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Submission date: 07-Jul-2021 04:04PM (UTC+0700)

Submission ID: 1616698476

File name: Entrepreneurial_Mindset,_Orientation,_and_Performance.pdf (383.9K)

Word count: 11048

Character count: 61998

Entrepreneurial Mindset, Orientation, and Performance of University Students in Indonesia

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ABSTRACT

Entrepreneurship plays an important role in determining the level of economic growth of a country. This study aims to explore the impact of entrepreneurial mindset on innovativeness, risk-taking, competitive aggressiveness, autonomy, and proactiveness on entrepreneurial performance. This research uses Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the data. It gathered data of 364 respondents, which were the bachelor students of management program of public universities in Surabaya, Indonesia. The results show that entrepreneurial mindset has a significant impact to innovativeness, risk-taking, competitive aggressiveness, autonomy, and proactiveness. It also enhances positive and significant impact to entrepreneurial performance of the students. It implies that the entrepreneurship education of public universities in Surabaya, Indonesia succeeds to change the students' mindset and orientation. The government needs to increase entrepreneurship education centers and business incubator centers at various universities.

Key words:

Autonomy, competitive aggressiveness, innovativeness, proactiveness, risk-taking

ABSTRAK

Kewirausahaan memegang peran penting dalam menentukan tingkat pertumbuhan ekonomi suatu negara. Studi ini menggali dampak pola pikir kewirausahaan terhadap inovasi, pengambilan risiko, agresivitas kompetitif, otonomi, dan daya proaksi terhadap kinerja kewirausahaan mahasiswa. Penelitian ini menggunakan Partial Least Squares Structural Equation Modeling (PLS-SEM) untuk menganalisis data. Penelitian ini mengumpulkan data dari 364 responden, yang merupakan mahasiswa sarjana program manajemen dari universitas negeri di Surabaya, Indonesia. Hasil penelitian menunjukkan bahwa pola pikir kewirausahaan memiliki pengaruh yang signifikan terhadap daya inovasi, pengambilan risiko, agresivitas kompetitif, kemandirian, dan daya proaktif. Hal ini juga meningkatkan kinerja kewirausahaan mahasiswa secara positif signifikan. Implikasinya ialah pendidikan kewirausahaan di perguruan tinggi negeri di Kota Surabaya, Indonesia telah berhasil mengubah pola pikir dan orientasi mahasiswa. Pemerintah perlu memperbanyak sentra pendidikan kewirausahaan dan pusat inkubator bisnis di berbagai perguruan tinggi.

1. INTRODUCTION

Entrepreneurship is an interesting field as a career. World Economic Forum concludes that over a third of Indonesian young people want to be entrepreneurs (Wood, 2019). On the other hand, the choice as an entrepreneur as career stood at 26% from 20% in 2009 (GMAC, 2014). It adds what shown by the survey against 37,000 students from 14 countries by the International Survey of Collegiate Entrepreneurship in 2006, states that 15.4% of students choose entrepreneur as a career within the first five years after graduation and for the next five years the number increased to 50.1% (Szerb & Imreh, 2007). In this study, we draw some lessons from Indonesia's experience with the focus of the public university students. It offers an interesting case study because the growth of entrepreneurship in the country in general and university students, in particular, do not tally to the entrepreneurial performance. Entrepreneurship which is encouraged in university-level education by various countries in the world and also in Indonesia has not been followed by an increase in entrepreneurial performance of Indonesia's students.

Gustiawan et al. (2014) indicated that the entrepreneur in Indonesia was still small although the development of entrepreneurship is critical to the country. They stated that 2% was an ideal figure for entrepreneurs in any country from the total population. In the case of Indonesia, 400,000 entrepreneurs were identified of which about 0.08% were low comparatively to America (12%), Singapore (7%), and Malaysia (6%). From policy perspectives, entrepreneurship help to reduce unemployment while the ability of entrepreneurs needs to be developed and enhance particularly among the young people.

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1 Motivated by the importance of entrepreneurial performance, this article is set to explore the impact of an entrepreneurial mindset, innovativeness, risk-taking, competitive aggressiveness, autonomy, and proactiveness on entrepreneurial performance of undergraduate management students of public universities. The concept of entrepreneurial orientations which contains some variables such as innovativeness, risk-taking, competitive aggressiveness, autonomy, and proactiveness are adopted from Miller (1983), Lumpkin and Dess (2001), and Rauch et al. (2009) who found that these variables have positive and significant relationships towards entrepreneurial performance. Therefore, the main novelty of this research is to comprehensively examine various aspects of entrepreneurial orientation towards entrepreneurial performance. What do happen with university students of Indonesia who have been studying entrepreneurship? Has the entrepreneurship education in Indonesia universities succeeded to change their mindset and orientation? University students are potential generation in the future of a country. All efforts to create a wonderful generation need to be done seriously and consistently. Entrepreneurship is one of the best solution. This study aims and benefits to improve the entrepreneurship education in Indonesia universities.

2. THEORETICAL FRAMEWORK AND HYPOTHESES

Entrepreneurship starts from mindset. Dhliwayo and Van Vuuren (2011) stated that entrepreneurial mindset was a way of thinking about business and the opportunity to benefit from the uncertain circumstances. According to Valerio et al. (2014), entrepreneurial mindset referred to socio-emotional abilities and overall awareness towards entrepreneurship which related with entrepreneurial motivation and the success that would come as an entrepreneur. Indicators used to describe the entrepreneurial mindset in this study are the ability to identify business opportunities and the amount of thinking to entrepreneurship (Solesvik et al., 2013). One possible outcome of entrepreneurship education is a change in students' entrepreneurial mindset (Jung & Lee 2020). Kouakou, Li, Akolgo, and Tchamekwen (2019) highlighted the importance of an entrepreneurial mindset to students at their youngest age. By doing so, they develop entrepreneurial experiences, skills, and abilities to overcome entrepreneurial challenges. This article offers a clear insight into the topic of an entrepreneurial mindset to ease individuals and organization involved in interactive entrepreneurial activities continuously.

2.1 Innovativeness

Innovativeness is the ability to innovate. There are several definitions of innovativeness. According to the West and Anderson, innovativeness could be defined as the ability to create effective implementation of new processes and products for the organization and was designed to give you an advantage for the organization and stakeholders in it (Baregheh et al., 2009). Galunic and Rodan claimed that innovativeness was the ability to produce continuous innovation (Quintane et al., 2011). Rogers defined innovativeness as how fast a person or organization in adopting innovations compared against another person or organization (Yildiz et al., 2014).

