < 0.001$ ). Meanwhile, uncertainty-avoidance thinking negatively affects Chinese tertiary students' online-startup motivation ( $\beta = -0.079$ ,  $t = 3.908$ ,  $p < 0.001$ ). Furthermore, tertiary students' online-startup motivation positively correlates with their final developing behaviour ( $\beta = 0.770$ ,  $t = 42.259$ ,  $p < 0.001$ ), supporting *H5*.

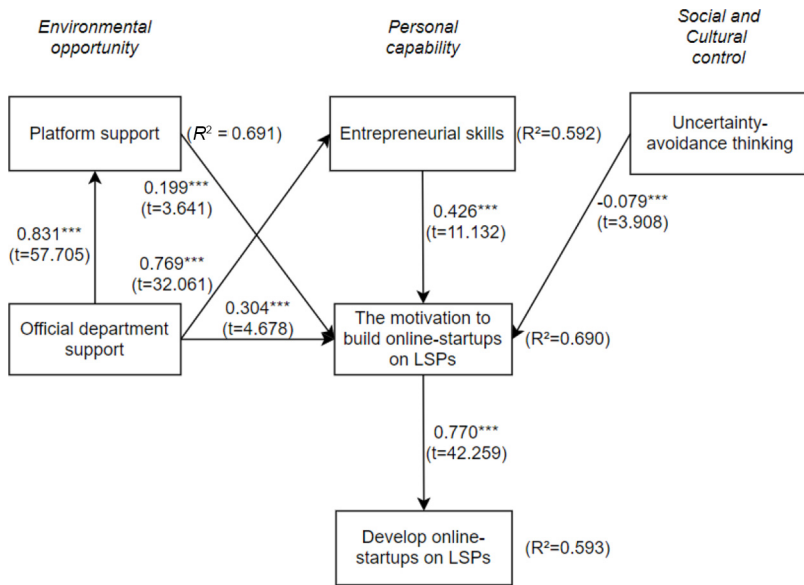
In addition to testing the hypotheses, the paper also measures the importance-performance map analysis (IPMA) to explore additional findings. According to the IPMA,

Indicators	<i>R1</i>	<i>R1 Square</i>	<i>R2</i>	<i>R2 Square</i>
DO1	0.876	0.767	-0.086	0.007
DO2	0.878	0.771	0.011	0.000
DO3	0.857	0.734	-0.031	0.001
ES1	0.848	0.719	0.032	0.001
ES2	0.856	0.733	-0.001	0.000
ES3	0.849	0.721	-0.055	0.003
MB1	0.863	0.745	0.205	0.042
MB2	0.866	0.749	-0.155	0.024
MB3	0.864	0.747	-0.060	0.004
OS1	0.825	0.681	0.046	0.002
OS2	0.864	0.747	0.013	0.000
OS3	0.797	0.635	0.078	0.006
OS4	0.839	0.704	-0.165	0.027
PS1	0.884	0.781	0.030	0.001
PS2	0.894	0.800	0.231	0.054
PS3	0.842	0.710	-0.093	0.009
UA1	0.939	0.881	-0.038	0.001
UA2	0.929	0.862	0.091	0.008
UA3	0.934	0.872	-0.054	0.003
Average Ratio	74.095	0.756		0.010

**Table 6.**  
Common method bias

**Table 7.**  
Hypotheses testing

Relationships	Original sample (O)	Standard error (STERR)	T-statistics ( O/STERR)	P-value	Hypotheses	Support?
ES → MB	0.426	0.038	11.132	$p < 0.001$	H3+	Yes
MB → DO	0.770	0.018	42.259	$p < 0.001$	H5+	Yes
OS → ES	0.769	0.024	32.061	$p < 0.001$	H2c+	Yes
OS → MB	0.304	0.065	4.678	$p < 0.001$	H2a+	Yes
OS → PS	0.831	0.014	57.705	$p < 0.001$	H2b+	Yes
PS → MB	0.199	0.055	3.641	$p < 0.001$	H1+	Yes
UA → MB	-0.079	0.020	3.908	$p < 0.001$	H4-	Yes



**Figure 4.**  
Hypotheses summary

**Notes:** \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$

the study can discover the impact of independent variables and analyse whether they have relatively high importance (total effects) or relatively high performance (Hock *et al.*, 2010). The target constructs need to be determined while implementing IPMA, including entrepreneurial skills, official department support, platform support and uncertainty-avoidance thinking. Meanwhile, the importance and performance of each construct should be examined on a scale from 0 to 100, and the higher values of variables mean the higher importance and performance (Shafaei and Abd Razak, 2018).

