

COMPARING OF ENTREPRENEURIAL INTENTION STUDENT BETWEEN SCIENCE AND HUMANITIES STUDENTS : A LITERATURE REVIEW

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ABSTRACT

This paper is preposition paper to know factor entrepreneurship intention and compares two model entrepreneurial intention between science students and humanities students taking subject. This paper will explore and discuss entrepreneurial intention theory.

It is a causality study which uses multiple regression for data analyzing. The samples of this research are undergraduate students and Sampling method used judgement sampling the sample size are 150.

This research contrasts student taking entrepreneurship subject with considering background study of the subject.

This paper suggests contribution to board of director faculty and department to make decision and policy in designing entrepreneurial learning programs for science and humanities students where later whether there should be differences in the content of learning programs on the different fields of study followed by students

Keywords: entrepreneurial intention, entrepreneurship subject, student, and proposition

INTRODUCTION

Indonesian government campaign for spirit of entrepreneurship in university and push student to follow the program for student and university every year. This program such as program mahasiswa wirausaha (PMW), program Coop, dan program kreativitas mahasiswa kewirausahaan (PKM-K). Indonesian government **strike** for spirit entrepreneurship student by that program. Same as the opinion from Wijaya (2008) he explain to built entrepreneurship intention that influenced by environment such as parent, culture, education process etc. this is same as opinion from indarti dan rosiati (2008), their research in 3 country in japan, Indonesia and Norway. Their research explain that environment have the highest influence to entrepreneurship intention to be entrepreneur. This research show that Indonesian government made culture of entrepreneurship with university. That program can stimulate student to be entrepreneur. In contrast, Wijaya (2012) explain that program hasn't ideal and contributed to made entrepreneurship intensions

In other side, There is an indication of the relationship between the background of the field of study with student entrepreneurial intentions. That same as researched by Wu & Wu (2008) to student in shanghai China. This research show that the formation of the entrepreneurial intention is influenced by the background of the field of study. Galloway *et al.* (2006), Shows that the entrepreneurial intentions of the Faculty of Business students are higher than the entrepreneurial intentions of the students of the Faculty of Science and Engineering. Bu the other opinon, Suharti & Sirine (2011), show there is no significant difference between student entrepreneurial

intentions from exact faculty with non-exact faculty students. This is same as research made by Chrissanti (2010) show there is no significant different between in need for achievement, locus of control, self efficacy, instrumental readiness, subjective norms and entrepreneurship student based on their department.

There are contradiction opinion of some previous studies researcher interested to know more about the differences in entrepreneurial intentions are antecedent by the background field of study. It is specially for student on the science and humanities. Researchers also want to explore more deeply what exactly are the factors that shape the intentions of entrepreneurship in science and humanities students. Empirical studies that examine the interrelation between the field of study with entrepreneurial intentions are still limited. A number of empirical studies only indicate the existence of a link between the type of pilot efforts of scholars with their field of study (Lee & Wong, 2002; Alwan & Yenny, 2003).

The purpose of this research is to know the difference between entrepreneurship intention between science and humanities students. In addition, it also forms a proposition related to the role of factors influencing the entrepreneurial intentions of science and humanities students. It aims to provide inputs to Board of Director of University (Rector and Dean) in designing entrepreneurial learning programs for science and humanities students. For the future question, Whether there should be differences in the content of the learning program on the different fields of study that students follow

LITERATURE REVIEW

The academic research on entrepreneurship motivation was started 50 years ago and dominated by social researchers rather than economics researchers. The development of literature (Lewis, 1991) has being debated in the economic growth. The needed for achievement is a personality, also the result of demographic characteristic and environmental factors. Hagen (1971) using the basic theory as used by McClelland on research in burma. Salam "traditional environment", he said, the existing social structure is hierarchical and authoritarian structures in all aspects of economic, political, and religious. The status of individuals in a society is a heritage, social mobility is limited, and therefore, entrepreneurship motivation to be low (Hagen, 1971, p. 126). Therefore, Hagen has been regarded as a pioneer of environmental determinants (environmental determinist).

A number of studies have investigated the relationship between field of study and entrepreneurial intention in a university environment. Grassl and Jones (2005) indicate that distinct nuances exist between students of differing fields of study when considering entrepreneurial intent. The studies have produced conflicting results which call for further investigation.

