Perception and Determinants of an Entrepreneurial Intent Among International Students in China

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ABSTRACT: *This study assesses perception and determinants of an entrepreneurial intent among international students in China. The study adopted qualitative data by the use of well-structured questionnaire. A convenient sampling technique was used to sample 160 international graduate students in China. Focus was placed on examining students' perception towards entrepreneurship as well as the factors that influence international college students' entrepreneurial intentions in China. The study revealed that majority of about 87% of the sampled students' have positive perception towards entrepreneurship and its related ventures. It is concluded that majority of international students' have positive intention to venture into entrepreneurial business. Significant factors identified to influence international university students' entrepreneurial intentions in China and home-countries were found to be sex, age, educational level, perception score for entrepreneurship, taken-entrepreneur-course and perceived access to project funds/credit. It is recommended that universities should pay close attention to incorporating entrepreneurship as a course for students. Moreover, socio-economic factors including students' age, educational level, and perception score for entrepreneurship, student's taken-entrepreneur-course and students' perceived access to project funds/credit should be given keen attention by university administrators, government and NGO's in order to facilitate innovation and development. It is potentially expected to reduce increasing unemployment in China and most developing countries.*
KEY WORDS: *Entrepreneurial Intentions, International students, Probit Regression*

I.   INTRODUCTION

Entrepreneurship is a strategy by which opportunities to make potential merchandise and products are created, evaluated and used and the point of convergence of business enterprise is business person, referred to as entrepreneur(Mwitsika, 2015). Youth and so far particularly the graduates are faced with numerous challenges in their pursuit to become entrepreneurs. Youth unemployment is a challenge confronting nations everywhere throughout the world and China and most developing countries like Ghana, etc. are of no exception.

Since the 1980s the China's economy has experienced fast growth, the overall size of China's higher education was relatively small before 1999. According to UNESCO, the 1996 gross college enrollment ratio in China was only 5%. This ratio was lower than that in India (6.3%), whose GDP per capita was less than one-half of China's, and was much lower than those in Thailand (20.7%) and in Philippines (28.8%), where the GDP per capita was equivalent to China's. In 1999, China began the largest and longest continuous expansion in higher education, and its overall college enrollments outnumbered the US (the largest higher education system of the time) in less than ten years. As a result, the number of college graduates has dramatically increased, thus leading to greater employment pressure on college students in the 21st century. The Chinese Central Government has published a number of policies to encourage college students and graduates to actively partake in entrepreneurial activities since the late 1990s, in the hope of rendering entrepreneurship as a new growth point in driving college student employment.

According to Chuah et al. (2015) entrepreneurship is more than a mere creation of business. Entrepreneurs are those with the characteristics of seeking opportunities, willing to take risks and develop them beyond their comfort and safety zone. They possesses the tenacity and skills to push through ideas, innovate and manage a business venture amidst ever changing business and economic conditions. They serve as aggressive catalysts for change and constantly strive to break new barriers and gain new frontiers.

According toYou, Zhu & Ding (2017) the number of college graduates increases dramatically in recent years in China, the Chinese Central government encourages college graduates to partake in entrepreneurial activities. Their study used data from a nationwide institutional survey of directors of career services of 840 Chinese colleges and universities to study the current situation of student entrepreneurship and relevant institutional guidance practices. It was reported that, although China's college graduates have a high level of entrepreneurial intention, the actual entrepreneurship population is low, and the entrepreneurship survival rate is not high. Several studies on entrepreneurships have failed to specifically target international graduate students in China. Therefore, this study seeks to assessinternational university students' entrepreneurial intentions in China with keen interest in examining the factors that influence international college students' entrepreneurial intentions in China.

LITERATURE REVIEW
2.1 The Concept of Entrepreneurship and it Drivers
Entrepreneurship has it origin in the French word, "entrepreneur" which implies to "undertake" (Kuratko&Hodgetts, 2007). Alsaaty, Abrahams & Carter (2014) surveyed a few meanings of the terms entrepreneurship and entrepreneur where he characterized entrepreneurship an unrestricted work of any sort and an entrepreneurs as individuals who go out on a limb by buying products at specific costs in the present to offer at unverifiable costs later on. This meaning of seeing anyone in unrestricted work as a business person is normally expected today.Alsaaty, Abrahams& Carter (2014), business person is the individual who joins elements of production and finds in the estimation of things, the foundation of the entire capital he uses and the estimation of the wages, the interest and the rent which he pays furthermore the benefits having a place with himself.