As Table 8 and Figure 5 show, the result of IPMA is performed on SmartPLS, which can be used to explain the performance of influencing factors. Specifically, the highest performance construct is platform support followed by official department support, entrepreneurial skills and uncertainty-avoidance thinking. Meanwhile, the highest importance construct is entrepreneurial skills, followed by official department support,

platform support and uncertainty-avoidance thinking. Hence, two variables have significantly high performance and importance for Chinese tertiary students' online-startup motivation, including entrepreneurial skills and official department support.

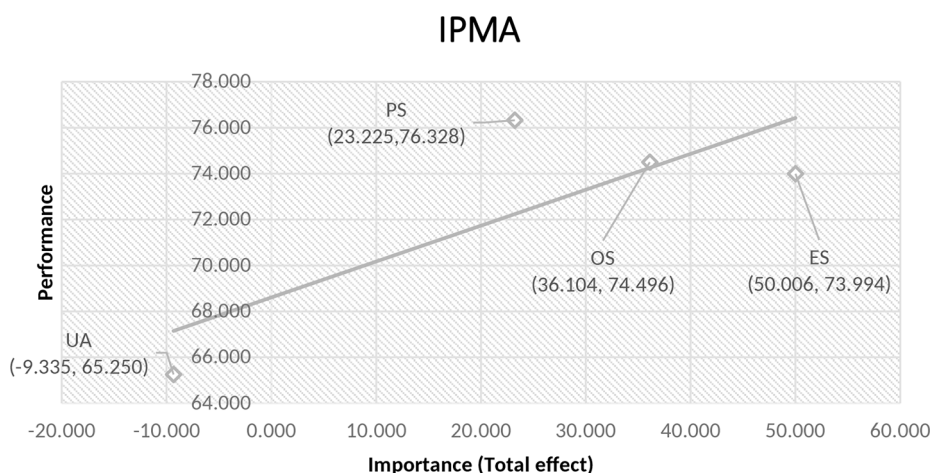
## 6. Discussion and implications

### 6.1 Key findings

According to the research results, several key findings can be stated. Firstly, platform support positively correlates with Chinese tertiary students' online-startup motivation. This is because the face-to-face interactive function on live streaming platforms allows these young entrepreneurs to understand consumers' shopping experiences and improve their marketing strategies. Unlike the research results based on offline-startups, the online-startup promoted on live streaming platforms has no strict requirements for sites, funds and taxes, which is beneficial to reduce tertiary students' entrepreneurial pressure and enhance their online-startup motivation. Secondly, the official department support, including financial support, insurance support and training support, has significant positive effects on tertiary students' online-startup motivation, platform support and entrepreneurial skills. With the improvement of entrepreneurial policies, more and more Chinese tertiary students would be attracted by online-startup environment and dare to promote their careers. Hence, as *Environmental opportunity* factors, platform support and department support positively influence tertiary students' online-startup motivation, which accords with the COM-B behaviour changing theory. Thirdly, as a *Personal capability* factor, tertiary students' entrepreneurial skills positively affect their online-startup motivation. So, universities and

Criterion: MB	Importance	Performance
ES	50.006	73.994
OS	36.104	74.496
PS	23.225	76.328
UA	-9.335	65.250

