

Digital Entrepreneurship in China: Insight into Online Business Start-up Among Chinese University Students Based On Entrepreneurial Intention

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Abstract

This paper investigates the entrepreneurial intention of Chinese university students to provide insight into digital entrepreneurship. An online survey of 305 university students in Beijing was the basis for the data used to test a logistic regression model of the variables underpinning entrepreneurial intention. Factors determining whether Chinese students intend to engage in digital entrepreneurship were “*family business*”, “*perceived motivations*” (especially “*Self-achievement*”), and “*perceived barriers*” (especially “*Lack of experience*”). These are a subset of the antecedent factors influencing entrepreneurship more broadly. The nature of digital entrepreneurship may negate some of the factors, especially culture, that serve as barriers to entrepreneurship in the Chinese context. Although this study is limited by its quantitative methodology and focus on Chinese students attending a single university in Beijing, it contributes to knowledge regarding student engagement with digital entrepreneurship.

Keywords: Digital entrepreneurship, entrepreneurial intention, barriers to entrepreneurship, entrepreneurship education, entrepreneurship in China, entrepreneurship.

Contribution/Originality: The Chinese government and university authorities may be able to enhance economic development by focusing promotional efforts on digital entrepreneurship. The findings make an original contribution to knowledge that should interest academics and researchers in digital entrepreneurship and entrepreneurial intention.

Introduction

Over the past two decades, the acknowledgment that entrepreneurship is key to economic growth, innovation, employment, and social development (Acs *et al.*, 2017; Hassan *et al.*, 2020; Lu *et al.*, 2021; Su *et al.*, 2021; Vega-Gómez *et al.*, 2020) has coincided with a substantial increase in the number of people who have access to and make use of the internet (Garrity, 2017). The intersection of the two trends has created an opportunity for what has been called “*e-entrepreneurship*”, “*IT-based entrepreneurship*”, “*online entrepreneurship*”, and “*Internet entrepreneurship*” (Batjargal, 2007; Krom, 2015; Rzemieniak, 2015; Loo and Wang, 2017), which the majority of commentators now refer to as “*digital entrepreneurship*” (Dy *et al.*, 2017; Geissinger *et al.*, 2019; Richter *et al.*, 2017; Shen *et al.*, 2018; Soltanifar *et al.*, 2021; Ziyae *et al.*, 2014;). Digital entrepreneurship has fundamentally changed the way of doing business across the world (Allen, 2017), particularly in China which, according to the China Internet Network Information Centre (2018), has the largest internet usage in the world with some 0.8 billion registered users totalling 58% of the total Chinese population. For many young Chinese netizens who use the internet for entertainment and e-commerce (Liu, 2002) it is also now viewed as an attractive work opportunity (Chen *et al.*, 2015; Huang, 2018; Liu and Pan, 2017).

Creating the conditions to facilitate entrepreneurship remains challenging (Suratno *et al.*, 2021), and knowledge of digital entrepreneurship in China is limited (Millman *et al.*, 2010). In response, this study aims to provide insight into digital entrepreneurship by researching the entrepreneurial intentions of Chinese students. This paper will outline the research design, analytical techniques underpinning the study and discuss the findings as they relate to existing knowledge. To begin, however, it is pertinent to consider entrepreneurship in China as it forms the background of the study.

Entrepreneurship in China

Entrepreneurship is often perceived as a positive and desirable phenomenon because it contributes to economic growth, innovation, development, and job creation (Baron and Henry, 2011), although defining it in generic terms is difficult (Gartner, 1988). Entrepreneurship may