Alsaaty, Abrahams & Carter (2014) also defines entrepreneur as a person who actualizes imaginative change within business sectors which results in new or enhanced goods andservice,new strategies for production, new markets, new sources, and/or re-designed business management processes. Expanding Schumpeter's (1934) thought, Drucker (1985) and Ahmad & Seymour (2007) describes an entrepreneur as someone who looks out for change, reacts to the change make good use of the chances presented by that change. As per the two definitions above, the key features of entrepreneurs are:hazard taking (Amankwah, 2017); contribution in big business administration; imagination and development and entrepreneurial status (Drucker, 2014). Business entrepreneurship has in this way been portrayed as the mentality and method to make and create financial undertaking by mix of danger taking, creativity and development with sound administration inside another or existing firm (Mwitsika, 2015).Entrepreneurship is therefore concerned with the process of alteration, occurrence and establishment (Richomme-Huet & De Freyman, 2011). Mwitsika (2015) also posited that entrepreneurship is a process by which chances to create future goods and services are found, assessed and utilized and at the focal point of entrepreneurship is the entrepreneur.

According Global Entrepreneurship & Development Index 2012, China's GEDI is 0.26 and Pakistan 0.14 (Szerb, Aidis & Ács, 2012). The economies of China and Pakistan are going through thestage where they are relaying on agriculture and manufacturing. The economy of China is progressing more than Pakistan's economy and the main elements of this progress are the entrepreneurs and enterprises. This is the first study to compare college student entrepreneurial intentions in China and Pakistan. We are focused in this paper what are the factors impacting college students entrepreneurial intentions in both countries.

2.2 Theoretical Review on determinant to take up entrepreneurship
The underlying theoretical framework for this study was adapted from the synthesis of Ajzen's Theory of Planned Behavior Model. Research has shown that there are various models and theories that can be followed to examine the factors that influence students' intention to take up entrepreneurship. Analysis of students' entrepreneurshipintentionwas guided theoretically by the application of the Theory of Planned Behaviour (TPB) developed by Ajzen (2011). The theory posits that, individual intention or choice is determined by the perception and attitude they hold towards the issue to be chosen. The intention to choose is also influenced by the perception the individual have about the outcome of the choice referred to as 'perceived behavioral control'. If an individual perceived an outcome of a choice to be good he/she is likely to make the choice and vice versa. Thus if students perceived entrepreneurial venturesto be rewarding and profitable enterprise, they are likely to have the intention of entrepreneurship after graduation. Moreover, societal approval or otherwise of a choice referred to in the TPB as subjective norms, have been identified as exerting influence on individual intention to make the decision or choice. In this case students' level of education and entrepreneurial courses taken before, parental employment

background, issues to relating capital credit access, students perception of the feasibility of establishing enterprises,conducive environment to support entrepreneurial venture, peer influence are likely to have influence in their perceptions and intention towards entrepreneurial ventures.

Objectives
This seeks to explore the perception and determinants of an entrepreneurial intent among international students in China. Emphasis will be placed on exploring students' perception towards entrepreneurship as well as the factors that influence international college students' entrepreneurial intentions in China.

METHODOLOGY
This study adopted a qualitative design approach in order to address the set objectives of the study. Self-administered questionnaire were been employed for this study such that the questionnaires were distributed to students with the help of research assistance at the end of their respective classes. A convenient sampling technique was used to sample 160 international graduate students in China for the purposes of this study. The study was conducted in a selected public Chinese Universities (where international programs are offered) with the required sample sizes making a total of 160 respondents as presented in Table 1.