A number of authors conclude that a definite relationship exists between entrepreneurial education and entrepreneurial intent (Fatoki, 2014; Ramkhumise, 2014; Muofhe & Du Toit, 2011; Malabena & Swanepoel, 2014, 2015; Susanj, Jakopec & Krekar, 2015). Furthermore, Otuya, Kibas, Gichira & Martin (2013) investigated the impact of entrepreneurial education in influencing student's entrepreneurial intentions. The study reported that students who partook in an entrepreneurial program exhibited greater intention towards entrepreneurship than those students who were not exposed to entrepreneurship education. These findings also concur with those reported by Gerba (2012), who concludes that students who are registered for business-related qualifications tend to have a higher attraction towards entrepreneurship than those registered for engineering related qualifications. In addition, Ho, Low and Wong (2014) also emphasized that an entrepreneurial education gives students a better understanding of the venture creation process and the necessary skills required for venture creation, thereby confirming a positive relationship between entrepreneurship education and intention. Also, business students seem to have thought about entrepreneurship much more than other students;

however, they are less excited about entrepreneurship. A possible reason for this finding could be that business studies are much more aware of the realities and high failure rate of entrepreneurial ventures (Grassl and Jones, 2005). In contrast, a number of other authors conclude that entrepreneurial intent is more strongly influenced by a comprehensive study offering which is not necessarily focused on entrepreneurship education (Wu & Wu, 2008; Solesvik, Westhead & Matlay, 2014; Abbas, 2013).

Entrepreneurial Intentions

In the literature of social psychology, intention has proved to be a strong predictor of the Planned individual behavior, especially when that behavior is rare, difficult to observe, or do role in the timeframe that cannot be determined (Krueger, Reilly and Carsrud, 2000); entrepreneurship is a special example of planned individual behavior and behavior that based on the intention (Bird, 1988; Krueger and Brazeal, 1994) in karimi (2011).

There is a large literature debate that intention have an important role in the decision to start a new business (Linan and Chen, 2009). As a consequence, over the last few years, several models of job status that focus on the employment has become a topic of interest and have a large enough space in entrepreneurship research (Krueger and Carsrud, 1993; Kolvereid, 1996) in karimi (2011).

In this model, intension in careers seen as a direct antecedent of behavior (such as starting a business). Intention in turn are determined by attitudes, and attitudes are influenced by "the influence of exogenous" like nature, education, demographics and situational variable (Ajzen, 1991; Kolvereid, 1996; Krueger, 2003; Segal, Borgia & Schoenfeld, 2005; Souitaris et al., 2007) in karimi (2011).

Need for achievement

The need for achievement can be defined as "the behavior of the competition with a standard of excellence" (McClelland, 1953). In other words, the need for achievement refers to the expectation of doing something better or faster than others or that person achieve better performance than ever achieved before (Hansemark, 2003). In the context of entrepreneurship, "need for achievement" refers to the perceived outcome and the result of creating a new business that significantly affect a person's tendency to take on the challenges and responsibilities when starting and growing new businesses (Hansemark, 1998; McClelland, 1961). Some research suggests that the need for achievement is one of the strongest predictors of entrepreneurial behavior (McClelland, 1961; Pillis and Reardon, 2007; Babb and Babb, 1992). The research of Gorul and Astan (2006) showed that the need for achievement was found is higher in students who received learning about entrepreneurship than students who did not get.

Entrepreneurial self-efficacy

Bird (1989), Boyd & Vozikis (1994) put the construction of self-efficacy in entrepreneurial research model. In the entrepreneurial, theoretically, self-efficacy is proposed in order to improve the entrepreneurial intentions and behaviors (Boyd and Vozikis; 1994) and empirically has a positive influence on entrepreneurial intention (Chen, et al, 1998). According to Mc. Gee, et al, (2009), the construction of self-efficacy was first used for general self-efficacy for entrepreneurship research, this also be used for students in general, so it's not accurate enough to be used to measure entrepreneurial intention.

According to Bandura (1986), self-efficacy are specific task and should be assessed based on the task and the specific behavior. In Chen, et al, (1998); DeNoble, et al, (1999), has a special self-efficacy name in the entrepreneurial as an entrepreneurial self-efficacy. According to Krueger, et al, (2000), in the study of entrepreneurship, entrepreneurial self-efficacy similar to behavioral control that be perceived in the theory of planned behavior and the perceived feasibility of the theory of entrepreneurship (Shapero & Sokol 1982). In subsequent research, the construction of entrepreneurial self-efficacy is widely used to predict the behavior of

entrepreneurial research object; university or MBA students (Chen, et al, 1998, DeNoble, et al, 1999; Kristiansen and Indarti 2004, Ramayah and Harun, 2005, Zhao, et al, 2005, Gaddam, 2008).

