

# Measuring Global Entrepreneurship Index of Indonesia among ASEAN 6 Countries

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**Keywords:** Global Entrepreneurship Index, ASEAN Economic Community, Sustainable Entrepreneurship, Economic Growth.

**Abstract:** GEI (Global Entrepreneurship Index) has a contextual feature of entrepreneurship by focusing on Entrepreneurial Attitudes (ATT), Entrepreneurial Abilities (ABT), and Entrepreneurial Aspirations (ASP). This paper purposes in measuring Global Entrepreneurship Index of Indonesia among ASEAN 6 (six) Countries. The implementation of the ASEAN Economic Community (AEC) 2015 will create economic activity with very high mobility and can open business opportunities and employment, but also at the same time become a huge challenge for countries in the ASEAN region, including Indonesia. For this reason, we need to know how that position of Indonesia is in the Global Entrepreneurship Index (GEI) among the 6 (six) ASEAN member countries, namely: Indonesia, Philippine, Malaysia, Singapore, Thailand and Brunei Darussalam. From the results of the literature review of the GEI report starting from 2015 - 2017, Indonesia's position is at the lowest rank among the 6 (six) ASEAN countries. So, answering these conditions, it is necessary to understand what the government's efforts are in the effort to improve Sustainable Global Entrepreneurship. To spur the development of entrepreneurship, the Indonesian government launched the National Entrepreneurship Movement (GKN), with the aim of increasing the number of Indonesian entrepreneurs. According to Sarkar (2014), this interest has been fuelled by the desire to understand how entrepreneurship influences the economy of a country. Both the economists and policymakers recognize the effect of entrepreneurship on the economy of a country. Moreover, the research conducted by Elistia (2017) found results that stated that the Total Entrepreneurship Activity (TEA) and Economic Growth (GDP) in Indonesia had a strong positive correlation between TEA and GDP of 0.853 (Pearson correlation). So it can be concluded that entrepreneurship has an impact on increasing economic growth in Indonesia, this is expected to increase Indonesia's GEI Index ranking.

## 1 INTRODUCTION

Global Entrepreneurship has brought new interests and questions from thousands of new actors to the dynamics of the world entrepreneurial ecosystem. As they strive to harness the power of the formation of new companies to create jobs and innovation ahead, we have seen a series of new accelerations, educational programs and policy experiments - supported by sincere interest in creating the most powerful local enabling environment.

The purpose of writing this article is to contribute to our understanding of economic development by building a Global Entrepreneurship Index (GEI). The Global Entrepreneurship and Development Institute (GEDI Institute) is a research organization that

advances knowledge about the relationship between entrepreneurship, economic development and prosperity. The Institute was founded by leading entrepreneurial scholars from George Mason University, the University of Pécs, and Imperial College London.

GEDI captures the contextual features of entrepreneurship by focusing on entrepreneurial attitudes, entrepreneurial activities, and entrepreneurial aspirations. The data and its contribution to the business formation process are supported by three decades of research on entrepreneurship in some countries. The index construction integrates 31 variables, 16 from the Global Entrepreneurship Monitor (GEM), and 14 from other data sources, into 14 pillars, three sub-

indices, and a 'super-index'. GEI described in this paper is only in 6 (six) ASEAN member countries, namely: Indonesia, Malaysia, Singapore, Thailand, Philippines and Brunei Darussalam.

Economic development in Indonesia cannot be separated from the performance of entrepreneurs. Besides that, the level of competition among entrepreneurs in the Asian region is also getting higher, we can take the example of GEDI rank assessment in ASEAN member countries. The ASEAN Economic Community (MEA) will formally be implemented by the end of 2015 even though the process has begun since the signing of the ASEAN Framework Agreement on Economic Cooperation by ASEAN leaders in 1992 (Kemenko, 2015). Thus, free trade has actually begun to be implemented gradually and progressively by ASEAN member countries through the regional trade agreement (RTA) in the form of the ASEAN Free Trade Area (AFTA). AEC (ASEAN Economic Community) has a blueprint, this is one of the most important milestones of ASEAN economic integration. It is structured on four pillars: i) a single market and production base; (ii) competitive economic area; (iii) equitable economic development; and (iv) integration into the global economy. The work agenda starts in 2015 towards 2030, ASEAN needs to continue to deepen regional integration by creating a truly unlimited economic community.

