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

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A B S T R A C T

*Entrepreneurship plays a vital role in determining the level of economic growth of a country. This study aims to explore the effect of entrepreneurial mindset on innovativeness, risk-taking, competitive aggressiveness, autonomy, and proactiveness on entrepreneurial performance. Besides that, it also analyses the impact of these five factors on entrepreneurial performance. This research uses Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the data. The data were collected from 364 respondents, consisting of undergraduate students of management program from public universities in Surabaya, Indonesia. The results show that entrepreneurial mindset has a significant effect on innovativeness, risk-taking, competitive aggressiveness, autonomy, and proactiveness. All of these factors, in turn, affect or enhance a positive and significant impact on the students' entrepreneurial performance. It implies that the entrepreneurship education of public universities in Surabaya, Indonesia has succeeded in changing the students' mindset and orientation. The government needs to increase entrepreneurship education centers and business incubator centers at the universities.*

A B S T R A K

*Kewirausahaan memegang peranan penting dalam menentukan tingkat pertumbuhan ekonomi suatu negara. Penelitian ini bertujuan untuk mengetahui pengaruh pola pikir wirausaha terhadap inovasi, pengambilan risiko, agresifitas bersaing, otonomi, dan proaktif terhadap kinerja wirausaha. ance. Selain itu juga menganalisis pengaruh kelima faktor tersebut terhadap kinerja kewirausahaan. Penelitian ini menggunakan Partial Least Squares Structural Equation Modeling (PLS-SEM) untuk menganalisis data. Data dikumpulkan dari 364 responden, yang terdiri dari mahasiswa program sarjana dari program manajemen pada perguruan tinggi negeri di Surabaya, Indonesia. Hasil penelitian menunjukkan bahwa pola pikir entreonpreneurial berpengaruh signifikan terhadap inovasi, pengambilan risiko, daya saing, otonomi, dan proaktif. Dan, semua faktor ini, pada gilirannya, mempengaruhi atau meningkatkan efek positif dan signifikan pada kinerja kewirausahaan siswa. Hal ini menyiratkan bahwa pendidikan kewirausahaan perguruan tinggi negeri di Surabaya, Indonesia telah berhasil mengubah pola pikir dan orientasi mahasiswa. Pemerintah perlu menambah pusat pendidikan kewirausahaan dan pusat inkubator bisnis di perguruan tinggi.Pemerintah perlu memperbanyak sentra pendidikan kewirasusahaan dan pusat inkubator bisnis di berbagai perguruan tinggi.*

## 1. INTRODUCTION

Entrepreneurship, as a career, is interesting. World Economic Forum concludes that over a third of Indonesian young people want to be entrepreneurs (Wood, 2019). On the contrary, the choice for an entrepreneur as a career posits the level at 26% from 20% in 2009 (GMAC, 2014). It can be a reflection as shown by the survey against 37,000 students from 14 countries by the International Survey of Collegiate Entrepreneurship in 2006. It is stated 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). This study refers to some lessons from Indonesia's experience with the focus of the public university students. It offers an interesting case

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study because the growth of entrepreneurship in the country in general and university students, in particular, has not yet reached the entrepreneurial performance. Yet, this entrepreneurship is encouraged in university-level education by various countries globally, and, in Indonesia, it has not been followed by an increase in entrepreneurial performance of Indonesia's students.

Gustiawan et al. (2014) indicated that the number of entrepreneurs in Indonesia was still small, and its development 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, or less than 2% of the total population. It is very low compared to that in America (12%), Singapore (7%), and Malaysia (6%). From the policy perspectives, entrepreneurship can help to reduce unemployment. However, the entrepreneurs' competency needs to be developed for enhancing the young people's entrepreneurship particularly.

This study was motivated by the importance of entrepreneurial performance. Therefore, the researchers try exploring the effect 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 orientation embraces 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). They found that these variables have a positive and significant relationship towards entrepreneurial performance. Therefore, the primary purpose of this research is to comprehensively examine the various aspects of entrepreneurial orientation towards entrepreneurial performance. Besides that, it also attempts to see the university students of Indonesia who have been studying entrepreneurship. It also explores whether entrepreneurship education in Indonesian universities has succeeded in changing their mindset and orientation. University students are the potential generation in the future of a country. It requires some efforts to create a better generation need seriously and consistently, and entrepreneurship is one of the best solutions. This study aims and benefits to improve entrepreneurship education in Indonesian universities.