As a basic entrepreneurial self-efficacy that was developed in the study of entrepreneurship, Chen, et al, (1998) and DeNoble, et al, (1999), Barbosa, et al, (2007) defines the entrepreneurial self-efficacy into four types of specific task of self-efficacy: (1) opportunity identification self-efficacy: (2) the relationship of self-efficacy: (3) managerial self-efficacy: (4) tolerance of self-efficacy. These categories have characteristics more emphasis on the managerial skills, both internally (leadership, human resource management) and externally (relationship, opportunist).

According to Mc. Gee, et al (2009), a previous study using the entrepreneurial self-efficacy as antecedent of the behavior and entrepreneurial intentions which has three limitations: it fails to distinguish between general self-efficacy and self-efficacy, failed in calculating the entrepreneurial self-efficacy multidimension, fails to involve new entrepreneur to the sample (most research on entrepreneurial self-efficacy associated with the university or MBA students as subjects of study) (Chen, et al, 1998; DeNoble, et al, 1999; Zhao et al, 2005).

Locus of control

Several authors argue that the argentic characteristics of internal locus of control is entrepreneurial self-efficacy, risk-taking propensity, and proactivity to not only distinguishes between entrepreneurs and non-entrepreneurs, but they also affect the intention to start a business. In the first place, internal locus of control implies a perception of high control and feasibility in relation to specific behaviors, which is a strong predictor of intention (Shapero & Shokol, 1982). That is why the locus of control is often associated with the development of intentions of entrepreneurship (Krueger, 1993).

Contextual Elements

According to Anderson (2000, p. 102) in Indarti (2007) examined the entrepreneurs around the Scottish Highlands and found that a person cannot understand about entrepreneurship, and assume that entrepreneurship is the real object has its own characteristics environment objection is not true; '... The environment is basically played and, has a consequently to become an object'. Furthermore, this paper focuses on three contextual elements: access to capital, availability of information, and social networking.

Access to Capital

Access to capital clearly an obstacle which is typical for the establishment of new businesses, especially for new businesses in developing countries. Sources of capital can be personal savings, a large family network, mutual savings and credit systems, or financial institutions and banks.

Availability of Information

Singh and Krishna (1994) in their study of entrepreneurship in India found that the desire to look for information is one of the few characteristics of entrepreneurs. Searching information describes the frequency of contact by individuals with various informers. The results of these activities often depends on whether it easy or not to access informers, either through its own efforts or human resources or as part of their social resources and networks. In a study of agribusiness entrepreneurs in Java, Kristiansen (2002b) found that access to the new information is indispensable for the survival and growth of the company. The availability of new information that is found to depend on personal characteristics such as education level and quality of infrastructure such as media coverage and telecommunications systems.

Social Networking

Studies on entrepreneurship has reflected a general agreement that entrepreneurs and new companies should form a network together in order to survive (Huggins, 2000). Networks describe a tool for entrepreneurs to reduce risk and transaction costs and improve access to ideas, knowledge and resources for businesses (Aldrich and Zimmer, 1986). A social network consist

of formal and informal relationships between key behaviors and supporter in one circle that know each other and describes the channel where the entrepreneurs can have access to needed resources for the establishment of new businesses, growth, and success (Kristiansen and Ryen, 2002).