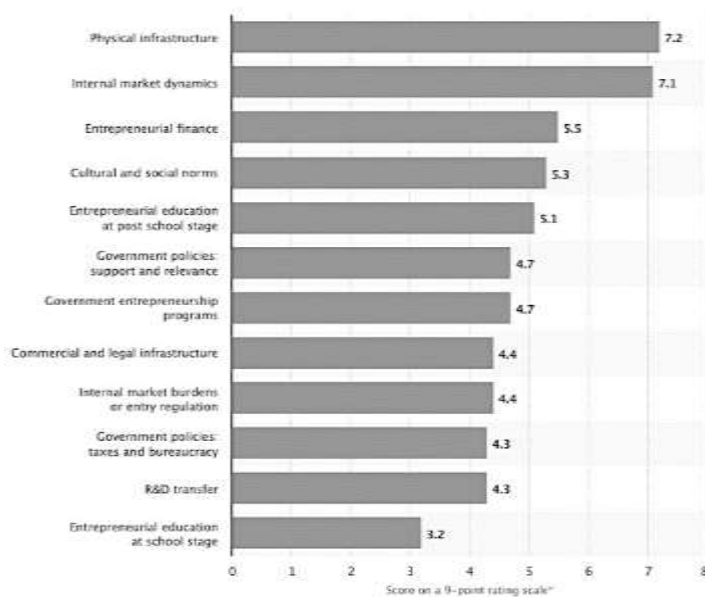
involve the setting-up of a business (Acs *et al.*, 2008; Carland *et al.*, 1988; Gartner, 1990); ownership of a small business (Solomon and Winslow, 1988), operation of a small business (Boyett, 1996), carrying out new combinations of processes and new market developments (Audretsch, 2003); the identification and exploration of a window of opportunity (Cole, 1969; Nelson, 2012); the bearing of uncertainty (McMullen and Shepherd, 2006); involvement in a risk-taking process (Bygrave and Hofer, 1992; Shane and Venkataraman, 2001); and bringing together factors of production (Tan *et al.*, 2005). Due to this broad and diverse range of characteristics, Brockhaus *et al.* (1986) recommend that entrepreneurship research begins with the author's definition. So, for this study, entrepreneurship is “*the creation of an organisation operating primarily in the online business environment*”.

Entrepreneurs have recently become the driving force of the Chinese economy (Wang and Keane (2020) and have been given considerable support by the government with the ‘Mass Entrepreneurship and Innovation’ strategy introduced in 2014 (Mei and Symaco, 2020). As a result, the entrepreneurial environment within China has improved, and the Global Entrepreneurship Monitor (GEM) 2017/2018 (Singer *et al.*, 2018) notes visible improvements in physical infrastructure, internal market dynamics, entrepreneurial finance, and social and cultural norms (See Figure 1) and an 'entrepreneurial environment' score increase from 2.87 in 2010 to 3.1 in 2017, placing it 37th of the 54 countries assessed. However, China ranked only 51st for entrepreneurial motivation and which may imply that more businesses were born due to necessity rather than as a result of perceived benefits 52nd for perceived capabilities. He *et al.* (2019) and Reynolds (2017) state that the aspects of the Chinese business environment that require improvement to encourage entrepreneurship are wide-ranging and include government policy, regulation, RandD transfer policy, and entrepreneurial education. Indeed, GEM (Singer *et al.*, 2018) also reports a need for improved school-stage entrepreneurial education as it is the lowest scoring criterion in their entrepreneurship survey (See Figure I).

Entrepreneurship education in China is seen as the interaction between university education and new venture creation (Zhou and Xu, 2012) and aims to encourage students to engage in entrepreneurship by equipping them with the necessary knowledge, skills, and competencies to

compete in the challenging job market and reduce entrepreneurial risks (Zhang *et al.*, 2014). However, despite the ‘Mass Entrepreneurship and Innovation’ strategy and promotion in universities throughout China (Mei and Symaco, 2020; Su *et al.*, 2021), entrepreneurship education faces problems (Lu *et al.*, 2021).

Figure I: China's entrepreneurial environment based on the GEM framework (Singer *et al.*, 2018)



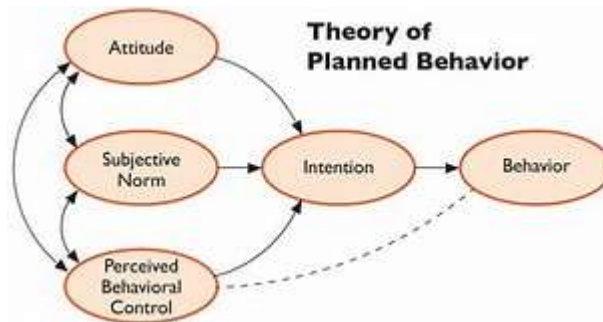
Until the Ministry of Education initiated a pilot project at nine universities in 2002, entrepreneurship education in China did not exist. It remains a relatively new concept in many Chinese universities (Nabi *et al.*, 2017) and struggles for legitimacy, resulting in inconsistency in the implementation of programs due to a lack of cooperation among stakeholders and a shortage of qualified and experienced teachers (Wu, 2017).

To date, entrepreneurial research in China has concentrated on businesses with little focus on students' engagement with entrepreneurship, and even less on digital entrepreneurship. To gain insight into digital entrepreneurship by investigating the entrepreneurial intention of Chinese university students and the antecedent factors that encourage or discourage engagement (Millman *et al.*, 2010; Wang and Lin, 2016), a conceptual framework is firstly developed.