**Table 8.**  
IPMA results of  
Chinese tertiary  
students' online-  
startup motivation



**Figure 5.**  
IPMA of Chinese  
tertiary students'  
online-startup  
motivation



educational organisations must design various online-startup training courses for tertiary students, which could not only increase their entrepreneurial abilities but also enhance their confidence. Furthermore, influenced by traditional Confucianism, Chinese students treat new careers more carefully than Western students, which has been ignored by prior studies. Meanwhile, due to the lack of abundant financial resources and business experiences, tertiary students tend to avoid uncertain issues to reduce unnecessary expenses, which is different from previous studies that follow the Hofstede cultural model and ignore the specific impact of uncertainty-avoidance. Therefore, uncertainty-avoidance thinking negatively affects tertiary students' entrepreneurial intention, and future studies need to investigate Chinese students' living environment and re-evaluate the impact of uncertainty-avoidance thinking. Finally, tertiary students' online-startup motivation has a positive relationship with their startup-developing behaviour. This claims that Chinese tertiary students should get enough confidence from the improved entrepreneurial environment before promoting online-startups on live streaming platforms.

### 6.2 Theoretical implications

This study makes four significant theoretical contributions. Firstly, although existing literature has focussed on China's online entrepreneurial environment and explored individuals' entrepreneurial motivation, few pay much attention to the Chinese tertiary student group and explore their online-startup motivation on live streaming platforms rather than traditional social media platforms. Although more and more tertiary students are willing to develop online-startups on live streaming platforms because of the improvement of technical support and policy support, many Chinese tertiary students still decide to find steady jobs and abandon their business plans. Based on research results, this study is beneficial for scholars to understand Chinese tertiary students' online-startup motivation and improve their online entrepreneurial environment. Secondly, unlike prior studies that apply the results from the Hofstede cultural model directly, this research considers China's social environment and re-evaluates the uncertainty-avoidance influence as a *Social and cultural control* factor. It claims that uncertainty-avoidance thinking has a strong negative impact on Chinese tertiary students' online-startup motivation. Hence, future research focussing on a specific target group should combine the Hofstede cultural dimension with the local situation. Meanwhile, in consideration of the unique social and cultural environment in China, the study should update the cultural dimension score and re-analyse its influence. Furthermore, this paper analyses Chinese tertiary students' online-startup motivation based on the COM-B behaviour Changing and Hofstede cultural theories. Specifically, this study divides influencing factors into three specific aspects as follows: *Environmental opportunity*, *Personal capability* and *Social and cultural control*. Unlike existing research applying traditional research models based on internal and external impact theory, the combination of the COM-B behaviour changing theory and the Hofstede cultural theory could be conducive to making the research model reflect influencing factors and present their different relationships under China's specific online entrepreneurial environment. This new kind of theoretical framework contributes to future studies related to the individual motivation changing process and benefits them to confirm reasonable influencing factors. Finally, considering China's collectivist background, the paper analyses the impact of the *Cooperative system* and explores internal relationships between *Environmental opportunity* factors and *Personal capability* factors, which has rarely been examined together.

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### 6.3 Practical and managerial implications

Based on the rapid development of the entrepreneurial wave in China, this study is of great significance to the analysis of Chinese tertiary students' online-startup environment. Firstly, compared with prior research, this study is developed in particular Chinese social and cultural backgrounds and explores Chinese tertiary students' online-startup motivation from a practical perspective. According to the research results, related departments should pay more attention to technical support and policy support while focussing on Chinese students' online-startup motivation. Moreover, the *Cooperative system* among official departments, universities and industries needs to be implemented constantly in China because students can get more chances to communicate with platform managers and learn kinds of entrepreneurial skills from industry experts. Finally, unlike Western tertiary students, Chinese students' sense of entrepreneurship is bound by traditional culture, leading them to avoid uncertain problems. Therefore, in addition to promoting technical support and establishing training programs, educational organisations should concern tertiary students' uncertainty-avoidance thinking and cultivate their courage to face challenges.

Regarding the managerial implication, entrepreneurial skills and official department support are two significant influencing factors. Firstly, unlike offline-startups, the online-startup mode is developed based on peer-to-peer technology and live streaming function. It requires Chinese tertiary students to control various new entrepreneurial skills, such as real-time interaction, online marketing and product display skills. Secondly, considering most Chinese tertiary students might have limited savings and face funds issues, the official department support is essential for them to increase online-startup motivation, and official supports could include loan support, tax relief and other financial policy supports. With the improvement of the online-startup environment, Chinese tertiary students would be more willing to develop online business on live streaming platforms.

