Factors Impacting Entrepreneurial Intention of University Liberal Arts Students in Sichuan, China

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Abstract

The purpose of this study is to investigate the key factors that have significant impact on the entrepreneurial intention of liberal arts students under new liberal arts program. The conceptual framework proposes Entrepreneurship Education, Personal Attitudes, Perceived Behavioral Control, Subjective Norms, Entrepreneurial Self-efficacy, Entrepreneurial Creativity and Entrepreneurial Intention as the factors for the study. A quantitative research method was adopted by collecting data through questionnaires distribution (N=600). Multi-stage sampling technique of probabilistic and non-probabilistic sampling was used to reach a representative sample of liberal arts students in Xihua University. Confirmatory factor analysis (CFA) and structural equation model (SEM) were used for data analysis and affirmed model's goodness-of-fit at indices greater than criterion, and research hypotheses testing. The hypotheses testing results revealed that Personal Attitude, Perceived Behavioral Control, Entrepreneurial Self-efficacy, and Entrepreneurial Creativity significantly impact the entrepreneurial intention of liberal arts students. Entrepreneurship Education can effectively enhance students' Personal Attitude, Perceived Behavioral Control, and Entrepreneurial Self-efficacy. Therefore, this leads to the suggestion to carry out an effective reform of entrepreneurship education by combining both technical know-how and activity-based teaching of entrepreneurship. This can build the university student's abilities, confidence, and favorable attitude toward entrepreneurship, which ultimately leads to entrepreneurial intention.

Keywords : Liberal Arts, Entrepreneurship Education, Entrepreneurial Intention, TPB Theory

Received Revised Accepted
26 มกราคม 2565 / 25 มีนาคม 2022 / 17 พฤษภาคม 2565
26 January 2022 / 25 March 2022 / 17 May 2022

Introduction

In May 2019, China's Ministry of Education and other relevant departments officially launched the "Six Outstanding and One Top-notch" program 2.0, comprehensively promoting the construction of new engineering, liberal arts, medical sciences, and agricultural sciences (Ministry of Education of China, 2019). The new liberal art is based on the existing traditional liberal arts to restructure the courses and form the intersection of liberal arts and science to achieve knowledge expansion and cultivation of innovative thinking for students (Wu, 2020; Xu, 2020). The transformation of new liberal arts is the demand for innovation and entrepreneurship education in the era of digital economy (Miao, 2021). The experience of entrepreneurship education from 2010 to 2020 shows that the intention of liberal arts students to start a business is significantly lower than that of engineering students (Chen, 2021; Wang, 2016). However, the entrepreneurial intention of university liberal arts students is also very different from that of the past. Universities have promoted the new liberal arts program that inherited from the traditional arts, which the intersection of learning content has innovated the students' thinking mode (Qu, Lin & Li, 2021). The General Office of the State Council has issued the Guiding Opinions on Further Supporting University Students' Innovation and Entrepreneurship, which requires students' innovative spirit, entrepreneurial awareness and innovation and entrepreneurship ability to be strengthened in an all-round way (Chen, 2021). Therefore, it is necessary to study the factors impacting entrepreneurial intention of university liberal arts students to promote the appropriate educational reformation ideas according to the needs and improve the innovativeness and learning of entrepreneurship education. The factors conceptualized for the study include entrepreneurship education, personal attitudes, perceived behavioral control, subjective norms, entrepreneurial self-efficacy, entrepreneurial creativity and entrepreneurial intention.

Objectives

1. To investigates the impact of entrepreneurship education on entrepreneurial self-efficacy, perceived behavioral control, and personal attitude of liberal arts students in Sichuan, China.

2. To investigates the impact of entrepreneurial self-efficacy, perceived behavioral control, personal attitude, entrepreneurial creativity, and subjective norms on entrepreneurial intention of liberal arts students in Sichuan, China.