Conceptual Framework

The Theory of Planned Behaviour (TPB) (see **Figure II**), originally developed by Ajzen (1985), has been widely applied to entrepreneurship studies (e.g. Bernardus *et al.*, 2020; Lingappa *et al.*, 2020; Shrivastava and Acharya, 2021; Silva *et al.*, 2021; Su *et al.*, 2021; Vega-Gómez *et al.*, 2020), thus its application in this study follows an established research tradition. TPB posits Behaviour as a result of Intention, which is, in turn, a product of Attitude, Subjective Norm, and Perceived Behavioural Control. These three factors are, in effect, generic antecedents of Intention.

Figure II: The Theory of Planned Behaviour



Behaviour may be “starting a business”, and Intention “intention to start a business” based on variables related to entrepreneurship. In this context, *entrepreneurial intention* is considered a reasonable indication of whether an individual will start a new business (Díaz-García and Jiménez-Moreno, 2010; Linan *et al.*, 2011; Nguyen, 2018; Zovko *et al.*, 2020), so there has been considerable research into the antecedent factors of *entrepreneurial intention* (e.g. Bazkiaei *et al.*, 2020; Bernardus *et al.*, 2020; Ceresia and Mendola, 2020; Hassan *et al.*, 2020; Huang *et al.*, 2021; Kör *et al.*, 2020; Kusumojanto *et al.*, 2021; Linan, 2004; Linan and Fayolle, 2015; Lingappa *et al.*, 2020; Mukhtar *et al.*, 2021; Munyaradzi, 2021; Souitaris *et al.*, 2007; Su *et al.*, 2021; Wilson *et al.*, 2007; Kuehn, 2008; Raposo and Do, 2011; Silva *et al.*, 2021; Suratno *et al.*, 2021; Yousaf *et al.*, 2021; Zhou *et al.*, 2021). Some of these factors serve to *push* people toward entrepreneurship, others *pull* them down this route (Kirkwood, 2009), some serve as motivators while others act as barriers, and they relate to either the individual or their context (Karimi *et al.*, 2017; Kreuger and Brazeal, 1994; Van Gelderen *et al.*, 2008).

According to Segal *et al.* (2005), variables including a person's background (Farashah, 2015) and demographic characteristics (Bird, 2015), as well as various aspects of a person's socio-economic and cultural environment (Zhang *et al.*, 2015) may constitute antecedent factors to entrepreneurial intention. However, three more factors may be considered: personality traits, family, and education. Although impacted by contextual factors such as culture, social matters, economics, politics, demographics and technological developments (Low and MacMilan, 1988), personality traits are considered a key determinant of entrepreneurial intention (see Table I).

Table I: Personality traits that may impact entrepreneurial intention

Personality trait	Selected supporting references
A desire for <i>money and greater income</i>	Segal et al., 2005; Shane et al., 2003
An <i>internal locus of control</i> that may manifest as a desire for <i>independence and flexibility</i>	Bernardus et al, 2020; Rosa et al., 2008; Saxena, 2005
A desire for <i>achievement</i> in terms of personal development	Begley and Boyd, 1987; Farhangmehr et al., 2016; Shrivastava and Acharya, 2021; Zovko et al., 2020
A tolerance of <i>ambiguity</i>	Sexton and Bowman, 1985
A propensity to <i>take risks</i>	Knight, 1921; Zovko et al, 2020
<i>Self-efficacy</i>	Bernardus et al., 2020; Kör et al., 2020; Shrivastava and Acharya, 2021; Yousaf et al., 2021
An <i>entrepreneurial attitude, mindset, orientation, or self-identity</i>	Arnim and Mrozewski, 2020; Ceresia and Mendola, 2020; Kör et al., 2020; Kusumojanto et al., 2021; Mukhtar et al., 2021; Silva et al., 2021; Shukla et al., 2021; Munyaradzi, 2021; Vega-Gómez et al., 2020; Yousaf et al., 2021
A desire to <i>uphold a family tradition of running a business</i>	Germak and Robinson, 2014; Locke and Baum, 2007; Masurel et al., 2002
A desire to <i>improve one's social status</i>	Hytti et al., 2010

A desire to <i>contribute to society</i>	Estay et al., 2013
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A second important antecedent is family (Marvel *et al.*, 2016; Lingappa *et al.*, 2020). Previous studies have found that the children of self-employed parents are more inclined to start their own businesses (Altinay *et al.*, 2012; Matthews and Moser, 1996; Zapkau *et al.*, 2015; Sánchez, 2011; Amos and Alex, 2014; Zhang *et al.*, 2014) and are better educated (Kusumojanto *et al.*, 2021). This could be because the *parents act as role models* (Zovko *et al.*, 2020), the family provides an entrepreneurial culture (Mukhtar *et al.*, 2021), environment (Kusumojanto *et al.*, 2021) or background (Shrivastava and Acharya, 2021; Shukla *et al.*, 2021) in which the children grow up, and the siblings have better perceived relational support (Kör *et al.*, 2020) in knowledge sharing (Kör *et al.*, 2020) and access to social networks, social capital (Turker and Sonmez Selçuk, 2009; Huang *et al.*, 2021) and finance (Bae *et al.*, 2014; Hassan *et al.*, 2020).