### 6.4 Limitations and future study

Like other empirical studies, there are some limitations in this study that should be discussed. Firstly, Chinese tertiary students from different areas would have a different opinion on online-startups. For instance, considering the economic environment, tertiary students from China' west regions might have a lower income level and be more conservative to the new career than the east. Thus, the future study needs to distinguish these groups based on their specific social and cultural background. Meanwhile, this study draws on the cultural dimensions from the Hofstede cultural theory but mainly focusses on the uncertainty-avoidance factor. Hence, future research will explore the relationship between other cultural dimensions and tertiary students' online-startup motivation, and it will also combine these two research theories more systematically. Finally, among online survey participants, some of them have online-startup experiences, but some do not. This difference could cause them to have a different understanding of online-startups. To deep analyse Chinese students' opinions on online-startup and design suitable support strategies for them, future studies will promote qualitative research based on quantitative analysis and get their real thinking through the interview method.

## 7. Conclusion

For Chinese tertiary students, both platform support and official departments support positively impact their online-startup motivation. This would explain why more and more Chinese tertiary students are willing to promote online-startup on live streaming platforms under the improved entrepreneurial environment. Meanwhile, Chinese tertiary students'

practical entrepreneurial skills learned from universities are beneficial for them to build online-startup confidence. Conversely, influenced by Chinese traditional Confucian culture, uncertainty-avoidance thinking negatively affects tertiary students' online-startup motivation. In light of this, to enhance Chinese tertiary students' online-startup intention, related departments should not only focus on technical support and entrepreneurial training support but also need to change students' traditional thinking and reduce the influence of uncertainty-avoidance thinking. With the improvement of the online-startup environment, Chinese tertiary students would be confident to develop online-startups on live streaming platforms.

### References

- Abbas, S.M. and Liu, Z. (2021), "Orchestrating frugal eco-innovation: the plethora of challenges and diagnostics in lean startups of emerging economies", *Innovation and Management Review*.
- Abbasi, M.H., Siddiqi, A. and Azim, R.U.A. (2011), "Role of effective communications for enhancing leadership and entrepreneurial skills in university students", *International Journal of Business and Social Science*, Vol. 2.
- Addo, P.C., Jiaming, F., Kulbo, N.B. and Liangqiang, L. (2020), "COVID-19: fear appeal favoring purchase behavior towards personal protective equipment", *The Service Industries Journal*, Vol. 40 Nos 7/8, pp. 471-490.
- Afthanorhan, W. (2013), "A comparison of partial least square structural equation modeling (PLS-SEM) and covariance based structural equation modeling (CB-SEM) for confirmatory factor analysis", *International Journal of Engineering Science and Innovative Technology*, Vol. 2, pp. 198-205.
- Alkhadher, O., Beehr, T. and Meng, L. (2020), "Individualism-collectivism and nation as moderators of the job satisfaction-organisational citizenship behaviour relationship in the United States, China, and Kuwait", *Asian Journal of Social Psychology*, Vol. 23 No. 4, pp. 469-482.
- Arthur, S.J., Hisrich, R.D. and Cabrera, Á. (2012), "The importance of education in the entrepreneurial process: a world view", *Journal of Small Business and Enterprise Development*, Vol. 19 No. 3.
- Balasubramanian, K., Jaykumar, V. and Fukey, L.N. (2014), "A study on "student preference towards the use of Edmodo as a learning platform to create responsible learning environment", *Procedia - Social and Behavioral Sciences*, Vol. 144, pp. 416-422.
- Brown, R. and Rocha, A. (2020), "Entrepreneurial uncertainty during the Covid-19 crisis: mapping the temporal dynamics of entrepreneurial finance", *Journal of Business Venturing Insights*, Vol. 14, p. e00174.
- Cai, J. and Wohn, D.Y. (2019), "Live streaming commerce: uses and gratifications approach to understanding consumers' motivations", *Proceedings of the 52nd HI International Conference on System Sciences*.
- Cane, J., O'Connor, D. and Michie, S. (2012), "Validation of the theoretical domains framework for use in behaviour change and implementation research", *Implementation Science*, Vol. 7 No. 1, pp. 1-17.
- Chen, Y. and Xiong, F. (2019), "The business model of live streaming entertainment services in China and associated challenges for key stakeholders", *IEEE Access*, Vol. 7, pp. 116321-116327.
- Chin, W.W. (1998), "Commentary: issues and opinion on structural equation modeling", *JSTOR*.
- Chin, W.W., Marcolin, B.L. and Newsted, P.R. (2003), "A partial least squares latent variable modeling approach for measuring interaction effects: results from a monte Carlo simulation study and an electronic-mail emotion/adoption study", *Information Systems Research*, Vol. 14 No. 2, pp. 189-217.
- Cinar, E.M., Du, Y. and Hienkel, T. (2018), "Chinese entrepreneurship attributes: a comparative GEM data analysis", *Journal of Entrepreneurship in Emerging Economies*, Vol. 10 No. 2.
- Clark, L.A. and Watson, D. (2016), "Constructing validity: basic issues in objective scale development".