## 2. THEORETICAL FRAMEWORK AND HYPOTHESES

Entrepreneurship begins from the mindset. Dhliwayo and Van Vuuren (2011) stated that the entrepreneurial mindset is a way of thinking about business and the opportunity to benefit from the uncertain circumstances. Furthermore, according to Valerio et al. (2014), entrepreneurial mindset referred to socio-emotional abilities and overall awareness towards entrepreneurship, related to entrepreneurial motivation and the success that would come as an entrepreneur. This study uses indicators to describe the entrepreneurial mindset, such as the ability to identify business opportunities and the degree of thinking of entrepreneurship (Solesvik et al., 2013). One possible outcome of entrepreneurship education is a change in students' entrepreneurial mindset (Jung & Lee, 2020). Kouakou et al. (2019) highlighted the importance of an entrepreneurial mindset of students at their youngest age. By doing so, they develop entrepreneurial experiences, skills, and abilities to overcome entrepreneurial challenges. This research provides a clear insight into the topic of an entrepreneurial mindset to ease individuals and organizations involved in interactive entrepreneurial activities continuously.

### Innovativeness

There are several definitions of innovativeness. According to Baregheh et al. (2009), innovativeness is defined as the ability to create effective implementation of new processes and products for the organization, and it is designed to provide an advantage for the organization and stakeholders. In this case, Quintane et al. (2011) claim that innovativeness is the ability to produce continuous innovation. Yildiz, Baştürk, and Boz (2014) also define innovativeness as how fast a person or organization in adopting innovations compared against another person or organization.

There are three indicators of Innovativeness: openness towards new things, level of creativity, and ability to innovate. Goldsmith and Foxall (2003) describes innovativeness as a willingness to try new things. Lee (2008) declares that innovative people would search for and combine various information, examines problems they experienced, and produces a thought or idea that is unconventional. The power to innovate is a further phase of creativity. It is a comparison between the studies 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).

**Risk-Taking**

Boyer (2006) stated that risk-taking involves a variety of behaviors, associated with some possibilities against unwanted results. According to Wenhong and Liuying (2010), risk-taking is a tendency to take action against something that is rated as risky. It is a process of decision-making and an act without enough knowledge about the obtained results (Noer et al., 2013).

There are several indicators to understand the concept of 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 urge to invest in new goods/services and enter into new markets (Wang & Poutziouris, 2010); and (2) the courage to face a difficult situation. Wenhong and Liuying (2010) declared that the tendency of risk-taking is a possibility to receive profit related to success in certain conditions. Anyone requires risk-taking before putting himself on the consequences associated with failure.

**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 is the intensity of the desire to beat your opponent. Noer et al. (2013) also stated that competitive aggressiveness is a responsive attitude towards any threat as a form of resistance and effort to win the competition.

According to Stambaugh, Yu, and Dubinsky (2011, there are three indicators of competitive behavior: awareness of competitors, motivation to compete, and capability to compete. 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. There are two characteristics of motivation in the company with 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 target to achieve. The aggressive companies seek information about their competitor. They also compare the performance of their own with the others. The second one is a position of opponents that put oneself in difficult situation as appropriate and necessary steps to improve its performance. The capability to compete is the ability to attack the opponents and deflect the opponents' attack. Part of this ability is an existed resource as funds resulting from the past good performance. The company is also aggressively identifying available resources and prioritizes the resource to attack while the less aggressive company finds the same resource base. Aggressive companies are better to use the available resources rather than to wait for achieving an optimal target.

**Autonomy**

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

There are several indicators of autonomy. First is independent. It is the ability to do things without being effect by other people (Van Gelderen & Jansen, 2006). Second is self-learning. Someone who is independent would involve himself to learn on an ongoing basis about himself (Weinstein et al., 2012). Last is determination. It is the ability to set and decide whether the regulations, targets, and processes occur in his business (Van Gelderen & Jansen, 2006).

**Proactiveness**

Van Gelderen and Jansen (2006) defines proactiveness as taking the initiative to improve the circumstances. Proactiveness is looking far ahead and had the determination to identify and respond to opportunities (Wong, 2012). It is ability to anticipate and feel a vague sign 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 in some behaviors. The behaviors could be used as gauges or indicators for proactiveness: The ability to get the opportunity quickly; courage starts a change; and desirability of creating favorable conditions.