Table 1: Selected Chinese University and Sampled Size

Region	Selected Chinese University	Sampled Size
Province A	Jiangsu University	40
Province B	Zhengzou University	40
Province C	Shenyang Normal University	40
Province D	Shaanxi Normal University	40
Total		**160**

Source: Author's computation (2018)

Perception Index (PI) for Entrepreneurship Intention among International Students
A perception score expressed in equation (2) is considered statistically appropriate to estimate an overall perception score for international students' intention to take up entrepreneurship.

$$P_{score(i)} = \frac{\sum (H_1 + H_2 + H_3 + \ldots + H_i)}{k} \tag{2}$$

for $Y_i = \dfrac{\sum i}{n}$, *where* Y_i *represents index computed for a particular statement under*

a main heading, i = the figure assign to a particular scale, Likert scale.

n = total observations, k = the number of the main headings.

H_i = *the index computed for a main heading perception score for international*

students' intention to take up entrepreneurship.

$$H_i = \frac{\sum (y_1 + y_2 + y_3 + \ldots\ldots + y_n)}{q}$$

q = the number of sub-headings under the main headings.

$(y_1 + y_2 + y_3 + \ldots\ldots + y_n)$ = *the summation of the indices computed for the individual statements.*

Factors influencing students' intention in taking up self-employment in entrepreneurship
To analyse statistically significant variable that influence students' intention to take up entrepreneurship, the Probit regression model was used. Some potential explanatory factors or variables considered are presented in Table 2.
The method of estimation of the Probit model were by maximum likelihood and interpretation of Probit results were based on marginal effects treated as probabilities, which explains the slope of the probability curve relating one explanatory variable to prob (y=1|x), holding all other variables constant.
The observable dependent variable is defined by:

$$y = \begin{cases} 1 = intend\ to\ take\ up\ career\ in\ entrepreneurship\ if\ y^* > 0 \\ 0 = no\ intend\ to\ take\ up\ career\ in\ entrepreneurship\ if\ y^* \leq 0 \end{cases}$$

The Probit model Y follows the Bernoulli distribution with probability

$$\pi_i = prob(y = 1) = \Phi(X\beta)$$

Where π_i is the probability that a student intend to take up career in entrepreneurship (self-employment), X_i' is the explanatory variables, β is the regression parameters to be estimated.

In the Probit model the functional distribution of the error is very important to constraints the values of the latent variable into desirable property of probability values of between 0 and 1. The Probit model assumes a cumulative distribution function of standard normal distribution represented by Φ.

$$prob(y = 1) = prob(y_i^* > 0) = prob(\beta X + e > 0)$$
$$= prob(e > -\beta X)$$
$$= prob(e < \beta X)$$
$$= \Phi(\beta X)$$

In the case of normal distribution function, the model to estimate the probability of observing a student choosing to go into a career in entrepreneurship can be stated as:

$$\Pr ob(y_i = 1/X) = \Phi(\beta X) = \int_{-\infty}^{\beta X} \frac{1}{\sqrt{2\Pi}} \exp\left[\frac{-z^2}{2}\right] \partial z$$

Where,

Y_i is a Probability (dependent variable) that observing a student choosing to go into a career in entrepreneurship, X is a vector of the explanatory Variables, Z is the Standard Normal Variable ($Z \sim N(0, \delta^2)$) and β is a k by 1 vector of the Coefficients estimated.

Therefore, the Empirical Probit model is specified in the following form:

Y = β0 +β1X1i +β2X2i +β3 X3i+ β4X4i + β5X5i + β6 X6i + β7X7i + β8 X8i + β9 X9i+ .... +βij Xn + Ui

Choice of variables for the Probit regression analysis

The choiceof variables for the abovemodels wasbased primarilyonrelated studies such as: Chuah et al. (2015); You et al (2017) and Zhou et al. (2014). Thedependentvariable(P/ (1-P))ofa Probitregressionmo delisadichotomousvariable that represents thelikelihood that astudent would ventureinto an entrepreneurship (Y = 1) or otherwise(Y = 0).