Literature Review

Entrepreneurship education

Entrepreneurship education (EE) according to Schumpeter's (1934) theory of innovation and entrepreneurship is the process of helping to realize innovation. It is a process of focusing on entrepreneurial activities such as entrepreneurial awareness and ability to help entrepreneurs capture business opportunities and gain self-improvement in creative practice (Entrialgo & Iglesias, 2016). EE can greatly improve the ability of entrepreneurs to expand knowledge, manage risks, and increase confidence in entrepreneurship (Bae, Qian, Miao, & Fiet, 2014; Bressoud, 2008). It enables students to transform creativity into entrepreneurship skills and helps develop enterprising spirit and lifelong personal learning attitude (Athayde, 2009). There are also studies showed the impact of EE on students with different ability, thought and behavior on perceived behavioral control (Hisrich & Peters, 2002). Martin, McNally, and Michael (2013) stated that simulation of entrepreneurship experience with students can improve their entrepreneurial ability and self-efficacy. Therefore, the following hypothesis is proposed for the study:

H1: Entrepreneurship Education has a significant impact on Personal Attitude

H2: Entrepreneurship Education has a significant impact on Perceived Behavioral Control

H3: Entrepreneurship Education has a significant impact on Entrepreneurial Self-efficacy

Subjective norm

Subjective norm (SN) can be defined as an intention to choose a profession and comply with norms (Leroy, Manigart, & Meuleman, 2009). Ajzen (1991) defined it as the influence of public opinion on whether an individual chooses to take an action. It is found that whether to start a business, it will be greatly affected by the opinions of the surrounding opinion leaders (Joensuu-Salo et al., 2015). However, some scholars have claimed that they did not find a link between SN and willingness to start a business (Krueger, Reilly, & Carsrud, 2000). People who have close social interaction, will cause pressure on personal opinion, which can lead to a different choice (Kolvereid, 1996). Therefore, the following hypothesis is proposed for the study:

H4: Subjective Norms has a significant impact on Entrepreneurial Intention

Personal attitude

Personal attitude (PA) is defined as the way to evaluate oneself (García-Rodríguez, Gil-Soto, Ruiz-Rosa, & Gutiérrez-Taño, 2017). Ajzen (1991) claims that attitude expresses the inner psychological experience and behavioral tendency of people through their words and deeds. A positive personal attitude can lead to motivation to start a business, which this subjective tendency can be obtained by learning (Joensuu-Salo, Varamäki, & Viljamaa, 2015). According to Fayolle, Liñán, and Moriano (2014) and Iglesias-Sánchez, Jambrino-Maldonado, Velasco, and Kokash (2016), whether an individual chooses to set up a company or not is greatly influenced by how one conduct himself and how does he think of money. Therefore, the following hypothesis is proposed for the study:

H5: Personal Attitude has a significant impact on Entrepreneurial Intention

Perceived behavior control

Perceived behavior control (PBC) refers to the predicted degree of difficulty for the upcoming behavior (Ajzen, 1991). It is an expression of self-confidence in the resources and abilities needed to complete a job (Swann, Chang-Schneider, & Larsen McClarty, 2007). This can also be seen in the entrepreneur's own ability, knowledge, integration of resources and seizing opportunities (Sun, Zhu, & Jeyaraj, 2020). Ajzen (2002) found that there are slight cases that PBC do not affect the results. Within the scope of cognitive discussion, it can be the embodiment of individual sensitivity (McGee, Peterson, Mueller, & Sequeira, 2009). Therefore, the following hypothesis is proposed for the study:

H6: Perceived Behavioral Control has a significant impact on Entrepreneurial Intention

Entrepreneurial self-efficacy

Entrepreneurial self-efficacy (ESE) is the degree of self-confidence that people can use their skills to accomplish something (Lent, 2005). Some scholars think that self-efficacy is a natural ability (Puni, Anlesinya, & Korsorku, 2018), others claim that learning helps improve personal self-efficacy because it can cultivate core competency and enhance work enthusiasm (Pihie & Bagheri, 2010). Scholars have also proved that ESE has a positive effect on entrepreneurial intention. The higher the ESE of an individual, the more likely an individual is to choose to start a business and have higher confidence in his success in starting a business (De Pillis & Reardon, 2007; Roy, Akhtar,