- Dawes, J. (2008), "Do data characteristics change according to the number of scale points used? An experiment using 5-point, 7-point and 10-point scales", *International Journal of Market Research*, Vol. 50 No. 1, pp. 61-104.
- Ding, N., Xu, X., Yang, H., Li, Y. and VAN Heughten, P. (2019), "Decision-making styles of Chinese business students", *Journal of Education for Business*, Vol. 95 No. 6.
- Ding, N., Xu, X., Yang, H., Li, Y. and VAN Heughten, P. (2020), "Decision-making styles of Chinese business students", *Journal of Education for Business*, pp. 1-8.
- Elstein, D. and Tian, Q. (2020), 3. "Confucian business ethics: possibilities and challenges", *Wealth, Commerce, and Philosophy*, University of Chicago Press.
- Feng, J. (2021), "Chinese college students live streaming entrepreneurship competition", Xinhuanet.
- Finkle, T.A. (2018), "Technology entrepreneurship: creating your own online business".
- Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39-50.
- Gordon, R. (2018), "How should taxes be designed to encourage entrepreneurship?", *Journal of Public Economics*, Vol. 166, pp. 1-11.
- Guo, Z. (2019), "Research on the impact of policy support on Chinese college students", *E-Proceeding*, Vol. 2019, p. 120.
- Hair Jr, J.F., Hult, G.T.M., Ringle, C. and Sarstedt, M. (2016), *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, Sage publications.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. and Tatham, R.L. (1998), *Multivariate Data Analysis*, Prentice hall, Upper Saddle River, NJ.
- Hair, J., Hollingsworth, C.L., Randolph, A.B. and Chong, A.Y.L. (2017), "An updated and expanded assessment of PLS-SEM in information systems research", *Industrial Management and Data Systems*, Vol. 117 No. 3.
- Hair, J.F., Risher, J.J., Sarstedt, M. and Ringle, C.M. (2019), "When to use and how to report the results of PLS-SEM", *European Business Review*, Vol. 31 No. 1.
- He, S., Li, L., Zhang, Y. and Wang, J. (2018), "A small entrepreneurial city in action: policy mobility, urban entrepreneurialism, and politics of scale in Jiyuan", *International Journal of Urban and Regional Research*, Vol. 42 No. 4, pp. 684-702.
- Henseler, J., Ringle, C.M. and Sarstedt, M. (2015), "A new criterion for assessing discriminant validity in variance-based structural equation modeling", *Journal of the Academy of Marketing Science*, Vol. 43 No. 1, pp. 115-135.
- Ho, R.C. and Rajadurai, K.G. (2020), "Live streaming meets online shopping in the connected world: interactive social video in online marketplace", *Strategies and Tools for Managing Connected Consumers*, IGI Global.
- Hock, C., Ringle, C.M. and Sarstedt, M. (2010), "Management of multi-purpose stadiums: Importance and performance measurement of service interfaces", *International Journal of Services Technology and Management*, Vol. 14 Nos 2/3, pp. 188-207.
- Hofstede, G. (2009), "Geert Hofstede cultural dimensions".
- Hofstede, G., Hofstede, G.J. and Minkov, M. (2010), *Cultures and Organizations: Software of the Mind: intercultural Cooperation and Its Importance for Survival*, McGraw-Hill.
- Hu, R. and Ye, Y. (2017), "Do entrepreneurial alertness and self-efficacy predict Chinese sports major students' entrepreneurial intention?", *Social Behavior and Personality: An International Journal*, Vol. 45 No. 7, pp. 1187-1196.
- Huang, Q., Liu, X. and Li, J. (2020), "Contextualization of Chinese entrepreneurship research: an overview and some future research directions", *Entrepreneurship and Regional Development*, Vol. 32 Nos 5/6, pp. 353-369.