**Entrepreneurial Performance**

Sebikari (2014) stated that entrepreneurial performance was the achievement of several

entrepreneurial objectives. Entrepreneurial performance was done by an entrepreneur with high initiative to obtain the goal of entrepreneurship (Tseng, 2013). Callaghan and Venter (2011) argued that entrepreneurial performance emphasizes achieving something and provide continuous satisfaction.

There are several indicators of entrepreneurial performance: need for achievement, enthusiasm for entrepreneurship, and realization of the thinking to entrepreneurship. Wu and Dagher (2007) stated that the need for achievement that was often described as a passion for delivering good performance and for gaining a feeling of accomplishment. It is one of the specific characters of entrepreneurship. The need for achievement had a positive correlation with corporate success (Khan, Breitenecker, & Schwarz., 2015). Successful entrepreneurs have high scores in need for achievement (Oosterbeek, Van Praag, & Ijsselstein., 2010). Enthusiasm for entrepreneurship is a non-economic indicator used to measure the performance. It represents positive aspect belonging to someone (Leitao & Franco, 2008). 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.

**Entrepreneurial Mindset and Innovativeness**

Earlier research claimed that entrepreneurial mindset significantly affects innovativeness. Zhao (2005) stated that innovation required three basic components, namely infrastructure, capital, and the ability of the entrepreneur. Herbig, Golden, and Dunphy (1994 indicated that entrepreneurial mindset affects innovativeness. Ndubisi (2014) and Sutanto, Sigiols, and Putih (2019) stated that entrepreneurship tailored to the market-oriented culture will contribute significantly to successful innovation. Wang and Zang (2005) proved that entrepreneurship is one of the significant areas relevant in human resource and innovation. Gonthier and Chirita (2019) found that several factors that enable the entrepreneurial spirit to be fostered by corporate incubators to boost the innovation capability in their parent companies. Based on the statements, the hypothesis can be stated as the followings:

**$H_1$**: Entrepreneurial mindset significantly affects the innovativeness of students of public universities.

**Entrepreneurial Mindset and Risk-Taking**

The previous studies claim that entrepreneurial mindset affect significantly to risk-taking. Wenhong and Liuying (2010) stated that systems thinking owned by the entrepreneur would affect the tendency of risk-taking. In regards to entrepreneur behavior concerning the family business, 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 positively and significantly affects SMEs' performance and parameters include seeking opportunity, creativity, innovation, risk-taking, proactiveness, and alertness to take action. Based on the arguments above, this study then states the hypothesis as the following:

**$H_2$**: Entrepreneurial mindset significantly affects the risk-taking of students of public universities.

**Entrepreneurial Mindset and Competitive Aggressiveness**

Previous researchers suggest that entrepreneurial mindset significantly affects competitive aggressiveness. Piperopoulos (2012) shows that entrepreneurship is somehow becoming synonymous with competitive aggressiveness. Through the internal factors affected 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) state that setting the mindset of entrepreneurship was important to sustain the competitiveness of economic organization. Moreover, Paek and Lee (2017) suggest that the dimensions of strategic entrepreneurship, which are environmental sensing, opportunity seizing, strategic flexibility, and entrepreneurial orientation, play a critical role in the competitive advantage of firms. Based on the statement, this study proposes the hypothesis as the following:

**$H_3$**: Entrepreneurial mindset significantly affects competitive aggressiveness of students of public universities.

**Entrepreneurial Mindset and Autonomy**

McDonald, Warhurst, and Allen (2008) provides evidence regarding 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 has a significant effect on the autonomy of college students in Malang City, Indonesia. Based on the statement, the hypothesis can be stated as the following:

**$H_4$**: Entrepreneurial mindset significantly affects the autonomy of students of public universities.

**Entrepreneurial Mindset and Proactiveness**

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 has a significant effect on the proactiveness of college students in Malang City, Indonesia. Based on the arguments above, the hypothesis can be stated as the following:

**$H_5$**: Entrepreneurial mindset significantly affects the proactiveness of students of public universities.

**Innovativeness and Entrepreneurial Performance**

Callaghan and Venter (2011) argued that innovativeness was one of the dimensions associated with the entrepreneurial performance. Chen et al. (2007) stated that the innovativeness has an impact on performance. Prihandono and Utami (2018) also consider exploring the entrepreneurial in higher education and innovative potential. Moreover, Khalili, Nejadhussein, and Fazel. (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 the performance of mid-sized firms. Falahat, Tehseen, and van Horne (2018) also showed 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 could be meaningfully divided between process attributes and outcome. Based on the statement, the following hypothesis can be formulated:

**$H_6$**: Innovativeness significantly affects the entrepreneurial performance of students of public universities.

**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 contrary, Chen et al. (2007) stated entrepreneurial orientation has a positive relationship with 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 could be meaningfully divided between the attributes of process and outcome. Based on the statement; the hypothesis can be formulated as the following:

**$H_7$**: Risk-taking significantly affects the entrepreneurial performance of students of public universities.

**Competitive Aggressiveness and Entrepreneurial Performance**

Callaghan and Venter (2011) and Sutanto et al. (2019) stated that competitive aggressiveness was a dimension that was associated with entrepreneurial performance. Chen et al. (2007) said 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 is equaled as an effort to lead in performance and beat your opponent. Abdullahi et al. (2019) also concluded that competitive aggressive positively affects the financial performance of Nigerian SMEs.

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. However, 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, the hypothesis can be stated as the following:

**$H_8$**: Competitive aggressiveness significantly affects the entrepreneurial performance of students of public universities.

**Autonomy and Entrepreneurial Performance**

Callaghan and Venter (2011) and Sutanto et al. (2019) provide evidence that autonomy is one of the dimensions associated with entrepreneurial performance. Chen et al. (2007) stated that autonomy has an impact on performance. While, Yu et al. (2019) found that autonomy is associated with improved performance in the United States in dynamic environments, while in Taiwan, firms in dynamic environments fared worse with increasing autonomy. Based on the statement, it can be formulated as the following hypothesis:

**$H_9$**: Autonomy significantly affects the entrepreneurial performance of students of public universities.

**Proactiveness and Entrepreneurial Performance**

Smith (2013) stated that openness to experience was the proactive search and an appreciation for the experience itself and tolerance over the exploration of new things. 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 orientations taking action against performance, wherein the entrepreneurial orientation there was a dimension of proactiveness. Linton (2019) highlighted that proactiveness could be meaningfully divided between the attributes of process and outcome. It shows that proactiveness has an impact on performance. Based on the arguments above, the hypothesis can be stated as the following:

**$H_{10}$**: Proactiveness significantly affects the entrepreneurial performance of students of public universities.

Based on the discussion above, the developed hypotheses are shown in Figure 1.

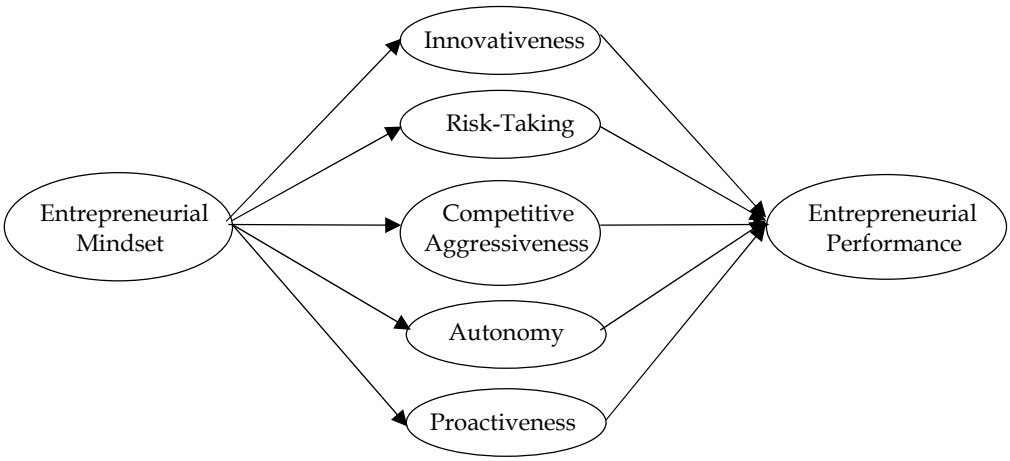


Figure 1. Research Framework

## 3. RESEARCH METHOD

The population of this study consists of undergraduate students of the management program in the public universities in Surabaya, Indonesia. There were four public universities in Surabaya having offered an entrepreneurship education for their students. The total number is 4,036, shown in Table 1. The sample was taken using a purposive sampling.