Table 2: Description of Independent variables, Measurement and a priori expectations

Explanatory Variable		Measurement	a priori expectation
X₁	Sex	1 if male, 0 otherwise	+/-
X₂	Age	Years	+
X₃	Educational level	1 = Master's student, 2 = PhD	+/-
X₄	Occupation of student parent	1 = Self-employed; 0 = Otherwise	+/-
X₅	Parent education	1 =Educated; 0 = Not Educated	+/-
X₆	Perception score for Entrepreneurship	Number	+
X₇	Student Residence	1 = Urban; 0 = Rural	+
X₈	Taken-Entrepreneur-Course	1= student taken entrepreneurship course before, 0 = Otherwise	+/-
X₉	Perceived access to project funds/credit	1 = Access to fund/credit 0 = No Access to fund/credit	+/-

Source: Field survey (2018)

RESULTS AND DISCUSSIONS

4.1 Analysis of Demographic Data

This part of the study presents the analysis of demographics or socio-economic variables such as gender, age, and educational level,occupation of student parent, student parent education, and perception score for entrepreneurship, student residence, taken-entrepreneur-course, and perceived access to project funds/credit.

Table 4.1 presents demographicdistribution of the (international students') respondents. Based on the Table 4.1, it could be inferred that majority of the respondents were males as they constituted 68.7% of the total respondents. However, females constituted 31.3%of the total respondents.

With regards to the age distribution of the respondents, it could be inferred that most of the respondents were between the ages of 23 – 27 (50.0%) while the minority of the respondents were between the ages of 33 – 37 (1.3%) years. Respondents within age range of 18-25 years were about 45.7%. Also, about 5% of the students

fall within age group of 28 – 32 accordingly. This therefore gives the implication that, all the respondents meet the criteria of who a youth is as they are all between the ages of 15-35 years.

With regards to the educational level of the respondents it was found that most of the respondents" were masters or second Postgraduate degrees students (78.1%) while 21.9 % of the respondents were PhD or Higher Postgraduate Research degrees candidates.

In terms of the employment/occupation status of the student's parents, it could be inferred that most of the respondents had parents who are currently self-employed as they constituted 6.9% whiles 93.1% of the respondents are formally employed in public or private sector as presented in Table 4.1.

The study found out that 139 representing about 86.9% of the students' expressed their willingness or interest to venture into entrepreneurial business before or after graduation as an international student whiles 21 of the students representing 13.1% of the students claimed they are not interested in any entrepreneurial related businesses.

Analysis of the descriptive statistics on students' perception to venture into entrepreneurship was quite high with and average percentage of mean of about 87% of a standard deviation of 34%.

Table 4.1: Descriptive statistics on Demographics of Selected International students

Variable	Frequency	Percentage	Mean	Standard Dev.
Gender			0.69	0.46
Male	110	68.7%		
Female	50	31.3%		
Age			1.64	0.64
18 -22	70	43.7%		
23 – 27	80	50.0%		
28 – 32	8	5.0%		
33 – 37	2	1.3%		
Educational level of student			0.22	0.42
Masters	125	78.1%		
PhD or Higher Research graduate	35	21.9 %		
Occupation of student parent			0.93	0.25
Self-employed	11	6.9%		
Public/Private sector employed	149	93.1%		
Intent /Perception for Entrepreneur			0.87	0.34
Yes	139	86.9%		
No	21	13.1%		
Student Residence			0.44	0.49
Urban	89	55.6%		
Rural	71	44.4%		
Taken-Entrepreneur-Course			0.76	0.43
Yes	122	76.2%		
No	38	23.8%		
Perceived access to project funds/credit			0.13	0.34
Yes	21	13.1 %		
No	139	86.9%		

Source: Field survey (2018)

Analysis of the Probit regression model showed that the overall model statistics were quite better and statistically significant at overall since Prob > chi2 = 0.001, Pseudo R2 = 0.545 respectively. Significant variables or factors that influence international students' intention to take up entrepreneurship as presented in the Table 4.2 weresex, age, educational level, perception score for entrepreneurship, taken-entrepreneur-course and perceived access to project funds/credit.

Sex: Results presented in Table 4.2 indicated that, female respondent's intention to venture into entrepreneurial ventures decreases by 2.98 units at a 1% significance level than male international students. Results however is in line with that of Sumberg et al. (2017) who posited that male young adults turn to participate in self-employed economic activities.