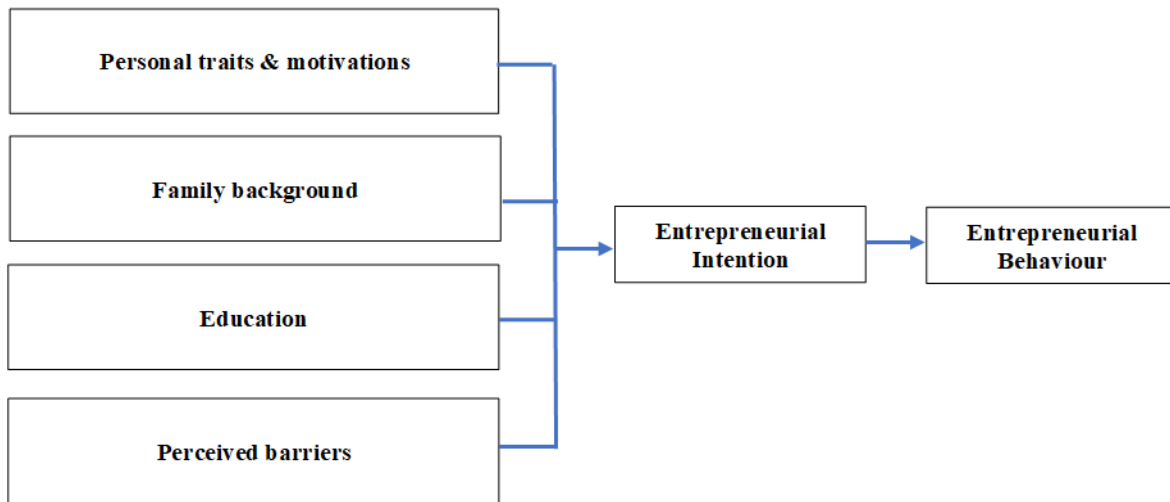
Education, considered in ways such as university attended (Singh *et al.*, 2017) and *year-of-study* (Shook and Bratianu, 2010), is identified as a third important antecedent (Fayolle and Gailly, 2015). Although some researchers (e.g. Windapo, 2018) believe that “*entrepreneurs are born, not made*”, most acknowledge a link between education and entrepreneurship (e.g. Barba-Sánchez and Atienza-Sahuquillo, 2018; Hahn *et al.*, 2019; Hills, 1988; Kör *et al.*, 2020; Lingappa *et al.*, 2020; Linzalone *et al.*, 2020; Oosterbeek *et al.*, 2010; Turner and Gianiodis, 2018; Zovko *et al.*, 2020). Studies have shown that university programs majoring in business (Nabi *et al.*, 2018) or entrepreneurship (Bernstein and Carayannis, 2012; Hassan *et al.*, 2020; Kusumojanto *et al.*, 2021; Lu *et al.*, 2021; Mukhtar *et al.*, 2021; Shrivastava and Acharya, 2021; Silva *et al.*, 2021; Su *et al.*, 2021; Yousaf *et al.*, 2021; Zhou *et al.*, 2021) and universities providing institutional support (Kör *et al.*, 2020; Lingappa *et al.*, 2020; Silva *et al.*, 2021; Su *et al.*, 2021) contribute to developing entrepreneurial intention. Moreover, entrepreneurship education is likely to enhance students’ entrepreneurial intention by equipping them with the knowledge and skills required to cope with the complexities embedded within entrepreneurial activities (Barba-Sánchez and Atienza-Sahuquillo, 2018; Tkachev and Kolvereid, 1999) or because the students believe that the modules provide theoretical knowledge and practical skills relating to entrepreneurship (Tessema Gerba,

2012). Furthermore, age is positively related to entrepreneurial intention with older individuals showing higher entrepreneurial intention than younger counterparts (Pruett *et al.*, 2009).