& Das, 2017). Some scholars also mentioned that ESE is an important incentive factor in individual creative behavior. Students with high ESE can overcome all kinds of difficulties, dare to challenge creative work, so as to create creative performance (Carmeli & Schaubroeck, 2007; Tierney & Farmer, 2011). Therefore, the following hypothesis is proposed for the study:

H7: Entrepreneurial Self-efficacy has a significant impact on Entrepreneurial Intention

H8: Entrepreneurial Self-efficacy has a significant impact on Entrepreneurial Creativity

Entrepreneurial creativity

Entrepreneurial creativity (EC) is the innovative ideas that can be converted to value-creating profitable business activities or entrepreneurial action (Carmeli, McKay & Kaufman, 2014). Over the past few years, entrepreneurial creativity has gradually become a demand field in the study of entrepreneurial intention (Hu, Wang, Zhang, & Bin, 2018). Scholars believed that it can effectively reflect the strength of entrepreneurs' desire and their impetus in discovering business opportunities and successful entrepreneurship (Lerch, Thai, Puhakka, & Burger-Helmchen, 2015). Therefore, the following hypothesis is proposed for the study:

H9: Entrepreneurial Creativity has a significant impact on Entrepreneurial Intention

Entrepreneurship intention

Entrepreneurship intention (EI) is the intend to run the project by himself and then become the operator of the process (Kristiansen & Indarti, 2004). It was proposed based on the Entrepreneurial Event model (EEM) to predict effective influencing factors in the whole process of entrepreneurial activity and describe the influencing factors on EI (Guzmán-Alfonso & Guzmán-Cuevas,2012). EI plays an important pre-emption role in the university students' entrepreneurship and to carry out entrepreneurial behavior (Guo, 2019). Earlier studies found that EI is impacted by desire, management, self-control, risk management, continuous effort, and intelligence, hence it is the primary reason on whether to start a business (Kolvereid, 1996).

Research methods and materials

Research framework

The conceptual framework is based on the research theories of The Planned Behavior Theory (TPB), The Social Cognitive Career Theory (SCCT), The Entrepreneurial Event Model (EEM), and The Social Learning Theory (SLT). Further, previous empirical research of Shahab, Chengang,

Arbizu, and Haider (2019), Wu and Wu (2008), and Puni et al. (2018) was studied and formulated seven variables of Entrepreneurship Education (EE), Personal Attitude (PA), Subjective Norms (SN), Perceived Behavioral Control (PBC), Entrepreneurial Self-efficacy (ESE), Entrepreneurial Creativity (EC), and Entrepreneurial Intention (EI).

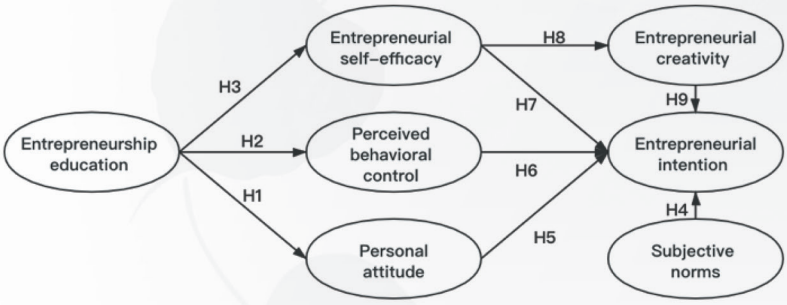

Figure 1 Conceptual Framework

Source: Adapted from Shahab et al. (2019), Wu and Wu (2008), and Puni et al. (2018)