- Hwang, Y. and Lee, K.C. (2012), "Investigating the moderating role of uncertainty avoidance cultural values on multidimensional online trust", *Information and Management*, Vol. 49 Nos 3/4, pp. 171-176.
- Jia, R. and Lu, J. (2020), "Mental health evaluation of poor college students: evidences from China", *Revista Argentina de Clínica Psicológica*, Vol. 29, p. 409.
- Kaijun, Y. and Sholihah, P.I. (2015), "A comparative study of the Indonesia and Chinese educative systems concerning the dominant incentives to entrepreneurial spirit (desire for a new venturing) of business school students", *Journal of Innovation and Entrepreneurship*, Vol. 4 No. 1, pp. 1-16.
- Kallas, E. (2019), "Environment-readiness entrepreneurship intention model: the case of Estonians and the Russian-speaking minority in Estonia", *SAGE Open*, Vol. 9 No. 1, 2158244018821759.
- Lai, K., Xiong, X., Jiang, X., Sun, M. and He, L. (2020), "Who falls for rumor? Influence of personality traits on false rumor belief", *Personality and Individual Differences*, Vol. 152, p. 109520.
- Lee-Ross, D. (2017), "An examination of the entrepreneurial intent of MBA students in Australia using the entrepreneurial intention questionnaire", *Journal of Management Development*, Vol. 36 No. 9.
- Lei, M. and Yan, L. (2017), "Research on innovation and entrepreneurship education for ethnic minority youth in less developed areas", *Modern Vocational Education*, pp. 17-19.
- Leong, C., Tan, B., Xiao, X., Tan, F.T.C. and Sun, Y. (2017), "Nurturing a FinTech ecosystem: the case of a youth microloan startup in China", *International Journal of Information Management*, Vol. 37 No. 2, pp. 92-97.
- Li, J., Wu, S. and Wu, L. (2008), "The impact of higher education on entrepreneurial intentions of university students in China", *Journal of Small Business and Enterprise Development*.
- Liang, H., Saraf, N., Hu, Q. and Xue, Y. (2007), "Assimilation of enterprise systems: the effect of institutional pressures and the mediating role of top management", *MIS Quarterly*, pp. 59-87.
- Lichang, S. (2004), "Cultural effects as seen in Chinese metaphors", *Intercultural Communication Studies XIII*, Vol. 3.
- Linan, F. (2008), "Skill and value perceptions: how do they affect entrepreneurial intentions?", *International Entrepreneurship and Management Journal*, Vol. 4, pp. 257-272.
- Liu, X., Lin, C., Zhao, G. and Zhao, D. (2019), "Research on the effects of entrepreneurial education and entrepreneurial self-efficacy on college students' entrepreneurial intention", *Frontiers in Psychology*, Vol. 10, p. 869.
- Lv, C. (2021), "Research on the impact of COVID-19 epidemic on china's retail e-commerce industry", *2021 6th International Conference on Social Sciences and Economic Development (ICSSSED 2021)*, Atlantis Press, pp. 298-302.
- Mayne, J. (2018), "The COM-B theory of change model", unpublished, available at: [www.researchgate.net/publication/314086441\\_The\\_COM-B\\_Theory\\_of\\_Change\\_Model\\_V3](http://www.researchgate.net/publication/314086441_The_COM-B_Theory_of_Change_Model_V3) (accessed 22 July 2019).
- Mensah, I.K., Zeng, G., Luo, C., Xiao, Z. and Lu, M. (2021), "Exploring the predictors of Chinese college students' entrepreneurial intention", *SAGE Open*, Vol. 11 No. 3, p. 21582440211029941.
- Michie, S., VAN Stralen, M.M. and West, R. (2011), "The behaviour change wheel: a new method for characterising and designing behaviour change interventions", *Implementation Science*, Vol. 6 No. 1, p. 42.
- Michie, S. and West, R. (2013), "Behaviour change theory and evidence: a presentation to government", *Health Psychology Review*, Vol. 7 No. 1, pp. 1-22.
- Nayak, M. and Narayan, K. (2019), "Strengths and weakness of online surveys", *IOSR Journal of Humanities and Social Science*, Vol. 24, pp. 31-38.
- Olugbola, S.A. (2017), "Exploring entrepreneurial readiness of youth and startup success components: entrepreneurship training as a moderator", *Journal of Innovation and Knowledge*, Vol. 2 No. 3, pp. 155-171.