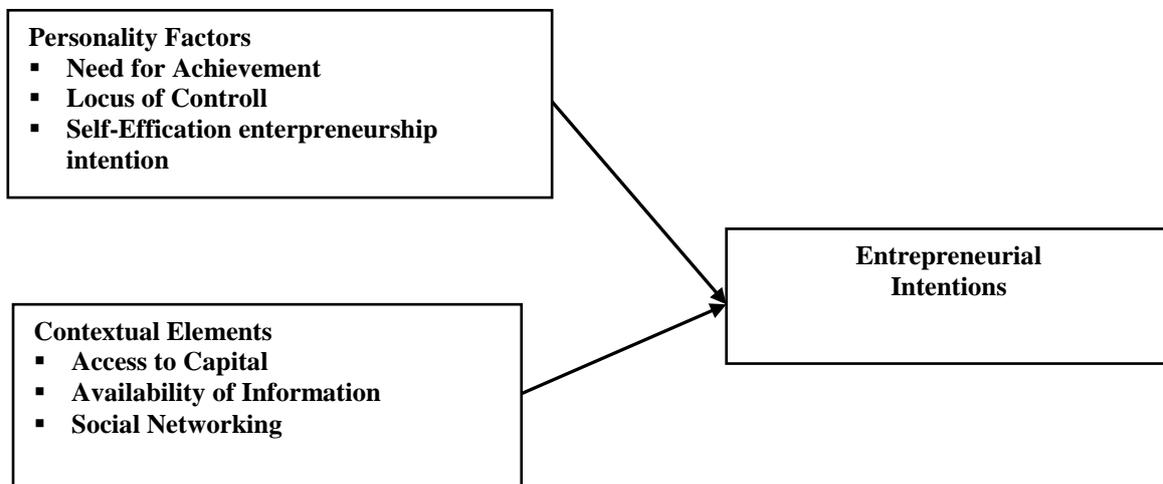


Figure 1. Research Model Entrepreneurship Intention

Source : Indarti (2007)

RESEARCH METHODS

Papers were included if they were published since 1988, in English and had a qualitative research focus. Papers with a quantitative research focus were excluded. Other relevant literature, specifically books and book chapters, were identified through an iterative process based on the journal papers. This paper is proposition and the researcher explain the hypothesis. “What is differentiation entrepreneurship intention student in science and humanities?”

RESULT AND DISCUSSION

Several studies have explained about differentiation entrepreneurship intention between business student and non-business student. Student business represented by individual with spend time in entrepreneurship education more than non- business student. Because it is assumed they have higher knowledge, skills, and business competencies. In studies humanities student is classified by business student and science student is classified by non-business student. Table 1 show differentiation between entrepreneurship intention business student and non-business student from many literatures

Table 1 Comparison of Entrepreneurship Intentions to Students

Author	Basic Model	Variables	Unit Analysis	Finding
Susanj, Jakopec, Krekar (2015)	Krueger and Breazel's (1994) <i>Entrepreneurial potential model</i>	Entrepreneurial potential (EPO), Entrepreneurial characteristics (EC), Entrepreneurial propensity (EPR), Entrepreneurial	University of Applied Sciences in Zagreb, Faculty of Humanities and Social Sciences in Osijek,	<ul style="list-style-type: none"> ▪ EC has positive effect to ESE and DOE ▪ EC has positive effect to ESE and DOE ▪ The EC is able to directly affect the EI

		self-efficacy (ESE), Desirability of entrepreneurship (DOE), Entrepreneurial intentions (EI)	Faculty of Humanities and Social Sciences in Rijeka	<ul style="list-style-type: none"> ▪ ESE and DOE have a positive effect on EI ▪ ESE and DOE are able to mediate EC relationships to EI ▪ ESE and DOE are better able to shape EI in business students than non-business students
Eresia-Eke, Shaum, Jean-Claude (2016)	The Theory of Planned Behavior (TPB)	Entrepreneurial Intention diukur dengan: Entrepreneurial Activity, Skills related to entrepreneurial activity, Attractiveness towards entrepreneurship, Professional attraction after degree completion, Importance of educational courses to develop entrepreneurship	South Africa's leading Universities	There is a significant difference in the level of entrepreneurial intention of business students compared to non-business students but the value is not large
Marie Mbuya, Schachtebeck (2016)	The Theory of Planned Behavior (TPB)	Personal Attitude (PA), Subjective Norm (SN), Entrepreneurial Capacity (EC) and overall selfperceived EI (Entrepreneurial Intent)	the Faculty of Management, at the University of Johannesburg	<p>Both entrepreneurial and non-entrepreneurial students have the same views and believe that entrepreneurship is a career choice in the future (personal attitude)</p> <p>Both entrepreneurial and non-entrepreneurial students believe that entrepreneurship is the right career choice if they are</p>