Methodology

The research has conducted a quantitative study and collected data through online questionnaire on a platform called “Wen Juan Wang”. A multi-stage sampling was employed to ensure a represented data collection from target population. The questionnaire comprised of screening questions, measurement items by using five-point Likert-scale from strongly disagree to strongly agree, and demographic questions. Before distributing 600 questionnaires, the reliability of measurement items was ensured by the three experts rating of index of item–objective congruence (IOC), acceptable at values greater than 0.5 (Turner & Carlson, 2003) and pilot test using Cronbach’s Alpha approach for 60 samples at value above 0.7 (Nunnally, 1978). The data was analyzed with Confirmatory Factor Analysis (CFA) to test the convergence validity and measurement model fitness, Structural Equation Model (SEM) to examine the impact of variables.

Population and sample size

The target population is 8,510 undergraduate and graduate students, majoring in liberal arts of Xihua university, Sichuan, China and have received innovation and entrepreneurship education from the university. Xihua university is selected as they focus on science and engineering and is one of the first university in Sichuan that offers innovation and entrepreneurship

education. The minimum sample size calculated by A-priori Sample Size Calculator for SEM is 425 based on the parameters of 7 latent variables and 31 observed variables at the probability level of 0.05. The researcher has distributed 600 questionnaires to avoid invalid questionnaires.

Sampling technique

The researcher has employed a multi-stage sampling by using both probabilistic and non-probabilistic sampling to reach a representative sample from the target population of liberal arts students in Xihua University and have received innovation and entrepreneurship education from the university. In the first stage, purposive sampling was used to select liberal arts students from Xihua University in Sichuan, which the university is one of the first university in Sichuan that offers innovation and entrepreneurship education. Second, stratified sampling was used to proportionately allocate the sample size to different schools under liberal arts major in Xihua University as shown in table 1 in order to ensure a representative sample. Lastly, convenient and snowball sampling were used to distribute online questionnaire to students at each school's locations and ask their assistance to further pass the links to their peers. The questionnaires also comprised of screening question to ensure the respondents meet target group for the study.

Table 1 Number of Target Population

Name of Institution	Population Size	Proportion Size
School of Maxist	398	28
School of Foreign Languages	1,234	87
School of Fine Arts and Design	2,032	143
School of Physical Education	499	35
School of Music and Dance	1,145	81
School of Intellectual Property, Faculty of Law	919	65
School of Literature and Journalism	1,657	117
School of Social Development	626	44
Total	**8,510**	**600**

Source: Xihua University (2021)

Results

Demographic information

Questionnaires of 600 sets were completed and valid for the study. The respondents were female at 56.7% For age, most respondents were 18-25 years old at 97.2%. The majority of respondents' education level was bachelor's degree at 99.3%. Innovation and entrepreneurship education taken by the respondents were mainly from the university course at 84.5%, workshop at 4.2%, one-to-one coaching at 1.5%, and others at 9.8%.

Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis or CFA was used to examined by convergent and discriminant validity of the measurement model. As illustrated in table 2, convergent validity was guaranteed from the measurement of Composite Reliability (CR) at values exceeding 0.7 (Hair, Gabriel, & Patel, 2014), Average Variance Extracted (AVE) and factor loading at values exceeding 0.5 (Fornell & Larcker, 1981; Hair, Black, Babin, Anderson, & Tatham, 2006), and Cronbach's Alpha at values exceeding 0.7 (Nunnally, 1978).

Table 2 Confirmatory Factor Analysis Result

Latent Variables	Source of Questionnaire (Measurement Indicator)	No. of Items	Cronbach's Alpha	Factors Loading	CR	AVE
EE	Puni et al. (2018)	4	0.873	0.718-0.825	0.874	0.634
PA	Iglesias-Sánchez et al. (2016)	5	0.899	0.717-0.828	0.893	0.626
SN	Kolvereid (1996), and Liñán and Chen (2009)	3	0.834	0.763-0.820	0.832	0.623
PBC	García-Rodríguez et al. (2017)	4	0.832	0.662-0.803	0.830	0.552
ESE	De Noble, Jung, and Ehrlich (1999) and Liñán (2008)	4	0.879	0.770-0.820	0.878	0.643
EC	Hills, Lumpkin, and Singh (1997), and Puhakka (2011)	5	0.857	0.738-0.679	0.851	0.534
EI	Liñán and Chen (2009)	6	0.907	0.644-0.816	0.893	0.584