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- Osorio, A.E., Settles, A. and Shen, T. (2017), "Does family support matter? The influence of support factors on entrepreneurial attitudes and intentions of college students", *Academy of Entrepreneurship Journal*, Vol. 23, pp. 24-43.
- Pan, F. and Yang, B. (2019), "Financial development and the geographies of startup cities: evidence from China", *Small Business Economics*, Vol. 52 No. 3, pp. 743-758.
- Podsakoff, P.M., Mackenzie, S.B., Lee, J.-Y. and Podsakoff, N.P. (2003), "Common method biases in behavioral research: a critical review of the literature and recommended remedies", *Journal of Applied Psychology*, Vol. 88 No. 5, p. 879.
- Ramos, P.H.B. and Pedroso, M.C. (2021), "Classification and categorization of Brazilian agricultural startups (Agtechs)", *Innovation and Management Review*.
- Ratten, V. (2014), "Encouraging collaborative entrepreneurship in developing countries: the current challenges and a research agenda", *Journal of Entrepreneurship in Emerging Economies*, Vol. 6 No. 3.
- Reshetnikova, M. (2018), "Innovation and entrepreneurship in China", *European Research Studies Journal*, Vol. 21, pp. 506-515.
- Richman, J.M., Rosenfeld, L.B. and Hardy, C.J. (1993), "The social support survey: a validation study of a clinical measure of the social support process", *Research on Social Work Practice*, Vol. 3 No. 3, pp. 288-311.
- Rönkkö, M. and Ylitalo, J. (2011), "PLS marker variable approach to diagnosing and controlling for method variance".
- Rowley, J. (2014), "Designing and using research questionnaires", *Management Research Review*, Vol. 37 No. 3.
- Salamzadeh, A. and Kirby, D.A. (2017), "New venture creation: how start-ups grow?", *AD-minister*, No. 30, pp. 9-29.
- Sarstedt, M. and Cheah, J.-H. (2019), "Partial least squares structural equation modeling using SmartPLS: a software review", *Journal of Marketing Analytics*, Vol. 7 No. 3, pp. 196-202.
- Shafaei, A. and Abd Razak, N. (2018), "What matters most: importance-performance matrix analysis of the factors influencing international postgraduate students' psychological and sociocultural adaptations", *Quality and Quantity*, Vol. 52 No. 1, pp. 37-56.
- Silveira, A., Santino, F. and Olivense, H. (2017), "Entrepreneurial intention of the participants of the startup weekend: longitudinal analysis", *International Journal of Advances in Management and Economics*, Vol. 6, pp. 90-102.
- Siraj, K., Nafei, A. and Rajhi, N.A. (2018), "Entrepreneur's perception of opportunities and challenges: learning's from sultanate of Oman", *Middle East J. Of Management*, Vol. 5 No. 3, pp. 175-190.
- Song, Y. (2015), "From offline social networks to online social networks: changes in entrepreneurship", *Informatica Economica*, Vol. 19, pp. 120.
- Song, Y., Escobar, O., Arzubiaga, U. and DE Massis, A. (2021), "The digital transformation of a traditional market into an entrepreneurial ecosystem", *Review of Managerial Science*, pp. 1-24.
- Sun, Q.-J. (2019), "Motivation and characteristics of social media use behavior of new generation entrepreneurs", *International Cognitive Cities Conference*, Springer, pp. 584-590.
- Suurmeijer, T.P., Doeglas, D.M., Briancon, S., Krijnen, W.P., Krol, B., Sanderman, R., Moum, T., Bjelle, A. and VAN DEN Heuvel, W.J. (1995), "The measurement of social support in the 'European research on incapacitating diseases and social support': the development of the social support questionnaire for transactions (SSQT)", *Social Science and Medicine*, Vol. 40 No. 9, pp. 1221-1229.
- Tsordia, C. and Papadimitriou, D. (2015), "The role of theory of planned behavior on entrepreneurial intention of Greek business students", *International Journal of Synergy and Research*, Vol. 4 No. 1.