There are three indicators of Innovativeness, which are 1) Openness towards new things. Hurt et al. (1977) described innovativeness as a willingness to try new things (Goldsmith & Foxall, 2003); 2) The level of creativity. Kirton declared that innovative people would search for and combine various information, examines problems they experienced, and produces a thought or idea that is unconventional (Lee, 2008); and 3) The ability to innovate. The power to innovate is a further phase of creativity. It is a comparison between the study in quickly manner with the embodiment of innovation practices, particularly socio-organized practices. The power of innovation is an ability to understand socially, accept, estimates, disseminate, implement, and use innovation (Mikhailova, 2015).

2.2 Risk-Taking

Byrnes (1998) stated that risk-taking is an involvement in a variety of behaviors that were associated with some possibilities against unwanted results (Boyer, 2006). According to Hyrzky and Tunnanen, the definition of risk-taking was a process of decision making and an act without enough knowledge about the obtained results (Noer et al., 2013). According to Wenhong and Liuying (2010), risk-taking was a tendency to take action against something that's rated as risky.

There are several indicators to know risk-taking. These indicators include 1) The courage of facing new things. Sung and Hanna stated that young entrepreneurs were more willing to take risks. They have the urge to invest in new goods/services and enter into new markets (Wang & Poutziouris, 2010); and 2) The

courage of facing a difficult situation. Brockhaus declared that the tendency of risk-taking is a possibility to receive profit related to success in certain situations. It is required by a person before putting himself on the consequences associated with failure (Wenhong & Liuying, 2010).

2.3 Competitive Aggressiveness

Competitive aggressiveness is associated with a way to confront the threats and challenges of the external environment (Gamble et al., 2013). Lumpkin and Dess (2001) stated that the competitive aggressiveness was the intensity of the desire to beat your opponent. Noer et al. (2013) stated that competitive aggressiveness was a responsive attitude towards any threat as a form of resistance and effort to win the competition.

According to Chen (1996), there are three indicators of competitive behavior (Stambaugh et al., 2011):

1) Awareness of competitors. Awareness includes analysis of the opponents' strength, stalking the opponents' competitive actions, and the dissemination of information about the opponent. It is about knowing the condition of opponents; 2) Motivation to compete. There are two characteristics of motivation in the company that owns high competitive aggressiveness. The first is beating competitors who are crucial for aggressive companies. Other companies might choose different things as references. They want to know their performance, internal purpose, and satisfaction with the reached target. The aggressive companies seek information of their competitor. They also compare the performance of their own with the others. The second one is a position of opponents which put oneself in difficult situation as appropriate and necessary steps to improve its performance; and 3) Capability to compete. The intended capability is the ability to deliver attacks to the opponent and deflect the opponent's attack. Part of this ability is an existed resource as funds resulting from past good performance. The company is also aggressively identifying available resources and prioritize the resource to attack while the less aggressive company saw the same resource base. Aggressive companies are better to use the available resources rather than to wait for achieving an optimal point.

2.4 Autonomy

According to Metaal, a definition of autonomy was freedom of choice without depending on other parties (Van Gelderen & Jansen, 2006). In another study, Brooke also revealed almost a similar definition that autonomy was the degree of freedom of a person without the need for approval from others (Barnabas and Mekoth, 2010). Feinberg stated that autonomy had at least four meanings: the capacity to govern ourselves, the conditions to set up ourselves, the ideal state to regulate ourselves, and the authority to rule ourselves (Mitcham, 2005).

There are several indicators of autonomy, which are 1) Independent. The ability to do things without being effected by other people (Van Gelderen & Jansen, 2006); 2) Self-learning. Ryan and Deci (2000) said that someone independent would involve himself to learn on an ongoing basis about himself (Weinstein et al., 2012); and 3) Determination. It is the ability to set and to decide whether the regulations, targets, and processes that occur in his business (Van Gelderen & Jansen, 2006).

2.5 Proactiveness

Crant defined proactiveness as taking the initiative to improve the circumstances of (Unsworth & Parker, 2003). According to Wiklund and Shepherd proactiveness was looking far ahead and have the determination to identify and respond to opportunities (Wong, 2012). Teece stated that in the entrepreneurship literatures, proactiveness had definitions as the ability to anticipate and feel a vague signs and act to the needs in the future ahead of existing competitors to gain a competitive advantage (Sundqvist et al., 2012). Crant (2000) stated that proactiveness could be seen from some behaviors. The behaviors could be used as gauges or indicators for proactiveness: The ability to pick the opportunity quickly; Courage start a change; The desirability of creating favorable conditions.

2.6 Entrepreneurial Performance

Van Vuuren said that entrepreneurial performance was the achievement of several entrepreneurial objectives (Sebikari, 2014). According to Dollinger, the entrepreneurial performance was something done by an entrepreneur with high initiative to obtain the goal of entrepreneurship (Tseng, 2013). Callaghan and Venter (2011) mentioned that entrepreneurial performance was something that emphasizes on achieving something and provide continous satisfaction.

There are several indicators of entrepreneurial performance, which are 1) Need for achievement.

McClelland stated that the need for achievement that was often described as a passion to deliver good performance and to gain a feeling of achievement. It is one of the specific characters of entrepreneurship. Collins et al. stated that the need for achievement had a positive correlation with corporate success (Khan et al., 2015). Successful entrepreneurs have high scores in need for achievement (Oosterbeek et al., 2010); 2) The enthusiasm for entrepreneurship. Empirical findings using non-economic indicators to measure the performance namely enthusiasm in work, which represents positive aspect that belonging to someone (Leitao & Franco, 2008), and 3) The realization of the thinking to entrepreneurship. Dhliwayo and Van Vuuren (2011) stated that entrepreneurship would ultimately culminate in the creation or realization of entrepreneurial and strategic management plan that would be resulting in the best performance.