Note: CR = Composite Reliability, AVE = Average Variance Extracted

Discriminant validity was tested by using Fornell-Lacker criterion to compute the square root of each AVE and compare with the correlation of the constructs (Fornell & Larcker, 1981). The values of AVE square root are larger than all inter-construct or factor correlations, therefore, the discriminant validity was supportive as per table 3.

Table 3 Discriminant Validity Output

Variables	PV	BT	BI	I	PU	S	WOM
EE	**0.80**						
PA	0.54	**0.79**					
SN	0.43	0.49	**0.79**				
PBC	0.61	0.64	0.46	**0.74**			
ESE	0.58	0.63	0.38	0.72	**0.80**		
EC	0.51	0.54	0.37	0.68	0.72	**0.73**	
EI	0.41	0.67	0.35	0.70	0.69	0.64	**0.76**

Note: The diagonally listed value are the AVE square roots of the variables

In addition, the modified measurement model has ensured fitness from the measurement of goodness-of-fit indices in table 4. The results of indices have expressed acceptable values against the criterion.

Table 4 Goodness of Fit

Index	Criterion	Measurement Model	Structural Model
CMIN/df	<3 (Hair et al., 2006)	2.394	2.838
GFI	≥0.85 (Sica & Ghisi, 2007)	0.907	0.892
AGFI	≥0.85 (Sica & Ghisi, 2007)	0.885	0.867
CFI	≥0.90 (Hair et al., 2006)	0.956	0.941
NFI	≥0.90 (Hair et al., 2006)	0.927	0.912
TLI	≥0.90 (Hair et al., 2006)	0.949	0.932
RMSEA	<0.08 (Hu & Bentler, 1999)	0.048	0.055

Note : CMIN/df = The ratio of the chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, NFI = Normed fit index, CFI = Comparative fit index, TLI = Tucker-Lewis index, and RMSEA = Root mean square error of approximation

Structural Equation Model (SEM)

Structural Equation Model or SEM examines the causal relationship of variables and fit of structural model. Fit of structural model is measured by using goodness-of-fit indices and the structural model after modification has resulted to CMIN/df=2.838, GFI=0.892, AGFI=0.867, CFI=0.941, NFI=0.912, TLI=0.932, and RMSEA=0.055 presented in table 4. Hence, the modified structural model has met model fitness thresholds.

Research hypothesis testing Result

From SEM analysis, the significance of each variable was investigated with its standardized path coefficient (β) and t-value as illustrated in Table 5. This research confirmed the significance impact of all hypotheses proposed, except for H4. Therefore, H1, H2, H3, H5, H6, H7, H8 and H9 were supported.

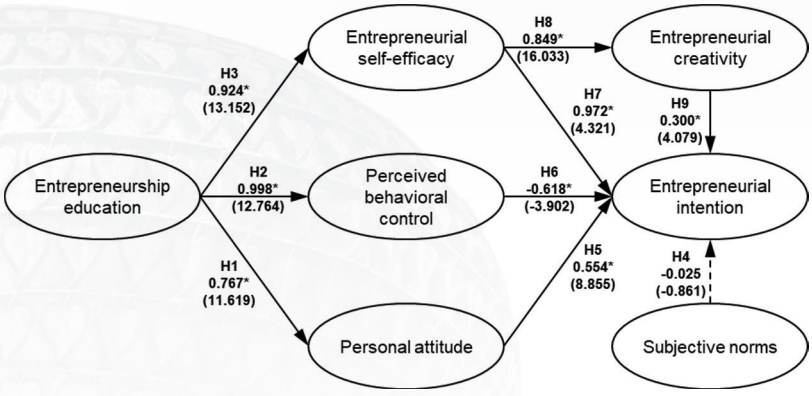

Figure 2 Results of Structural Model

Note: Solid line reports the Standardized Coefficient with * as p<0.05, and t-value in Parentheses; Dash line reports Not Significant