The literature also identifies several barriers to starting a business, namely insufficient knowledge (Kouriloff, 2000; Lofstrom *et al.*, 2014) and a lack of assistance in acquiring information (Binkauskas, 2012; Kebaili *et al.*, 2015), lack of finance (Shambare, 2013), limited experience (Singh Sandhu *et al.*, 2011), unsuitable personality characteristics, fear of the future (Krasniqi 2007), government rules and red-tape (Hawkins, 1993), difficulty recruiting skilled *human resources* (Gorji and Rahimian, 2011; Nawaser *et al.*, 2011) and an unfavourable assessment of the prevailing economic conditions and political mechanisms (Gu *et al.*, 2018; Hornsby *et al.*, 2018; Palamida *et al.*, 2018). In China, Confucian values of collectivism, respect for authority, and emotional control, which Kirby and Fan (1995) and Hao (2019) note are not entirely compatible with the values required for successful entrepreneurship, highlight culture as an additional barrier.

In this investigation of the intention of Chinese university students to engage in (digital) entrepreneurship the key antecedent factors of Personal traits and motivations, Family background, Education, and Perceived barriers which comprise the conceptual framework underpinning the research are presented in Figure III.

Figure III: Conceptual framework



Research Method

Primary data was generated via an online survey using the Wenjuanxing research platform from a random sample of 305 students aged 18-25 registered on courses at a university in North-West Beijing. Permission for the study was obtained from the Research Ethics committee of the university.

A pilot study was undertaken to test and develop the questionnaire. A series of closed-ended questions, (i.e. single choice and dichotomous) collected respondents' demographic details and data on their entrepreneurial intentions. Various antecedent variables and barriers to digital business start-ups were treated as categorical, whereas Personality traits were considered a continuous variable in the study. The questionnaire was based on the conceptual model outlined in the previous section, and a deductive approach was used. SPSS version 25 software and a range of statistical techniques was used for data analysis but the primary approach involved using logistic regression analysis.

As apparent in the sample profile (see Table II), the respondents major in a range of subjects, are drawn from across four years of study, have parents that undertake a range of occupations, and live in households with a range of incomes. The sample comprises a cross-section of university students.

Table II: Sample Profile

<i>Demographic Characteristics</i>					
Major field of study	Frequency	Percentage	Family business	Frequency	Percentage
Science and Technology	86	28.2	Entrepreneurs among family	184	60.3
Business and Management	114	37.4	Non-entrepreneurs among family	121	39.7
Agriculture and Forest	31	10.2	Annual household income	Frequency	Percentage
Law	28	9.2	¥1-¥100,000	118	38.7
Other	46	15.1	¥100,001-¥300,000	125	41.0
Year of study	Frequency	Percentage	¥300,001-¥500,000	34	11.1
Year 1	21	6.9	¥500,001 or more	28	9.2
Year 2	70	23.0	Fathers' occupation	Frequency	Percentage
Year 3	156	51.1	Entrepreneurs	43	14.1
Year 4	58	19.0	Worker	64	21.0
Mothers' occupation	Frequency	Percentage	Manager	45	14.8
Entrepreneurs	23	7.5	Civil servant	38	12.5
Worker	64	21.0	Teacher	22	7.2
Manager	45	14.8	Engineer	15	4.9
Civil servant	24	7.9	Unemployed	6	2.0
Teacher	40	13.1	Other	72	23.6
Engineer	4	1.3			
Housewife	41	13.4			
Unemployed	12	3.9			
Other	75	24.6			

Results

Data was firstly tested for validity and reliability (Sekaran and Bougie, 2016). A detailed literature reviews assured content validity, while the involvement of several expert entrepreneurship academics ensured face validity. The Cronbach's Alpha (CA) reliability model measured at above 0.7, determined that the questionnaire had good internal consistency (Bland

and Altman,1997), thus the reliability level of the data is deemed sufficient and all the scales are reliable.

As a next step, a logistic regression was applied to assess the impact of the factors in determining “*entrepreneurial intention*”. In this context “*entrepreneurial intention*” was the dependent variable (1 = High and 0 = Low and Medium) while the independent variables were “*family business*”, “*personal traits*”, “*year of study*”, “*mother’s occupation*”, “*father’s occupation*”, “*household income*”, “*entrepreneurship education*”, “*major field of study*”, “*perceived motivations*”, and “*perceived barriers*”.

A preliminary data screening was undertaken to test for multicollinearity and outliers in the model. Results from the Tolerance Indicator were high (0.615 - 0.970), and Variance Inflation factor values were low (1.033-1.626), providing no evidence of multicollinearity. Moreover, results from a Mahalanobis distance (D^2) calculation rejected the presence of multivariate outliers in the model since the maximum distance was 28.36, which was smaller than the critical chi-square value (χ^2) of 29.59 ($df=10, \alpha=0.001$). This was supported by the standardised residual values being less than ± 3 , as proposed by Tabachnick and Fidell, (2013). Lastly, the Box-Tidwell transformation was applied to test the assumption of linearity between the logit transformation of “*entrepreneurial intention*” and the continuous independent variable “*personal traits*”. This was investigated further by adding an interaction term into the model between the continuous variable of “*personal traits*” and its log. The result supported the assumption of linearity since the interaction term was not statistically significant (p -value = 0.512).