The criteria used for selecting the respondents are based on the research objectives. They were undergraduate students of the management program of the public universities in Surabaya, Indonesia, who have been involved in entrepreneurship. This study used 364 respondents as the sample taken from the population and determined using Slovin's formula. The researchers distributed the questionnaires to the students of the

universities. To control bias, the researchers tried out the questionnaires in advance on some respondents. Finally, the researchers screened the respondents orally by asking them one by one and done in-depth with the existing questions in the questionnaire.

The study utilized the PLS-SEM to analyze the data. The Partial Least Square function is divided into two groups: the inner and outer models. The outer model is more towards testing the validity and reliability. Yet, the inner model is more towards regression, which assesses 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 model's fit, namely the fit of the outer model that is called the outer model, and the inner fit, which is called the inner model (Ghozali, 2014).

Table 1. Number of Undergraduate Students in Management of Public Universities

| Universities | 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

### Descriptive Analysis of the variables

All responses from 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.

Table 2. Interval of Mean Scores

| Range | Remarks |
|---|---|
| 1.00–2.33 | Low |
| 2.34–3.67 | Medium |
| 3.67–5.00 | High |

$$\text{Range} = \frac{Maximum\ Value - Minimum\ Value}{Numbers\ of\ Category} = \frac{5-1}{3} = 1.33$$

Therefore, the evaluation of the answers for each of the variables can be described in Table 3.

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 |
| *Entrepreneurial Mindset* ($X_1$) | | 3.59 | Medium |

Table 3 indicates 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 a medium value. 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 statement "I tend to seek business opportunities" and the other statements is far enough to be in the different categories (high, medium, low). It indicates that most respondents tend to think more about getting a business opportunity in a wide variety of ways, whether to become entrepreneurs or not. It shows that education succeeds in changing 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 | 350 | 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 |
| *Innovativeness* ($Z_1$) | | 3.41 | Medium |

Table 4 shows the average value of innovativeness is 3.41. It means students' innovativeness in the public universities in Surabaya is said to be medium. Besides, the highest average value of the indicators is 3.50 in "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 decide 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 |
| *Risk-taking* ($Z_2$) | | 3.69 | High |

Table 5 reveals 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 make 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 can compete with business competitors | 3.35 | Medium |
| $Z_{3.6}$ | I can overtake the position of the competitors who have a higher business position | 3.37 | Medium |
| *Competitive Aggressiveness* ($Z_3$) | | 3.37 | Medium |

Table 6 shows 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 "I am trying to find information to know the existence of competitors for my business." The lowest average value is 3.31 in "I am trying to find information about my business competitors." Respondents tend to recognize the surrounding

environment despite the statement with the highest value remaining 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 other 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 being affected by other people's assumptions | 3.49 | Medium |
| $Z_{4.3}$ | I believe with 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 |
| *Autonomy* ($Z_5$) | | 3.46 | Medium |

Table 7 shows 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 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 |
| *Proactiveness* ($Z_5$) | | 3.60 | Medium |

Table 8 shows 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. In addition, the highest average value of the indicator is 3.64 in "I am working with the initiative." The lowest average is 3.56 in "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 suggests that respondents can enhance the initiative and 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 pleased to have a new business | 3.46 | Medium |
| $Y_5$ | I feel excited when finding a breakthrough for my business | 3.50 | Medium |
| $Y_6$ | I can apply the ideas of my effort into my business | 3.59 | Medium |
| *Entrepreneurial Performance* ($Y$) | | 3.50 | Medium |

Table 9 reveals 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 medium value. Besides, the highest average value of the indicator is 3.59 in "I can apply the ideas of my effort into my

efforts." The lowest average is 3.33 in "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.

**Convergent Validity**

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. Table 10 shows 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.

**Discriminant Validity**

Campbell and Fisk in Guo et al. (2008) stated that discriminant validity was the distinctiveness of different constructs. The measurement of Discriminant validity carries out using cross-loading values (Henseler, Ringle & Sarstedt, 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. It 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 discriminate 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.

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 |

The AVE value of indicators is presented in Table 11. It show that 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. The constructs are reliable if the composite reliability value or Cronbach's alpha is greater than or equal to 0.3. However, it will be better if it is above 0.7 (Muafi & Roostika, 2014).

Table 11 shows the values of Cronbach's alpha of all constructs are good because they are above 0.7. Therefore, all reflective indicators are reliable or meet reliability test. Besides that, the composite reliability values of all reflective constructs are also good. So that it could be concluded that all the reflective indicators are reliable because they satisfy both reliability testing criteria.