Table 5 Hypothesis Result of the Structural Model

Hypothesis	Standardized path coefficient (β)	t-value	Testing Result
H1: EE => PA	0.767	11.619*	Supported
H2: EE => PBC	0.998	12.764*	Supported
H3: EE => ESE	0.924	13.152*	Supported
H4: SN => EI	-0.025	-0.861	Not Supported
H5: PA => EI	0.554	8.855*	Supported
H6: PBC => EI	-0.618	-3.902*	Supported
H7: ESE => EI	0.972	4.321*	Supported
H8: ESE => EC	0.849	16.033*	Supported
H9: EC => EI	0.300	4.079*	Supported

Note: *Significant at p-value<0.05

Discussion

The research results are described as follows.

In H1, PA was impacted by EE with standardized path coefficient of 0.767 and t-value of 11.619, consistent with the study of (Athayde,2009; Bae et al. 2014) that entrepreneurship education can help the students to enhance their enterprising spirit and lifelong personal learning attitude.

In H2, EE can improve PBC for the students with standardized path coefficient of 0.998 and t-value of 12.764. The education would be able to provide the know-how required for the entrepreneurship (Duong, 2021; Sun, Lo, Liang, & Wong, 2017). Students with entrepreneurship education can be more comprehensive to master the knowledge needed to start a business and help them improve their confidence in starting a business when they choose their career.

In H3, ESE can be enhanced by EE with standardized path coefficient of 0.924 and t-value of 13.152, and supported by the research of Asimakopoulos, Hernández, and Peña Miguel (2019) and Roy et al. (2017). The students' confidence and capabilities in managing the entrepreneurial activities can hence be gained or strengthen from the entrepreneurship education received.

SN was not found to impact EI in H4. The finding contradicts with the studies of Joensuu-Salo et al. (2015), however supported by the studies of Al-Mamary, Abdulrab, Alwaheeb, and

Alshammari (2020), Duong (2021) and Krueger et al. (2000). The influences from their peers and families do not have impact on the intention to start a new venture. Other aspects of own capabilities, attitude, and creativity are more significant to undertake entrepreneurship in their views.

In H5, PA was the third factors that significantly impact EI with standardized path coefficient of 0.554 and t-value of 8.855, which supported by Joensuu-Salo et al. (2015), Otchengco Jr., and Akiate (2021), and Varamäki, Joensuu, Tornikoski, and Viljamaa (2015). The entrepreneurial knowledge can affect an individual's attitude in participating entrepreneurial practice.

In H6, PBC was the second strongest factor inversely impacting EI with standardized path coefficient of -0.618 and t-value of -3.902. This inverse relationship was found in the study of Kaijun and Sholihah (2015) and Shah and Soomro (2017), which have explained that the students may have limited bearable easiness or difficulty of entrepreneurial performance. It may cause from the uncertainty of external factors such as political and economic situations.

In H7, ESE has the greatest impact on the EI of liberal arts students with standardized path coefficient of 0.972 and t-value of 4.321. This finding is aligned with the study of Hassan, Saleem, Anwar, and Hussain (2020), Karlsson and Moberg (2013), Powers, Le Loarne-Lemaire, Maalaoui, and Kraus (2021) that self-efficacy can be a key antecedent or a prerequisite for entrepreneurship intention. This implies that the students with self-confidence and believing in their capabilities of running business are likely to attempt a new venture or the entrepreneurship process.

In H8, creativity in innovating entrepreneurial activities can be driven by ESE with standardized path coefficient of 0.849 and t-value of 16.033. This finding supported by Carmeli and Schaubroeck (2007) and Tierney and Farmer (2011). In order to run or enhance the entrepreneurial performance, own capability and skills is needed to stimulate the cultivation of creativity.