Table 4.2: Results of Probit Regression Model on Factors that influence International Students' Intention to take up Entrepreneurship

Variable	Coefficient	Standard error	P-value	Marginal effect
Sex	-2.073	0.629	0.001	-0.0298***
Age	-0.136	0.076	0.072	-0.0022*
Educational level	1.821	0.586	0.002	0.0164***
Parent education	1.532	0.560	0.006	0.0360***
Perception score for Entrepreneurship	0.070	0.036	0.053	0.0011**

Student Residence	0.004	0.431	0.991	0.0010
Taken-Entrepreneur-Course	2.859	0.641	0.000	0.0005***
Perceived access to project funds/credit	-0.871	0.516	0.092	-0.0340*
Constant	3.455	1.684	0.040	
Diagnostic Statistics				
Number of observations = 160				
Wald chi2(7) = 41.71				
Prob > chi2 = 0.001				
Pseudo R2 = 0.545andLog pseudolikelihood = -27.567691				
Variables significant at *10%, **5% and ***1% respectively. Standard errors are in parenthesis				

Source: Field survey (2018)

Age: From Table 4.2, it can be inferred that a one year increase in the age of international students leads to about 2.2 units decrease at 10% significance level. The results obtained here could be that, as students grow older, they turn to prefer white collar jobs usually of conducive office in the government or public sectors than sole proprietorships or the private sector jobs. For instance most PhD students or holders would want to work for the public institutions than starting up their own business.

Results presented in Table 4.2 revealed that, masters' respondent's intention to venture into entrepreneurial ventures increases by 0.0164units at a 1% significance level than PhD international students. Results however buttresses that of Sumberg et al. (2017); who posited that male young adults turn to participate in self-employed economic activities.

International students whose parents were educated had a positive increase by 36.0 units higher in their willingness to venture intoentrepreneurial ventures than students whose parents were uneducated. Literature show that parents decisions have significant impact or bearing on the decisions of their wards. In this case, the results of this study confirms that education or literacy in general enlightens households from the head to the least member to patronise entrepreneurship in order to increase various household incomes.

According to results in Table 4.2, it can be deduced that a one unit increase in the perception score of international students regarding entrepreneurship leads to about 0.0011units increase at 1% significance level to influence their decision to venture into entrepreneurial business. This means that students who have positive attitude towards creating their own or participation in entrepreneurship would hypothetically and undeniable more interested to put their interest and willingness to practice by forming their own enterprises.

Moreover, results presented in Table 4.2 indicate that, students who had taken-entrepreneur-course intention to venture into entrepreneurial ventures increases by 0.0005 units at a 1% significance level than international students whohad never taken-entrepreneur-course in their academic or professional curriculum.

Access to credit was found to be negative and significant such that students who perceived no access to project funds/credit had a decreasing or negative relationship with regards to their willingness to venture into entrepreneurship by 0.0340 units at 10% level of significance than students' who claimed they have accessto project funds/credit.

CONCLUSIONS AND RECOMMENDATIONS
The study of students' particularly international students' was deemed more relevant for academia and industrial, government and private sector, and grant providing agencies in their policy or strategic implementations. It can be concluded from this study that majority of international students' wish to patronise or venture into entrepreneurial business before or after graduation whenever opportunity emerges itself to them in the course of their study. Significant factors that influence international college students' entrepreneurial intentions in China and home-countries were identified as; sex, age, educational level, perception score for entrepreneurship, taken-entrepreneur-course and perceived access to project funds/credit.
To promote and improve entrepreneurship for international students', this study suggest the following recommendations for policy implication:

First of all, universities should pay close attention to incorporating entrepreneurship as a course for students. In doing so, students' who have no idea or interest would develop better understanding of the subject matter of entrepreneurship for international students. Moreover, female gender should be advocated through workshops, educational fairs, trainings and conferences in order to boost interest of students' particularly female graduates. Additionally, socio-economic factors including students' age, educational level, and perception score for entrepreneurship, student's taken-entrepreneur-course and students' perceived access to project funds/credit should be given keen attention by university administrators, government and non-governmental organisations in order to facilitate innovation and development. These if considered is potentially possible to reduce escalating unemployment facing most developing countries.

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