2.7 Entrepreneurial Mindset and Innovativeness

Earlier research claimed that entrepreneurial mindset affects significantly innovativeness. Previous research by Herbig et al. stated that innovation required three basic components, namely infrastructure, capital, and the ability of the entrepreneur (Zhao, 2005). Herbig et al. indicate that entrepreneurial mindset affects innovativeness. Other research by Slater states that entrepreneurship tailored to the market-oriented culture will contribute significantly to successful innovation (Ndubisi, 2014; Sutanto et al., 2019). Research by Wang and Zang (2005) state that entrepreneurship is one of the major areas relevant in human resource and innovation. Gonthier and Chirita (2019) found that several factors that enable the entrepreneurial spirit fostered by corporate incubators to boost the innovation capability in their parent companies. Based on the statements, it can be formulated as the following hypothesis:

H₁: Entrepreneurial mindset significantly affects the innovativeness of students of public universities in Surabaya, Indonesia.

2.8 Entrepreneurial Mindset and Risk-Taking

Earlier researches claim that entrepreneurial mindset affect significantly to risk-taking. Wenhong and Liuying stated systems thinking owned by the entrepreneur would affect the tendency of risk-taking. Related to entrepreneur behavior concerning the family business, Zahra states that ownership is associated with risk-taking (Wang & Poutziouris, 2010). In his research, Segal et al. state that an entrepreneur receives personal financial risk existing but directly benefits from the potential success. It indicates that the entrepreneurial mindset has a significant effect on risk-taking (Sutanto et al., 2019). Further, Jemal (2020) found that entrepreneurial mindset affects positively and significantly the performance of SMEs and parameters includes: seeking opportunity, creativity, innovation, risk taking, pro-activeness, and alertness to take action. Based on the statement, it can be formulated as the following hypothesis:

H₂: Entrepreneurial mindset significantly affects the risk-taking of students of the public universities in Surabaya, Indonesia.

2.9 Entrepreneurial Mindset and Competitive Aggressiveness

Previous researches suggest that entrepreneurial mindset affects significantly competitive aggressiveness. Stevenson's research cited by Piperopoulos (2012) showed that entrepreneurship was somehow becoming synonymous with competitive aggressiveness. Through the internal factors that effected by the entrepreneurial mindset, competitive aggressiveness could be improved. Someone with high competitive aggressiveness would be able to analyze the activities of opponents, looking for loopholes, provide intense competition, and made it a motivation for him to reach a better competition. Neneh (2012) and Sutanto et al. (2019) said that setting the mindset of entrepreneurship was important to sustain the competitiveness of economic organization. Moreover, Paek and Lee (2017) suggested that the dimensions of strategic entrepreneurship, which are environmental sensing, opportunity seizing, strategic flexibility and entrepreneurial orientation play a critical role in competitive advantage of firms. Based on the statement, it can be formulated as the following hypothesis:

H₃: Entrepreneurial mindset significantly affects competitive aggressiveness of students of public universities in Surabaya, Indonesia.

2.10 Entrepreneurial Mindset and Autonomy

Research by McDonald et al. (2008) stated that there was evidence about the manager of subsidiaries who involved in entrepreneurial behavior led to greater autonomy and attachment because of the policy of control

in some multinational companies were not able to detect and/or control such acts. Moreover, Sutanto et al. (2019) found that the entrepreneurial mindset had a significant effect on the autonomy of college students in Malang City, Indonesia. Based on the statement, it can be formulated as the following hypothesis:

H₄: Entrepreneurial mindset significantly affects autonomy of students of the public universities in Surabaya, Indonesia.

2.11 Entrepreneurial Mindset and Proactiveness

Mintzberg said entrepreneurial companies tend to be more engaged in risk than other companies and more proactive in looking for new opportunities (Zhang et al., 2014). Moreover, Sutanto et al. (2019) found entrepreneurial mindset had a significant effect on the proactiveness of college students in Malang City, Indonesia. Based on the statement, it can be formulated as the following hypothesis:

H₅: Entrepreneurial mindset significantly affects the proactiveness of students of the public universities in Surabaya, Indonesia.

2.12 Innovativeness and Entrepreneurial Performance

In their study, Callaghan and Venter (2011) mentioned that innovativeness was one of the dimensions associated with the entrepreneurial performance. Chen et al. (2007) stated that there was a positive relationship between entrepreneurial orientation and performance, wherein the entrepreneurial orientation there were dimensions of innovativeness. It shows that the innovativeness has an impact on performance. Prihandono and Utami (2018) also consider to explore the entrepreneurial in higher education and innovative potential. Moreover, Khalili et al. (2013) and Sutanto et al. (2019) stated that innovativeness had a significant impact on performance. Further, Bor (2018) revealed that entrepreneurial innovativeness has a direct positive relationship with performance of mid-sized firms. Falahat, Tehseen, and van Horne (2018) also revealed that there was a significant positive impact of entrepreneurial innovativeness on three types of business performances namely perceived non-financial, perceived business growth, and perceived performance relative competitors except on financial performance. Further, Linton (2019) highlighted that innovativeness can be meaningfully divided between the attributes of process and outcome. Based on the statement, it can be formulated as the following hypothesis:

H₆: Innovativeness significantly affects the entrepreneurial performance of students of the public universities in Surabaya, Indonesia.

2.13 Risk-taking and Entrepreneurial Performance

Callaghan and Venter (2011) and Sutanto et al. (2019) mentioned that risk-taking was one of the dimensions associated with the entrepreneurial performance. On the other hand, Chen et al. (2007) stated entrepreneurial orientation had a positive relationship to performance. In the entrepreneurial orientation, there were dimensions of risk-taking. It suggests that risk-taking has an impact on performance. Guo and Jiang (2020) also found that a focal firm's new product success benefits most from adopting a concurrently high level of sensing risk-taking and seizing risk-taking when market growth is high but a high level of sensing risk-taking with a low level of seizing risk-taking when market growth is low. Moreover, Linton (2019) highlighted that risk-taking can be meaningfully divided between the attributes of process and outcome. Based on the statement, it can be formulated as the following hypothesis:

H₇: Risk-taking significantly affects the entrepreneurial performance of students of the public universities in Surabaya, Indonesia.

2.14 Competitive Aggressiveness and Entrepreneurial Performance

Callaghan and Venter (2011) and Sutanto et al. (2019) mentioned that competitive aggressiveness was a dimension that was associated with entrepreneurial performance. Chen et al. (2007) stated that there was a positive relationship between entrepreneurial orientation and performance, wherein the entrepreneurial orientation there was a dimension of the competitive aggressiveness. It shows that competitive aggressiveness has an impact on performance. Moreover, Khalili et al. (2013) mentioned that competitive aggressiveness equaled as an effort to lead in performance and beat your opponent. Abdullahi, Kunya, Bustani, and Usman (2019) also concluded that competitive aggressive impacts positively on the financial performance of Nigerian CSMES. On the other hand, Fadda (2018) showed that innovativeness, proactiveness and autonomy were significantly associated with tourism firm performance, whereas risk-taking and competitiveness were not.