Table 11. AVE Value and Reliability Test

| Variable | AVE | Composite Reliability | Cronbach's 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 | | |

**R-Square**

Table 12 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.

Table 12. 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 |

Moreover, the R-Square value of Entrepreneurial Performance is 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.

**Hypothesis Testing and Discussion**

Table 13 shows the results of hypothesis testing. 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 previous researches that claimed that the entrepreneurial mindset significantly affects to innovativeness. Herbig et al. (1994) stated that innovation required three basic components, namely infrastructure, capital, and the ability of the entrepreneur. They indicated that entrepreneurial mindset affected innovativeness. Entrepreneurship tailored to the market-oriented culture contribute significantly to the successful innovation (Ndubisi, 2014) Wang and Zang (2005) suggested entrepreneurship was one of the many areas that are relevant in the human resource and innovation. Gonthier and Chirita (2019) also found 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) state that systems thinking owned by entrepreneurs would affect their tendency in risk-taking. Wang and Poutziouris (2010) say that industrial entrepreneur ownership is associated with risk-taking. Segal, Borgia, and Schoenfeld (2005) mention that an entrepreneur receives 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 positively and significantly SMEs' performance, and parameters include seeking opportunity, creativity, innovation, risk-taking, proactiveness, and alertness to take action. All these findings indicate that the entrepreneurial mindset has a significant effect on risk-taking.

Table 13. The Results of Hypothesis Testing

| 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 competitive aggressiveness of 0.585 with a t-statistic of 7.89 greater than 1.96. This result indicates that the 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.

This study also supports the previous research suggesting that entrepreneurial mindset affects competitive aggressiveness. 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 the competitive advantage of firms.

The entrepreneurial mindset has a coefficient of effect on the autonomy of 0.647 with a 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. The result supports the research of McDonald et al. (2008), proving that the manager of subsidiaries who was 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 on proactiveness. A higher entrepreneurial mindset increases the proactiveness of students of public universities. Based on this result, $H_5$ is accepted. This result supports Zhang et al. (2014), finding that entrepreneurial companies tended to be more

engaged in risk than other companies and more proactive in looking for new opportunities.

The innovativeness coefficient affects 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 innovativeness and performance. 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 the performance of mid-sized firms. Falahat, Tehseen, and van Horne (2018) also revealed 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 coefficient affects the entrepreneurial performance of 0.191 with a t-statistic of 2.68 greater than 1.96. This result shows that risk-taking providing a significant effect against the entrepreneurial performance. A high-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 a t-statistic of 2.152 greater than 1.96. This result suggests that 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 et al. (2018), Sutanto et al. (2019), and Abdullahi at al. (2019), proving that competitive aggressiveness leads to performance.

Autonomy has a coefficient of effect on the entrepreneurial performance of 0.247 with a 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 what was found by Callaghan and Venter (2011), Chen et al. (2007), Yu et al. (2019), and Sutanto et al. (2019) previously argued that autonomy affects 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 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 Callaghan and Venter (2011), Chen et al. (2007), Linton (2019), Smith (2013), and Sutanto et al. (2019) proving that proactiveness affects performance.

## 5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

In general, this study can be concluded that the entrepreneurial mindset of the Indonesian students has a positive and significant effect against their innovativeness, risk-taking, competitive aggressiveness, autonomy, proactiveness. Therefore, changing the students' mindset to entrepreneurship is essential. In addition, it implies that the entrepreneurship education of Indonesian public universities has succeeded in changing their mindset as well as their entrepreneurial orientation and performance. It can be done by promoting entrepreneurship education to develop the entrepreneurial competencies and mindsets of citizens has become a critical mission on the supranational educational policy agenda (Laalo & Heinonen, 2016).

On the contrary, Indonesian students' innovativeness, risk-taking, competitive aggressiveness, autonomy, and proactiveness are have been proved to have a significant effect on entrepreneurial performance. It convinces that the education of entrepreneurship should not only change the students' mindset but also cultivate all variables to reach high performance.

Some variables such as entrepreneurial

mindset, innovativeness, competitive aggressiveness, autonomy, proactiveness, as well as entrepreneurial performance of the Indonesian university students have medium mean. Some actions need to be done much more in the future, such as improving the entrepreneurship curriculum is vital. Inviting and connecting to successful business leaders and entrepreneurs. They can open and inspire students' minds and hearts to create a start-up business. Furthermore, 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 introducing 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 to get result that is more generalizable.

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