The results from the logistic regression analysis are presented in **Table III**. Based on a Hosmer and Lemeshow Test ($\chi^2(8) = 0.92, p$ -value = 0.99), the model exhibits good levels of fit. The model is statistically significant ($\chi^2(20, N=302) = 49.705, p$ -value < 0.001), thus, supporting the distinction between participants who exhibit high “*entrepreneurial intention*” and those with low/medium “*entrepreneurial intention*”. Additionally, the model explains between 15.2% (Cox and Snell R^2) and 20.3% (Nagelkerke R^2) of the variance in “*entrepreneurial intention*” and classifies 67.2% of the cases correctly (overall success/prediction rate).

The logistic regression analysis produced some interesting results. For instance, people who have a “*family business*” are 2.263 times more likely to exhibit high “*entrepreneurial intention*” than those who do not have a “*family business*”; participants who are motivated by “*self-achievement*” are 3.997 times more likely to have high “*entrepreneurial intention*” compared to those who are motivated by “*financial achievement*”; participants who “*lack experience*” are 3.638 times more likely to exhibit “*high entrepreneurial intention*” than those who consider their “*personality not suitable for entrepreneurship*”. However, most relevant to this study is that the relationship between “*entrepreneurial intention*” and the variables being tested is statistically significant in only a handful of cases (“*Perceived motivation*”, “*Self-achievement*”, “*Family business*”, “*Perceived barriers*”, “*Lack of experience*”) which suggests that not all the variables are important in the context of digital entrepreneurship in China.

Table III: Likelihood of Internet Entrepreneurial Intention

Independent variables	β	S.E.	Wald	Df	Sig.	Exp(β)	95% C.I. for Exp(β)	
							Lower	Upper
<i>Personality traits and motivations</i>								
Personality traits	0.010	0.041	0.056	1.000	0.812	1.010	0.932	1.093
Perceived motivation ¹			14.077	3.000	0.003*			
Does not have a proper job choice	0.273	0.485	0.318	1.000	0.573	1.314	0.508	3.398
Self-achievement	1.385	0.391	12.533	1.000	0.000*	3.997	1.856	8.607
Independence and sense of freedom	0.569	0.346	2.702	1.000	0.100	1.767	0.896	3.483
<i>Family background</i>								
Family business	0.817	0.268	9.279	1.000	0.002*	2.263	1.338	3.828
Mother’s occupation	-0.455	0.561	0.657	1.000	0.418	0.635	0.211	1.906

Father's occupation	0.593	0.433	1.875	1.000	0.171	1.809	0.774	4.226
Household income RMB			2.632	3.000	0.452			
< 100,000 RMB	0.721	0.514	1.968	1.000	0.161	2.056	0.751	5.631
100,001-300,000	0.436	0.507	0.738	1.000	0.390	1.546	0.572	4.179
300,001-500,000	0.260	0.593	0.192	1.000	0.661	1.297	0.405	4.149
<i>Educational background</i>								
Major field of study	0.210	0.275	0.583	1.000	0.445	1.233	0.720	2.113
Year of study			1.922	3.000	0.589			
Year of study 1	0.352	0.572	0.379	1.000	0.538	1.422	0.464	4.361
Year of study 2	0.517	0.408	1.605	1.000	0.205	1.676	0.754	3.728
Year of study 3	0.149	0.351	0.181	1.000	0.671	1.161	0.584	2.308
Entrepreneurship education	-0.388	0.329	1.389	1.000	0.239	0.678	0.356	1.293
Perceived barriers ²			11.465	5.000	0.043*			
Lack of funds	-0.368	0.558	0.435	1.000	0.509	0.692	0.232	2.065
Lack of experience	1.291	0.536	5.800	1.000	0.016*	3.638	1.272	10.404
Lack of human resources	0.503	0.468	1.153	1.000	0.283	1.653	0.660	4.140
Lack of relevant knowledge	0.436	0.457	0.907	1.000	0.341	1.546	0.631	3.788
Lack of appropriate projects	0.494	0.487	1.029	1.000	0.310	1.639	0.631	4.262
Constant	-2.782	1.428	3.797	1.000	0.051	0.062		

Notes: All data has been treated appropriately in the logit regression analysis but because some variables are categorical while others are continuous there are some differences in the output displayed.