While, Kosa, Mohammad, and Ajibie (2018) found the level of influence is increasing as firms are being established in larger cities because the firms in cities have more customers and competitors causing them to generate unique strategies that lead them to outstanding performance. Based on the statement, it can be formulated as the following hypothesis:

H₈: Competitive aggressiveness significantly affects the entrepreneurial performance of students of public universities in Surabaya, Indonesia.

2.15 Autonomy and Entrepreneurial Performance

In their study, Callaghan and Venter (2011) and Sutanto et al. (2019) mentioned that autonomy was one of the dimensions that associated with entrepreneurial performance. Chen et al. (2007) stated that there was a positive relationship between entrepreneurial orientation and performance, wherein the entrepreneurial orientation there was a dimension of autonomy. It shows that autonomy has an impact on performance. While, Yu, Lumpkin, Parboteeah, and Stambaugh (2019) found that in dynamic environments, autonomy is associated with improved performance in the United States, while in Taiwan, firms in dynamic environments fared worse with increasing autonomy. Based on the statement, it can be formulated as the following hypothesis:

H₉: Autonomy significantly affects the entrepreneurial performance of students of the public universities in Surabaya, Indonesia.

2.16 Proactiveness and Entrepreneurial Performance

Costa and McCrae stated that openness to experience was the proactive search and an appreciation for the experience itself as well as tolerance over the exploration of new things (Smith, 2013). On the other hand, Callaghan and Venter (2011) and Sutanto et al. (2019) mentioned that proactiveness was one dimension that was associated with the entrepreneurial performance. In the study, it was mentioned that openness to experience is one of the factors influencing entrepreneurial performance. It can be concluded that proactiveness has an impact on entrepreneurial performance. Chen et al. (2007) also stated it had a positive relationship between entrepreneurial orientation taking action against performance, wherein the entrepreneurial orientation there was a dimension of proactiveness. Linton (2019) highlighted that proactiveness can be meaningfully divided between the attributes of process and outcome. It shows that proactiveness has an impact on performance. Based on the statement, it can be formulated as the following hypothesis:

H₁₀: Proactiveness significantly affects the entrepreneurial performance of students of the public universities in Surabaya, Indonesia.

2.17 Research Framework

All the developed hypotheses are shown in Figure 1.

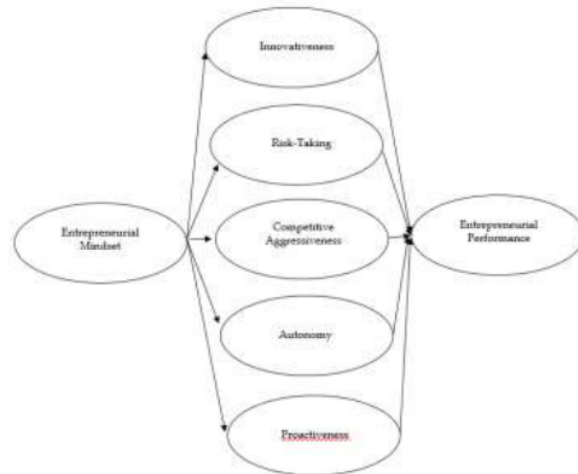


Figure 1. Research Framework

3. RESEARCH METHOD

The population was the bachelor students of the management program of the public universities in Surabaya, Indonesia. There were four establish public universities in Surabaya, which had been offering an entrepreneurship education for their students. The total amount was 4,036 shown in Table 1. It used a purposive sampling.

The criteria set out against the respondents to get the results by the research objectives. They were bachelor students of the management program of the public universities in Surabaya, Indonesia, who were/ are ever engaged in entrepreneurship. The 364 samples were taken from the population and determined using Slovin's formula. The questionnaires were disseminated directly to the students of the universities. In order to control bias, the questionnaires was tried out in advance on some respondents. Screening of respondents was conducted orally by asking the respondents one by one and strengthened with the existing questions in the questionnaire.

The study utilize the PLS-SEM to analyze the data. The Partial Least Square function is divided into two groups, namely the inner model and the outer model. The outer model is more towards testing the validity and reliability. While the inner model is more towards regression, which is to assess the effect of one variable on other variables. Model fit on Partial Least Square is not like SEM where there is a global match, such as RMSEA, AGFI, PGFI, PNFI, CMIN / DF, etc. In PLS there are only two criteria for assessing the fit of the model, namely the fit of the outer model which is called the outer model and the inner fit which is called the inner model (Ghozali, 2014).

Table 1. Amounts of bachelor students of management program of public universities in Surabaya

University	Number of Students
Universitas Airlangga	2,026
Universitas Negeri Surabaya	997
Institut Teknologi 10 November Surabaya	109
Universitas Pembangunan Negeri Veteran Jawa Timur	904
Total Number of Students	4,036

Source: <http://forlap.dikti.go.id/>

4. DATA ANALYSIS AND DISCUSSION

4.1 Variable Descriptive Analysis

All responses of the respondents to each variable were designed by Likert scale from 1 to 5. It was set categories of variables by this formula as shown in Table 2.

$$\text{Range} = \frac{\text{Maximum Value} - \text{Minimum Value}}{\text{Amounts of Category}} \quad [1]$$

$$\text{Range} = \frac{5 - 1}{3}$$

$$\text{Range} = 1.33$$

Table 2. Interval of mean scores

Range	Remarks
1,00-2,33	Low
2,34-3,67	Medium
3,67-5,00	High

By using the category, then the evaluation of the answers for each of the variables can be described as follows.