Lastly in H9, ER had the least impacted factor on EI was EC with standardized path coefficient of 0.300 and t-value of 4.079. The finding is aligned with the research of Hamidi, Wennberg, and Berglund (2008), Lerch et al. (2015), and Rodrigues, Jorge, Pires, and António (2019). Creativity is proven to be one of the cognitive variables for starting a business, as it would allow the students to seek for entrepreneurial opportunities and enhancements.

Conclusion

This study mainly investigates the significant impact of entrepreneurship education on the entrepreneurial intention of university liberal arts students under the background of the construction of new liberal arts. The findings can help the educational institutes and lecturers to formulate and promote the appropriate entrepreneurship education learning that can eventually stimulate the students' intention to be an entrepreneur. The hypotheses proposed in this paper include the impact of EE on PA, ESE, and PBC, the impact of ESE on EC, and PA, ESE, PBC and EC as moderator variables on EI. The target population for the study is undergraduate and graduate students in the school of liberal arts in Xihua University, Sichuan, China who have received innovation and entrepreneurship education from the university. The data collected was analyzed using Confirmatory factor analysis (CFA) to measure the validity and reliability of the conceptual model and verify the hypothesis proposed with structural equation model (SEM). The results have illustrated that Entrepreneurial intention was strongly impacted by entrepreneurial self-efficacy, followed by perceived behavioral control, personal attitude, and entrepreneurial creativity, respectively. However, perceived behavioral control was inversely correlated with entrepreneurial intention. These significant factors were directly driven by entrepreneurship education. This implies that the entrepreneurship education plays a vital role in shaping the students' self-efficacy, perceived behavior, and attitude toward entrepreneurship, and indirectly formed intention to undertake entrepreneurial activities. Therefore, the new liberal arts innovation and entrepreneurship education should be oriented to solve important social problems and enhance students' entrepreneurial intention. The education should not only be focusing on the technical knowledge, but also on the cognitive aspects to help influences the favorable attitude, confidence, and behavioral control.

Recommendation

The research findings have revealed that entrepreneurial self-efficacy has the strongest impact on entrepreneurial intention, followed by personal attitude, and entrepreneurial creativity. Which these significant factors can be enhanced directly or indirectly by entrepreneurship education. Hence, the following are suggestions for universities and academic advisors:

Firstly, to expand the content of entrepreneurship education by realizing the deep integration of disciplines, break through the limitation of traditional social science thinking and research methods, and deeply integrate humanistic knowledge with natural science, engineering technology and artificial intelligence knowledge, becoming a new thinking paradigm and a new path to solve problems, as well as a new skill and knowledge system for students majoring in liberal arts. For example, conducting case studies, mocking practices, and training with experienced entrepreneurs for students to gain knowledge from real-life entrepreneurial activities.

Secondly, the entrepreneurship education content should be well-designed by the lecturers that allows different scenarios and outcomes from entrepreneurial performance, both positive and negatively, that can be occurred from starting or running the entrepreneurial activities. This can help the students by delivering the anticipated consequences and learning on the possible and innovative consequence management, so that their self-efficacy can be gained and prepared for entrepreneurship. Through the transformation of teaching and entrepreneurship education, and practice system, a comprehensive and effective education can be formed, and ultimately improve the liberal arts students' entrepreneurial intention.

Limitation and Further study

For further study on entrepreneurial intention, the study can extend the target group that covers liberal arts students in other universities, or students from other concentration for comparative analysis. The antecedents of intention may differ from educational program in each institution. Also, the samples collected for this study were concentrated in sophomores and juniors, and small numbers for graduate students. Therefore, the sample distribution can further consider the dispersion of students' educational level or increased sample size for the coverage. Lastly, the control variables or mediators can be further included in the conceptual model to gain additional insights of intention's antecedents such as gender of respondent and external influencing factors of economic, and national policy.

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