				able to find opportunities and available resources. Entrepreneurship students show more entrepreneurship than non-entrepreneurial students
Y. Abiodun, O. Oyejoke (2017)		Entrepreneurship skills (ES), Students' Motivation (SM), Parental Occupational (PO), Entrepreneurial Intentions (EI), Age, Gender	Olabisi Onabanjo University (OOU) and Tai Solarin university of Education (TASUED)	<ul style="list-style-type: none"> ▪ There is a positive and significant influence between ES and EI ▪ There is a positive and significant influence between SM and EI ▪ There is significant and negative influence between PO and EI ▪ There is no significant difference in entrepreneurial intentions between men and women ▪ There is no significant difference in student entrepreneurship intent based on discipline ▪ There is no significant difference in student entrepreneurship intentions based on age group
Natrah Abbas (2013)	The Theory of Planned Behavior (TPB)	Subjective norm, Attitude toward behavior, perceived behavior control, entrepreneurial intention	three engineering faculties: the civil engineering faculty, the electrical	There are different entrepreneurial intentions to students in three engineering majors The highest

			faculty, and the mechanical faculty in Malay	intentions of entrepreneurship are electrical engineering students and civil engineering students, and finally mechanical engineering students
Boyd, Fietze, Phipsen (2015)	The Theory of Planned Behavior (TPB)	Age, Gender, Marital status, Regular job, Nationality, Level of studies, fields of study	the University of Southern Denmark	<ul style="list-style-type: none"> ▪ All students have the desire to establish their own business. However, Business, Economics and Law (BECL) students have a higher desire to start a business than natural Sciences and Medicine students (NSM) and Social Sciences (SSC)

Based on table 1 it is seen that most of the studies have stated that the intention of entrepreneurship in business students is higher than for non-business students although the difference level is not too high. This is because individuals who take entrepreneurship education classes have greater entrepreneurial intent than those who do not take entrepreneurship education classes (Galloway and Brown, 2002). Individuals who hold high knowledge, skills, and competencies will perform better than those with low education (Ployhart and Moliterno, 2011).

Like the entrepreneurship intention study conducted by Natrah Abbas (2015) on students in three engineering majors University of Malaysia, where it was found that there is a degree of difference in intentional entrepreneurship among students in all three majors. Where, students of electrical engineering have a higher level of intention than students of civil engineering and mechanical engineering. Meanwhile, mechanical engineering has the lowest intentions of entrepreneurship. This indicates that engineering students have a degree of entrepreneurial intentions at a moderate level. Generally, students from non-business majors have a lower level of intention than business-oriented students (Wennberg & Berglund, 2008). There are five elements that contribute in weakening the entrepreneurial intentions within the student that are educational resources, learning methods, motivation in training, regulations, future views and hardware resources. Of the several elements, educational resources receive special attention. Due to lack of educational resources can create less effective learning process of entrepreneurship. Educational resources include weak curriculum, improper course planning process, lack of reference books.

In accordance with research conducted by Ismail, (2010), it was found that non-business students in Malaysian polytechnic are not interested in studying entrepreneurship modules. There are two underlying reasons: first, an entrepreneurial learning model that focuses only on theory and outdated. Second, the applied entrepreneurship curriculum failed to cultivate an

entrepreneurial culture. Only about 20% of teachers have experience in business, have entrepreneurship teaching experience and have attended entrepreneurship training. The minimal number of teachers with experience in business and entrepreneurial learning led to a monotonous, rigid, and theory-oriented learning method.

The condition is similar to that of students at the University of Southern Denmark. The entrepreneurship climate in the university is relatively low. Danish students consider entrepreneurial learning to be less important and the entrepreneurship courses offered only partially improve entrepreneurial understanding. They are only interested when the campus offers seminars with themes such as innovation and exploring business ideas, business planning, and general entrepreneurship and are somewhat uninterested in the offer of continuing the family enterprise.

This confirms that universities should position themselves as entrepreneurial centers. The pedagogical approach at the university is considered effective in assisting students in determining career options. Entrepreneurship education programs that include interesting learning elements such as developing virtual companies, providing specialized training on new business start-up strategies, conducting seminars that can raise awareness and foster entrepreneurial spirit in students. On the other hand, the collaboration between higher education institutions and business actors is still low. Whereas success story of business actors can stimulate awareness and develop entrepreneur spirit among students. But it is rare, because first, it is difficult to get commitment of business actors. Many business actors do not have time to discuss other than their business interests. Second, low incentives. Incentives offered by educational institutions to business actors as resource persons are still based on their level of education. If their education level is lower than the incentives. Though they have included successful entrepreneurs (Natrah Abbas, 2015)