Table 3. The description of entrepreneurial mindset

Item	Statement	Mean	Remark
X _{1.1}	I want to create my own workplace	3,64	Medium
X _{1.2}	I have an aspiration to be an entrepreneur	3,32	Medium
X _{1.3}	I tend to seek business opportunities	3,84	High
X _{1.4}	I can identify a business opportunity based on the needs of consumers in the market	3,57	Medium
<i>Entrepreneurial Mindset (X₁)</i>		3,59	Medium

Table 3 notes that the average value of the entrepreneurial mindset is 3.59. It means that the entrepreneurial mindset of students of the public universities in Surabaya has value medium. Table 3 also notes that the highest average value of the indicators is 3.84 in the statement "I tend to seek business opportunities." The lowest average value of the indicator is 3.32 in the statement "I have an aspiration to be an entrepreneur." These results indicate that respondents tend to seek business opportunities despite the aspiration to be an entrepreneur is not so great. It attributes to the respondent's efforts to earn an income or meet his needs. The difference between the statements "I tend to seek business opportunities" with the other states also far enough to the point of being in the different categories (high, medium, low). It indicates that most respondents tend to think more about how to get a business opportunity in a wide variety of way whether to become entrepreneurs or not. It implies that the education succeeds to change the students' mindset of entrepreneurship (Jung & Lee, 2020; Wardana et al., 2020).

Table 4. The description of innovativeness

Item	Statement	Mean	Remarks
Z _{1.1}	I tend to accept new things around me	3,31	Medium
Z _{1.2}	I have an innovative idea that can be implemented	3,50	Medium
Z _{1.3}	I have unique ideas that haven't been done before	3,34	Medium
Z _{1.4}	I can implement the unique ideas that I have	3,49	Medium
<i>Innovativeness (Z₁)</i>		3,41	Medium

Table 4 shows the average value of innovativeness is 3.41. It means students' innovativeness in the public universities in Surabaya has value medium. Besides, the highest average value of the indicators is 3.50 "I have innovative ideas to be implemented." The lowest average value of the indicator is 3.31 in "I am likely to receive new things around me." These results indicate that respondents have different ideas to be applied

in their business. The entire statement is in the category of the medium. It means that innovativeness possibly is improved further.

Table 5. The description of risk-taking

Item	Statement	Mean	Remarks
Z _{2.1}	I dare go to an entirely new place for me all alone	3,65	Medium
Z _{2.2}	I have a willingness to try new things	3,66	Medium
Z _{2.3}	I have the courage to take the decision with minimal information	3,77	High
Z _{2.4}	I felt challenged to do things outside of my comfort zone	3,69	High
Z _{2.5}	I have the desire to conquer my greatest fear	3,71	High
<i>Risk-taking (Z₂)</i>		3,69	High

Based on Table 5 can be noted that the average value of the variable risk-taking is 3.69. It means the risk-taking of students of the public universities in Surabaya has a value of high. The highest average value of the indicator is 3.77 in the statement I dare to decide with minimal information. The lowest average value of the indicator is 3.65 on the statement of I dare go to an entirely new place for me all alone. Respondents take decisions with minimal information and illustrate that the respondent takes their decision quicker. Table 5 also pointed out that the existence of the respondent towards new things is medium. It is similar to the variable description analysis of innovativeness. The respondents need to enhance adaptation to new things.

Table 6. The description of the competitive aggressiveness

Item	Statement	Mean	Remarks
Z _{3.1}	I am trying to find information to know the existence of competitors for my business	3,42	Medium
Z _{3.2}	I am trying to find information about my business competitors	3,31	Medium
Z _{3.3}	I have the desire to grow bigger than competitors	3,37	Medium
Z _{3.4}	I made the difference in the ability with competitors as a motivation to compete	3,41	Medium
Z _{3.5}	I have the ability to compete with business competitors	3,35	Medium
Z _{3.6}	I can overtake the position of the competitors who have higher business position	3,37	Medium
<i>Competitive Aggressiveness (Z₃)</i>		3,37	Medium

Based on Table 6 can be noted that the average value of the variable competitive aggressiveness is 3.37. It means the competitive aggressiveness of students of the public universities in Surabaya has a value the medium. Besides, the highest average value of the indicator is 3.42 in the statement I am trying to find information to know the existence of competitors for my business. The lowest average value is 3.31 on I am trying to find information about my business competitors. Respondents tend to strive to recognize the surrounding environment despite the statement with the highest value remained in the category of "Medium". All Statements about competitive aggressiveness are medium. It indicates that respondents tend to be less concerned with competitors to compete better. Lack of concern for the competitors to compete can come from ego and focus on their own business.

Table 7. The description of the autonomy

Item	Statement	Mean	Remarks
Z _{4.1}	I work without relying on others	3,34	Medium
Z _{4.2}	I am working without affected by other people's assumptions	3,49	Medium
Z _{4.3}	I believe with the my ability to resolve the job	3,41	Medium
Z _{4.4}	I work in a field that I've mastered	3,50	Medium

Z _{4.5}	I can specify the time limit to finish the job	3,45	Medium
Z _{4.6}	I can determine the target of achievement for myself	3,55	Medium
<i>Autonomy (Z₅)</i>		3,46	Medium

Based on Table 7 can be noted that the average value of the variable autonomy is 3.46. It means the autonomy of students of the public universities in Surabaya is medium. Besides, the highest average value of the indicator is 3.55 can determine the achievement target. The lowest average is 3.34 of I work without relying on others. These results show that determine the targets for ourselves is easier to do than the other statements. All statements regarding autonomy are in the category of the medium. It shows that the autonomy of the respondents needs to improve regarding independence in work.

Table 8. The description of proactiveness

Item	Statement	Mean	Remarks
Z _{5.1}	I work with my own initiatives and without being asked	3,64	Medium
Z _{5.2}	I get the job done faster than the given time	3,56	Medium
Z _{5.3}	I prefer to face rather than avoid the problem	3,60	Medium
<i>Proactiveness (Z₅)</i>		3,60	Medium

Based on Table 8 can be noted that the average value of the proactiveness is 3.60. It means that the proactiveness of students of the public universities in Surabaya is medium. Also, the highest average value of the indicator is 3.64 I am working with the initiative. The lowest average is 3.56 I get the job done faster than the given time. These results indicate that respondents may give rise to the initiative from themselves to do something. All statements about proactiveness are in the category of the medium. It indicates that respondents can enhance the initiative. Tend to work on time and finish it sooner than the given time.