* Statistically significant relationship with entrepreneurial intention at the 95% level.

¹ The baseline/reference group of perceived motivations is the category "financial independence: earn money"

² The baseline/reference group of perceived barriers is the category "Personality is not suitable for entrepreneurship"

To maximise the predictive capability of the regression model and achieve an optimal solution, a stepwise binary logistic regression, using the backward Wald method, was subsequently applied to the data. The results of this analysis are presented in **Table IV**. Based on Hosmer and

Lemeshow test ($\chi^2 (8) = 3.70$, p -value = 0.88), the model again exhibits good levels of fit. The model is statistically significant ($\chi^2 (9, N=302) = 41.59$, p -value <0.001), thus, supporting the distinction between participants who exhibit high “*entrepreneurial intention*” and those with low and medium “*entrepreneurial intention*”. Additionally, the model explains between 12.9% (Cox and Snell R^2) and 17.2% (Nagelkerke R^2) of the variance in entrepreneurial intention and classifies 65.2% of the cases correctly (overall success/prediction rate = 65.2%).

Table IV: Likelihood of Internet Entrepreneurial Intention

Independent variables	B	S.E.	Wald	df	Sig.	Exp(β)	95% C.I. for Exp(β)	
							Lower	Upper
<i>Personality traits and motivations</i>								
Perceived motivation ¹			13.167	3	0.004*			
Does not have a proper job choice	0.298	0.469	0.405	1	0.525	1.347	0.538	3.376
Self-achievement	1.295	0.377	11.837	1	0.001*	3.653	1.746	7.640
Independence and sense of freedom	0.535	0.337	2.515	1	0.113	1.707	0.881	3.307
<i>Family background</i>								
Family business	0.842	0.258	10.648	1	0.001*	2.320	1.399	3.846
Perceived barriers ²			12.884	5	0.024*			
Lack of funds	-0.666	0.479	1.931	1	0.165	0.514	0.201	1.314
Lack of experience	1.023	0.458	4.981	1	0.026*	2.782	1.133	6.831
Lack of human resources	0.267	0.400	0.446	1	0.504	1.306	0.596	2.860
Lack of relevant knowledge	0.257	0.422	0.373	1	0.541	1.294	0.566	2.955
Lack of appropriate projects	0.603	0.463	1.694	1	0.193	1.827	0.737	4.527
Constant	-1.562	0.440	12.574	1	0.000	0.210		

Notes: All data has been treated appropriately in the logit regression analysis but because some variables are categorical while others are continuous there are some differences in the output displayed.

* Statistically significant relationship with entrepreneurial intention at the 95% level.

¹ The baseline/reference group of perceived motivations is the category “financial independence: earn money”

² The baseline/reference group of perceived barriers is the category “Personality is not suitable for entrepreneurship”

The results of this second logistic regression analysis are largely in line with and appear to confirm the results from the first logistic regression. So while the strength of the relationship may be slightly different, the second analysis supports that people who have a “*family business*” are 2.32 times (as opposed to 2.263 times in the first analysis) more likely to exhibit high “*entrepreneurial intention*” than those who do not, participants who are motivated by “*self-achievement*” are 3.653 (as opposed to 3.997 in the first analysis) times more likely to have high “*entrepreneurial intention*” compared to those who are motivated by “*financial achievement*” and participants who “*lack experience*” are 2.782 (as opposed to 3.638 in the first analysis) times more likely to exhibit “*high entrepreneurial intention*” than those who consider their “*personality not suitable for entrepreneurship*”. Similarly, the second logistic analysis identifies a statistically significant relationship between “*entrepreneurial intention*” and the same sub-set of variables identified in the first logistic regression analysis (“*Perceived motivation*”, “*Self-achievement*”, “*Family business*”, “*Perceived barriers*”, “*Lack of experience*”) which again suggests that not all the variables are important in the context of digital entrepreneurship in China.

Discussion

A review of the literature suggested that the antecedent factors of “*entrepreneurial intention*” included “*family business*”, “*personal traits*”, “*year of study*”, “*mother’s occupation*”, “*father’s occupation*”, “*household income*”, “*entrepreneurship education*”, “*major field of study*”, “*perceived motivations*”, and “*perceived barriers*”. This study confirmed a statistically significant link between the student’s “*entrepreneurial intention*” and “*family business*”, “*perceived motivations*” (especially “*Self-achievement*”), and “*perceived barriers*” (especially “*Lack of experience*”). However, there were no statistically significant linkages established with “*personal traits*”, “*year of study*”, “*mother’s occupation*”, “*father’s occupation*”, “*household income*”, “*entrepreneurship education*”, and “*major field of study*”.