Meanwhile, Susanj et al. (2015) studying business students and non-business students at Rijeka, Osijek and Zagreb, Eastern European faculty found that entrepreneurial characteristics could influence entrepreneurial intentions if individuals have entrepreneurial self-efficacy And the desirability of high entrepreneurship. Entrepreneurial desires may arise if reinforced by the combined training in any entrepreneurship education program. Entrepreneurship education is able to empower individuals with high knowledge, skills and competence in the field of entrepreneurship that ultimately allows them to have self-efficacy and high self-esteem

The entrepreneurship education that business students have acquired to grow entrepreneurial intentions after they graduate from college. Because they feel that entrepreneurship education can be used as stock in managing and developing business. Higher education can foster self-efficacy and hope for positive business outcomes (Pfeifer, Sarlija, and Zekic Susac, 2014). Entrepreneurship education and training provide positive and significant results with a number of entrepreneurial intentions linked to human capital assets and entrepreneurial outcomes (Martin, McNally and Kay, 2013). In fact, entrepreneurship training programs are able to develop competencies and intentions of doing business.

The degree of difference in entrepreneurial intentions between business students and non-business students also occurs in college students who have graduated in one of South African universities. However, the difference rate is low. This is because in South Africa, unemployment and poverty rates are so high that they are forced to do business. Thought is supported by the fact that how difficult friends, relatives or colleagues who have graduated from college get a job in a company. Faced with such a disadvantage situation forced them to think of starting their own business (Chan & Quah, 2012; Shariff & Saud, 2009). On the other hand, this low level of entrepreneurial intentions is driven by attitudes attributed to the younger generation. This group tends to be more adventurous and free than the older generation who tend to think more conservative. Advances in technology and ease of access to information and networks stimulate them to start businesses.

However, there are differences of opinion related to knowledge and self-efficacy that need to be considered in generating entrepreneurial intentions. Non-business students sometimes overestimate their ability to identify business opportunities and challenges and create their own businesses. Whereas business students who had previously received entrepreneurial education and training led to a high understanding of the risks, conditions and challenges of becoming successful entrepreneurs, being anxious and afraid of stepping in to start a business. It is this condition that causes different levels of entrepreneurial intentions between business and non-business students (Eresia-Eke, Shaun, Jean-Claude, 2016).

In Nigeria, it was found that there was no significant difference in student entrepreneurial intentions based on disciplinary levels (Y. Abiodun & O. Oyejoke, 2017). The educational process does not have a beneficial or adverse effect on entrepreneurial intentions. The intention of entrepreneurship can be formed by several other factors besides entrepreneurship education such as family background, low job opportunity, the influence of friends and relative success.

Finally, between business students and non-business students there are still different entrepreneurial intentions. Although, the average study shows a low rate difference result. Business students show greater entrepreneurial intentions than non-business students because they have gained entrepreneurship education, attended courses, and are accustomed to academic tasks related to entrepreneurship so they have better knowledge, skills and competencies in starting a business. Although, not entirely a high level of competence can stimulate individuals in starting a business. Sometimes individuals who increasingly understand about the risks, terms, and challenges in business make them fearful and anxious in starting a business. On the other hand, entrepreneurial intentions arise from self-motivation to start a business because of unfavorable conditions such as the difficulty of finding employment, termination of employment. The desire to be more flexible in terms of time, energy, and income also encourages individuals to intend to do business regardless of which individual comes from which discipline.

CONCLUSION

Entrepreneurship is a crucial source in improving and developing a nation's economy. The study sets out to define and identify what constitutes a degree of difference in entrepreneurial intentions between business students and non-business students. The degree of difference occurs because of the different levels of entrepreneurship education resources that have been obtained during college. The average business student has better knowledge, skills, and competence related to entrepreneurship than non-business students. Competence is derived from entrepreneurship education and training. An interesting learning model also stimulates them to always follow entrepreneurial learning. The high knowledge and insight into entrepreneurship leads to self-efficacy and high self-esteem to start a business. The most obvious finding emerging from this research is that the level of entrepreneurial intentions is not only influenced by the background of discipline and entrepreneurship education. Sometimes these two things are less able to stimulate the intentions of entrepreneurship, but motivational factors (such as desire for security, need for more income) and contextual (such as cultural, economics, political) also need to be considered in encouraging entrepreneurial intentions in students. This research will be the basis of further studies that can help researchers to consider other factors in predicting the degree of difference in student entrepreneurial intentions. On the other hand, it can be used as a basis for higher education policy makers to pay more attention to entrepreneurship-related education curriculum more interesting.

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