Table 9. The description of entrepreneurial performance

Item	Statement	Mean	Remarks
Y ₁	I am trying to improve my business turnover	3,33	Medium
Y ₂	I am trying to hit the target that I set for my business	3,57	Medium
Y ₃	I have a high spirit in opening my business	3,55	Medium
Y ₄	I am very happy to have a new business	3,46	Medium
Y ₅	I feel excited when finding a new breakthrough for my business	3,50	Medium
Y ₆	I can apply the ideas of my effort into my business	3,59	Medium
<i>Entrepreneurial Performance (Y)</i>		3,50	Medium

Based on Table 9 can be noted that the average value of the variable entrepreneurial performance is 3.50. It means the entrepreneurial performance of students of the public universities in Surabaya has a value of the medium. Besides, the highest average value of the indicator is 3.59 I can apply the ideas of my effort into my efforts. The lowest average is 3.33 I am trying to improve my business turnover. These results indicate that respondents can reasonably implement ideas into their business. All statements regarding entrepreneurial performance are in the category of the medium. It shows that entrepreneurial performance could still be improved, especially in terms of efforts on increasing turnover. More respondents need to pay close attention to the financial aspects.

4.2 Convergent Validity

Campbell and Fisk stated that convergent validity is an agreement between measures of the same construct assessed by different methods (Guo et al., 2008). Convergent validity measurement carries out using the value of the outer-loading. An indicator is said to satisfy the convergent validity if it has the value of outer-loading > 0.5 (Muafi & Roostika, 2014). Here are the values of the outer-loading indicator on each variable dimensions and research.

From Table 10 can be noted that all indicators that make up the research dimensions and variables

have a value of outer-loading > 0.5. Based on these results, all indicators have met the convergent validity. They can be used to do further analysis.

4.3 Discriminant Validity

Campbell and Fisk stated that discriminant validity was the distinctiveness of different constructs (Guo et al., 2008). The measurement of discriminant validity carries out using cross-loading value (Henseler et al., 2015). An indicator that satisfies to discriminant validity of the indicator value of cross-loading on dimensions or from the variables is the largest when compared with other variables or dimensions (Muafi & Roostika, 2014). Table 10 shows the value of cross-loading each indicator.

Table 10 shows that all indicators have the largest cross-loading on their dimension or variables compared to others. Based on these results, the indicators used in this study have had good discriminant validity in drawing up each dimension or variable. Besides using the value of outer loading, testing validity can also be done by looking at the AVE value (Henseler et al., 2015). The indicators used are said to be valid if the value of AVE is above 0.5. The AVE value of indicators are shown in Table 12.

Table 12 shows the AVE value produced by all reflective indicators is above 0.5. Based on those results, all reflective indicators meet the validity requirements. Further examination is construct reliability by looking at the output of the composite reliability or Cronbach's alpha. Constructs are pretty reliable if the value of the composite reliability or Cronbach's alpha is greater than or equal to 0.3. But better if above 0.7 (Muafi & Roostika, 2014). Table 13 shows the output of the Cronbach's alpha. The Cronbach's alpha values of all constructs are good if above 0.7. So all reflective indicators are reliable or meet the reliability test.

Table 10. Outer-loading and cross-loading value

	Autonomy		Competitive Aggressiveness		Entrepreneurial Mindset		Entrepreneurial Performance		Innovativeness		Proactiveness		Risk Taking	
	Outer Loading	Cross Loading	Outer Loading	Cross Loading	Outer Loading	Cross Loading	Outer Loading	Cross Loading	Outer Loading	Cross Loading	Outer Loading	Cross Loading	Outer Loading	Cross Loading
A1	0,7959	0,7959		0,5467		0,5461		0,5975		0,5175		0,4737		0,4828
A2	0,8201	0,8201		0,6369		0,5678		0,6744		0,6531		0,5997		0,4743
A3	0,7668	0,7668		0,6036		0,5338		0,6549		0,6238		0,5504		0,5084
A4	0,7912	0,7912		0,5531		0,5166		0,6429		0,5369		0,5606		0,4943
A5	0,8158	0,8158		0,5391		0,4813		0,6008		0,5414		0,4813		0,4641
A6	0,8905	0,8905		0,5725		0,5049		0,6705		0,5687		0,5504		0,4659
CA1		0,5972	0,8264	0,8264		0,4135		0,5886		0,5833		0,4496		0,4131
CA2		0,5689	0,7884	0,7884		0,5159		0,5771		0,5481		0,4476		0,4531
CA3		0,4548	0,7572	0,7572		0,4279		0,5085		0,5579		0,3978		0,3759
CA4		0,5815	0,7704	0,7704		0,4295		0,6426		0,6305		0,4609		0,4191
CA5		0,5733	0,7871	0,7871		0,4841		0,6115		0,6426		0,4344		0,4249
CA6		0,5876	0,8306	0,8306		0,5039		0,6394		0,5933		0,5688		0,5207
EM1		0,5782		0,5239	0,8471	0,8471		0,6015		0,5112		0,5762		0,7261
EM2		0,4691		0,4505	0,7781	0,7781		0,4832		0,3901		0,5923		0,6463
EM3		0,4804		0,4143	0,7877	0,7877		0,5861		0,4524		0,6646		0,7253
EM4		0,6001		0,5378	0,8891	0,8891		0,6622		0,5492		0,6114		0,8036
EP1		0,6909		0,6291		0,5929	0,7679	0,7679		0,5161		0,5814		0,5711
EP2		0,7103		0,6699		0,6673	0,8824	0,8824		0,6575		0,7145		0,6651
EP3		0,5479		0,5929		0,5434	0,7823	0,7823		0,6596		0,5959		0,5295
EP4		0,5751		0,5046		0,4659	0,7538	0,7538		0,5275		0,6133		0,5345
EP5		0,6302		0,6483		0,6105	0,8471	0,8471		0,6625		0,6169		0,6121
EP6		0,7341		0,6662		0,6156	0,9071	0,9071		0,6635		0,6713		0,6349
I1		0,5807		0,6197		0,4916		0,6057	0,8339	0,8339		0,4731		0,4012
I2		0,6126		0,6826		0,5221		0,6766	0,8388	0,8388		0,5201		0,4901
I3		0,5199		0,5629		0,4211		0,5678	0,8287	0,8287		0,4042		0,3876
I4		0,6427		0,6254		0,4941		0,6369	0,8444	0,8444		0,5174		0,4482
PA1		0,6481		0,5353		0,6795		0,7139		0,5031	0,9148	0,9148		0,6643
PA2		0,5067		0,5774		0,6522		0,6688		0,5325	0,8497	0,8497		0,6555
PA3		0,5511		0,3796		0,5689		0,5947		0,4503	0,8184	0,8184		0,5661
RT1		0,4663		0,4143		0,6926		0,5408		0,3724		0,6233	0,7645	0,7645
RT2		0,5514		0,5337		0,8057		0,6078		0,4943		0,5931	0,8471	0,8471
RT3		0,3708		0,3511		0,6373		0,5564		0,3582		0,5987	0,7991	0,7991
RT4		0,4289		0,3773		0,6585		0,5611		0,3619		0,6251	0,8132	0,8132
RT5		0,5841		0,5499		0,7932		0,6693		0,5163		0,5729	0,8721	0,8719

Table 12 shows the value of Cronbach's alpha of all constructs is good if above 0.7. So all reflective indicators are reliable or meet the reliability test. Besides, the composite-reliability values of all reflective constructs are also good. So all the reflective indicators are reliable or meet the test of reliability.