- Wang, X. (2016), "U.S. and China startup scenes: the differences", *The Asian entrepreneur*.
- Wang, X. and Wu, D. (2019), "Understanding user engagement mechanisms on a live streaming platform", *International Conference on Human-Computer Interaction*, Springer, pp. 266-275.
- Wei, X., Liu, X. and Sha, J. (2019), "How does the entrepreneurship education influence the students' innovation? Testing on the multiple mediation model", *Frontiers in Psychology*, Vol. 10, pp. 1557.
- West, R. and Michie, S. (2020), "A brief introduction to the COM-B model of behaviour and the PRIME theory of motivation [v1]", *Qeios*.
- West, R., Michie, S., Rubin, G.J. and Amlôt, R. (2020), "Applying principles of behaviour change to reduce SARS-CoV-2 transmission", *Nature Human Behaviour*, Vol. 4 No. 5, pp. 451-459.
- Wu, D., Yang, T., Rockett, I.R., Yu, L., Peng, S. and Jiang, S. (2018), "Uncertainty stress, social Capital, and suicidal ideation among Chinese medical students: Findings from a 22-university survey", *Journal of Health Psychology*, 1359105318805820.
- Xi, W. and He, L. (2020), "Research on influencing factors and effect of entrepreneurship policy of Chinese college students—empirical analysis based on S province", *E3S Web of Conferences*, EDP Sciences, p. 03011.
- Xue, D., Liu, T., Chen, X., Liu, X. and Chao, M. (2021), "Data on media use and mental health during the outbreak of COVID-19 in China", *Data in Brief*, Vol. 35, p. 106765.
- Yan, X., Gu, D., Liang, C., Zhao, S. and Lu, W. (2018), "Fostering sustainable entrepreneurs: evidence from China college students' 'internet plus' innovation and entrepreneurship competition (CSIPC)", *Sustainability*, Vol. 10 No. 9, p. 3335.
- Yao, X., Wu, X. and Long, D. (2016), "University students' entrepreneurial tendency in China", *Journal of Entrepreneurship in Emerging Economies*, Vol. 8 No. 1.
- Yu, C.W. (2018), "Understanding the ecosystems of Chinese and American entrepreneurship education", *Journal of Entrepreneurship Education*.
- Zheng, Y. and Ni, W. (2020), "Analysis on transformation and development of traditional enterprise based on internet celebrity economy".
- Zhu, H.-B., Zhang, K. and Ogbodo, U. (2017), "Review on innovation and entrepreneurship education in Chinese universities during 2010-2015", *Eurasia Journal of Mathematics, Science and Technology Education*, Vol. 13, pp. 5939-5948.

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