While a sampling anomaly or methodological implementation issues (e.g. misunderstanding of terms and concepts, or even translation) might explain this discrepancy, it is more likely due to the variables not being relevant in the context in which this study was conducted. Indeed, this is reflected in other studies, for instance, between entrepreneurial intention and general education (Zovko *et al.*, 2020), entrepreneurship education (Kusumojanto *et al.*, 2021; Mukhtar *et al.*, 2021), family education (Kusumojanto *et al.*, 2021), self-efficacy, social norms, role models and the need for achievement (Zovko *et al.*, 2020). In these studies, context negates the influence that some variables have on entrepreneurial intention and the context of this study appears to be impacting the findings similarly.

It is certainly conceivable that a digital platform would reduce the association between “*entrepreneurial intention*” and “*mother’s occupation*” and “*father’s occupation*” because the internet is relatively new and provides an entirely different dimension in which to develop an enterprise. The digital platform may also require lower set-up costs, weakening the link with “*household income*”, and “*personal traits*” and would be an opportunity for students of any subject and at any point in their studies to set-up a business, thus weakening the link with “*major field of study*”, “*entrepreneurship education*”, and “*year of study*”.

While this study did not gather data relating specifically to *culture*, it is conjectured that Chinese culture is not as much a barrier to digital entrepreneurship as it is to traditional, non-digital forms. When combined with a user base comprised mainly of the young who may not subscribe to traditional cultural norms, the somewhat impersonal nature of digital entrepreneurship and the global cross-cultural reach of the internet, may well negate the impact of traditional Chinese culture. Consequently, digital entrepreneurship appears to have the potential to enable the next generation of Chinese entrepreneurs in the same way it has emancipated women (Shukla *et al.*, 2021; Steel, 2021). Indeed, Xiao *et al.* (2020) have even suggested that digital entrepreneurship may be creating its own culture that is different to existing Chinese culture and cultural concepts such as Guanxi.

Conclusion

Entrepreneurship makes a valuable contribution to the economy of many countries, including China. Growth in the number of people using the internet has created an opportunity for digital entrepreneurship, which this study has explored from the perspective of university students. Despite focusing on students at just one Chinese university located in Beijing and adopting a quantitative approach to the research, this study has produced insight into the relationship between Chinese students and digital entrepreneurship. The main factors determining whether students intended to become digital entrepreneurs were identified as “*family business*”, “*perceived motivations*” (especially “*Self-achievement*”), and “*perceived barriers*” (especially “*Lack of experience*”).

These findings have practical implications for the government, policymakers, university authorities, and course designers. The Chinese government appears to be well aware of the importance of entrepreneurship in creating and maintaining a healthy economy. It has established policies to encourage Chinese citizens to engage in entrepreneurship actively, but the findings of this study may suggest a new way forward.

To date, various authorities have advised that to increase the rate of entrepreneurship among university students, a more favourable environment for setting-up small businesses must be created, requiring the government to provide tax incentives, loans, and the like. Similarly, researchers have advocated a need for a supportive university context that nurtures entrepreneurial skills, attitudes, and self-identity, and encourages the development of entrepreneurial intention (Munyaradzi, 2021; Vega-Gómez *et al.*, 2020), provides opportunities for students to meet entrepreneurs (Suratno *et al.*, 2021) and visit start-up businesses (Linzalone *et al.*, 2020), engage in entrepreneurship placements (Mu, 2006), digital learning platforms to link universities with enterprises (Linzalone *et al.*, 2020), and to create university spin-off businesses as part of a knowledge transfer system (Vega-Gómez *et al.*, 2020). However, this study found that some factors serving as motivators or barriers to traditional, non-digital entrepreneurship, i.e. cultural values, are negated in the digital context. Therefore, digital entrepreneurship seemingly has additional potential in the Chinese context and the university authorities, course designers and the

Chinese government should look to encourage and promote it. This can be achieved by extolling its virtues and ensuring that all students can develop the specialist digital skills and capabilities that Arnim and Mrozewski (2020) consider necessary for online working.

The findings also have theoretical implications for entrepreneurship academics and researchers. While much of the literature suggests that entrepreneurship is the same the world over (e.g. Fleck *et al.*, 2021; Munyaradzi, 2021), the underlying cultural mechanisms behind digital entrepreneurial behaviour within nations is not fully understood (Calza *et al.*, 2020), thus further research of both qualitative and quantitative design is recommended to investigate entrepreneurship in both the digital and Chinese contexts.

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