Table 12. AVE value and reliability test

Variable	AVE	Composite	Cronbach's
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		Reliability	Alpha
Entrepreneurial Mindset	0,6835	0,8960	0,8445
Innovativeness	0,6997	0,9031	0,8573
Risk-taking	0,6725	0,9111	0,8780
Competitive Aggressiveness	0,6301	0,9108	0,8824
Autonomy	0,6631	0,9218	0,8978
Proactiveness	0,7429	0,8964	0,8261
Entrepreneurial Performance	0,6815		

4.4 R-Square

Table 14 shows the R-Square value of each variable. Risk-taking and proactiveness have a high magnitude of the research model (77% and 54%). This result explains that the Indonesian students have strong entrepreneurial characteristics on those two. It may be the education of entrepreneurship has a positive contribution in building their entrepreneurship.

Moreover, the R-Square value of Entrepreneurial Performance is very high. It means that the magnitude of entrepreneurial performance is 80.3%. Autonomy, competitive aggressiveness, innovativeness, proactiveness, and risk-taking explain it. The rest amounted of 19.7% are explained by other factors outside the model that is examined.

4.5 Hypothesis Testing and Discussion

Hypothesis testing is a scientific process to examine if a hypothesis is plausible or not. Hypothesis testing is calculated by searching for the quantity and value of the effect coefficient also t-statistic (Park, 2008). Research hypothesis is acceptable if the value of the t-statistic > 1.96 . Here are the coefficients of effect (original sample estimate) and the value of the t-statistic of each hypothesis on the inner model shown in Table 15. The results support positively the previous one done by Sutanto et al. (2019).

Table 14. R-square value

Variable	R-Square
Entrepreneurial Mindset	
Innovativeness	0,3355
Risk-taking	0,7743
Competitive Aggressiveness	0,3418
Autonomy	0,4180
Proactiveness	0,5440
Entrepreneurial Performance	0,8030

The entrepreneurial mindset has a coefficient of effect on the innovativeness of 0.579 with a t-statistic of 7.696 outweighs 1.96. This result indicates that entrepreneurial mindset has significant effects against innovativeness. A higher entrepreneurial mindset will increase the innovativeness of students of public universities. Based on this result, H_1 is accepted. It supports the earlier researches claimed that entrepreneurial mindset affects significantly to innovativeness. Herbig et al. stated that innovation required three basic components, namely infrastructure, capital, and the ability of the entrepreneur (Zhao, 2005). He indicated that entrepreneurial mindset affected innovativeness. Moreover, Slater stated that entrepreneurship tailored to the market-oriented culture contribute significantly to the successful innovation (Ndubisi, 2014) as well as the research by Wang and Zang (2005) which suggested entrepreneurship was one of the many areas that are relevant in the human resource and innovation. Gonthier and Chirita (2019) also found that several factors that enable the entrepreneurial spirit fostered by corporate incubators to boost the innovation capability in their parent companies.

The entrepreneurial mindset has a coefficient of effect on risk-taking of 0.879 with a t-statistic of 37.235 outweighs 1.96. This result indicates that entrepreneurial mindset has a significant effect towards risk-taking. A higher entrepreneurial mindset increases the risk-taking of students of public universities. Based on this result, H_2 is accepted. It supports the earlier researches that claimed that entrepreneurial mindset affects risk-taking. Wenhong and Liuying (2010) stated systems thinking owned by entrepreneurs would

affect their tendency in risk-taking. Zahra says industrial entrepreneur ownership is associated with risk-taking (Wang & Poutziouris, 2010). In his research, Segal et al. (2005) stated that an entrepreneur received personal financial risk existing in the ownership of a business but was also directly benefit from the potential success of that business. Jemal (2020) found that entrepreneurial mindset affects positively and significantly the performance of SMEs and parameters includes: seeking opportunity, creativity, innovation, risk taking, pro-activeness, and alertness to take action. All these findings indicate that the entrepreneurial mindset has a significant effect on risk-taking.

The entrepreneurial mindset has a coefficient of effect on competitive aggressiveness of 0.585 with a t-statistic of 7.89 greater than 1.96. This result indicates that entrepreneurial mindset has a significant effect against competitive aggressiveness. A higher entrepreneurial mindset increases the competitive aggressiveness of students of public universities. Based on this result, H_3 is accepted.

It supports previous research that suggests that entrepreneurial mindset affects competitive aggressiveness. Stevenson's research (1990), cited by Piperopoulos (2012) showed that entrepreneurship was somehow becoming synonymous with competitive aggressiveness. Through the internal factors, the entrepreneurial mindset improves competitive aggressiveness. Someone with high competitive aggressiveness will be able to analyze the activities of opponents, looking for loopholes, provide intense competition, and made it a motivation for him to reach a better performance. Neneh (2012) said that setting the mindset of entrepreneurship was important to sustain the competitiveness of economic organization. Paek and Lee (2017) also suggested that the dimensions of strategic entrepreneurship, which are environmental sensing, opportunity seizing, strategic flexibility and entrepreneurial orientation play a critical role in competitive advantage of firms.

Table 15. Coefficients of effect and t-statistic

Hypothesis	Effect	Coefficient	t-statistic	Decision
H_1	EM --> I	0,5792	7,6962	Accepted
H_2	EM --> RT	0,8800	37,2351	Accepted
H_3	EM --> CA	0,5846	7,8921	Accepted
H_4	EM --> P	0,7376	14,5843	Accepted
H_5	EM --> A	0,6465	9,8460	Accepted
H_6	I --> EP	0,1945	2,0400	Accepted
H_7	RT --> EP	0,1913	2,6804	Accepted
H_8	CA --> EP	0,1853	2,1528	Accepted
H_9	P --> EP	0,2471	2,3890	Accepted
H_{10}	A --> EP	0,2428	2,1129	Accepted

The entrepreneurial mindset has a coefficient of effect on the autonomy of 0.647 with t-statistic of 9.846 greater than 1.96. This result indicates that entrepreneurial mindset has a significant effect on autonomy. A higher entrepreneurial mindset increases the autonomy of students of public universities. Based on this result, H_4 is accepted. This result supports research of McDonald et al. (2008) stated that there was evidence about the manager of subsidiaries who involved in entrepreneurial behavior led to greater autonomy and attachment because of the policy of control in some multinational companies are not able to detect and or control such acts.

The entrepreneurial mindset has a coefficient of effect on the proactiveness of 0.738 with a t-statistic of 14.584 greater than 1.96. This result indicates that entrepreneurial mindset has a significant effect against proactiveness. A higher entrepreneurial mindset increases the proactiveness of students of public universities. Based on this result, H_5 is accepted. This result supports what Mintzberg found that entrepreneurial companies tended to be more engaged in risk than other companies and more proactive in looking for new opportunities (Zhang et al., 2014).

The innovativeness has a coefficient of effect on the entrepreneurial performance of 0.195 with t-statistic of 2.0399 greater than 1.96. This result shows that there is a significant effect of innovativeness on entrepreneurial performance. A higher innovativeness increases the entrepreneurial performance of students of public universities. Based on this result, H_6 is accepted. This result supports previous scholars. Callaghan and Venter (2011) mentioned that innovativeness was one of the dimensions associated with entrepreneurial

performance. Chen et al. (2007) stated that there was a positive relationship between entrepreneurial orientation and performance, wherein the entrepreneurial orientation there were dimensions of innovativeness. It shows that innovativeness has an impact on performance. Khalili et al. (2013), Linton (2019), and Sutanto et al. (2019) said innovativeness had a significant effect on performance. Further, Bor (2018) revealed that entrepreneurial innovativeness has a direct positive relationship with performance of mid-sized firms. Falahat, Tehseen, and van Horne (2018) also revealed that there was a significant positive impact of entrepreneurial innovativeness on three types of business performances namely perceived non-financial, perceived business growth, and perceived performance relative competitors except on financial performance.

The risk-taking has a coefficient of effect on the entrepreneurial performance of 0.191 with t-statistic of 2.68 greater than 1.96. This result shows that risk-taking providing a significant effect against the entrepreneurial performance. A higher risk-taking increases the entrepreneurial performance of students of public universities. Based on this result, H_7 is accepted. It supports the studies of Chen et al. (2007), Callaghan and Venter (2011), Linton (2019), and Sutanto et al. (2019). It suggests that risk-taking has an impact on performance. Guo and Jiang (2020) also found that a focal firm's new product success benefits most from adopting a concurrently high level of sensing risk-taking and seizing risk-taking when market growth is high but a high level of sensing risk-taking with a low level of seizing risk-taking when market growth is low.

The competitive aggressiveness has a coefficient of effect on the entrepreneurial performance of 0.185 with t-statistic of 2.152 greater than 1.96. This result suggests that the competitive aggressiveness has a significant effect on entrepreneurial performance. A higher competitive aggressiveness increases the entrepreneurial performance in of students of public universities. Based on this result, H_8 is accepted. The result supports the studies of Chen et al. (2007), Callaghan and Venter (2011), Khalili et al. (2013), Kosa, Mohammad, and Ajibie (2018), Sutanto et al. (2019), and Abdullahi, Kunya, Bustani, and Usman (2019). The competitive aggressiveness leads in performance.

Autonomy has a coefficient of effect on the entrepreneurial performance of 0.247 with t-statistic of 2.389 greater than 1.96. This result explains that autonomy has a significant effect on entrepreneurial performance. A higher autonomy increases the entrepreneurial of students of public universities. Based on this result, H_9 is accepted. It supports positively what was found by Callaghan and Venter (2011), Chen et al. (2007), Yu et al. (2019), and Sutanto et al. (2019) previously that autonomy had an impact on performance.

The proactiveness has a coefficient of effect on the entrepreneurial performance of 0.243 with a t-statistic of 2.112 outweighs 1.96. This result explains that the proactiveness has a significant effect on entrepreneurial performance. A higher proactiveness increases the entrepreneurial performance of students of public universities. Based on this result, H_{10} is accepted. It convinces the previous findings of Costa and McCrae (1992) (in Smith, 2013), Callaghan and Venter (2011), Chen et al. (2007), Linton (2019), and Sutanto et al. (2019). It shows that proactiveness has an impact on performance.

5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

Based on the results of this research then it can be concluded the conclusions that entrepreneurial mindset of the Indonesian students has a positive and significant effect against their innovativeness, risk-taking, competitive aggressiveness, autonomy, proactiveness. Therefore, changing mindset of the students to entrepreneurship is a vital effort. It implies the entrepreneurship education of Indonesian public universities has succeeded to change their mindset as well as their entrepreneurial orientation and performance. Promoting entrepreneurship education to develop the entrepreneurial competences and mindsets of citizens has become an important mission on the supranational educational policy agenda (Laalo & Heinonen, 2016).

On the other hand, the Indonesian students' innovativeness, risk-taking, competitive aggressiveness, autonomy, and proactiveness are found has and significant effect against entrepreneurial performance. It convinces that the education of entrepreneurship should not satisfy only to change the students' mindset but also to cultivate all variables in order to reach high performance.

Some variables such as entrepreneurial mindset, innovativeness, competitive aggressiveness, autonomy, proactiveness, as well as entrepreneurial performance of the Indonesian college students have medium mean. Some actions need to be done much more in the future. Improving the entrepreneurship curriculum is extremely necessary. Inviting and connecting to successful business leaders and entrepreneurs is a must. It will open and inspire students' minds and hearts to create a startup business. Furthermore, as sug-

gested by Loboda, Ostrovskiy, and Katernyak (2018) universities should promote entrepreneurship as a career option and provide entrepreneurship experiences to students. The change in the academic culture is a common challenge, which includes the introduction of entrepreneurial thinking and acting as alternatives to traditional teaching approaches and opening up the universities to the surrounding society and industrial ecosystem. The use of ICT and in particular eLearning in delivering entrepreneurial education might be an additional option for expanding the outreach of the course.

This study is only to analyze the entrepreneurship of the students. However, to make sure whether the students really implement their entrepreneurship potential after finishing their education, it needs a further research. Without that, the findings are only a theory.

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