## 2 LITERATURE REVIEW

The implementation of the ASEAN Economic Community (AEC) 2015 will create economic activity with very high mobility and can open business opportunities and employment, but also at the same time become a huge challenge for countries in the ASEAN region, including Indonesia. The creation of the ASEAN Community implies not only institutional/institutional reform and innovation to build a mature and developing society, but also close coordination in developing the three pillars of ASEAN, namely: political-security, economic, and socio-cultural.

The relationship between entrepreneurship and economic growth of a country has increasingly gained much interest from economists and policymakers over the years. However, while some view it as a direct relationship, others see it as an indirect kind of relationship. According to Sarkar (2014), this interest has been fuelled by the desire to understand how entrepreneurship influences the economy of a country. Both the economists and policy makers

recognize the effect of entrepreneurship on the economy of a country.

GEI consists of three components or sub-indices 3A, namely: Entrepreneurial Attitudes (ATT), Entrepreneurial Abilities (ABT), and Entrepreneurial Aspirations (ASP). These three sub-indices stand on 14 pillars, each of which contains an individual and institutional variable that are compatible with the micro and entrepreneurial aspects of the macro level. The GEDI pillar includes individual and individual institutional variables. This pillar is an effort to capture the open nature of entrepreneurship; analyzing they can provide an in-depth view of the strengths and weaknesses listed in the index described in the 14 entrepreneurship pillars in table 1.

Table 1: The Structure of the New Global Entrepreneurship Index (GEI)\*

Sub-Indexes	Pillars	Variables (Ind./Inst.)
ATTITUDES SUB-INDEX	OPPORTUNITY PERCEPTION	OPPORTUNITY PERCEPTION FREEDOM ECONOMIC FREEDOM *PROPERTY RIGHTS
	STARTUP SKILLS	SKILL PERCEPTION EDUCATION (TERTIARY EDUCATION*QUALITY OF EDUCATION)
	RISK ACCEPTANCE	RISK PERCEPTION COUNTRY RISK
	NETWORKING	KNOW ENTREPRENEURS RAGE/CONNECTION (URBANIZATION*INFRASTRUCTURE )
	CULTURAL SUPPORT	CAREER STATUS CORRUPTION
	ABILITIES SUB-INDEX	OPPORTUNITY STARTUP
TECHNOLOGY ABSORPTION		TECHNOLOGY LEVEL TECHNOLOGY ABSORPTION
HUMAN CAPITAL		EDUCATIONAL LEVEL LABOR MARKET (STAFF TRAINING*LABOUR FREEDOM)
COMPETITION		COMPETITORS COMBETITIVES (MARKET DOMINANCE*REGULATION)
ASPIRATION SUB-INDEX	PRODUCT INNOVATION	NEW PRODUCT TECH TRANSFER
	PROCESS INNOVATION	NEW TECHNOLOGY SCIENCE (GERD*(AVERAGEQUALITY OF SCIENTIFIC INSTITUTIONS *AVAILABILITY OF SCIENTISTS AND ENGINEERS))
	HIGH GROWTH	SCALE FINANCE AND STRATEGY (VENTURE CAPITAL*BUSINESS SOPHISTICATION)
	INTERNATIONALIZATION	EXPORT ECONOMIC COMPLEXITY
	RISK CAPITAL	INFORMAL INVESTMENT DEPTH OF CAPITAL MARKET

Pillar name	Description
Opportunity Perception	Opportunity Perception refers to the entrepreneurial opportunity perception potential of the population and weights this against the freedom of the country and property rights
Start-up Skills	Start-up Skill captures the perception of start-up skills in the population and weights this aspect with the quality of education
Risk Acceptance	Risk Acceptance captures the inhibiting effect of fear of failure of the population on entrepreneurial action combined with a measure of the country's risk.
Networking	This pillar combines two aspects of Networking; (1) a proxy of the ability of potential and active entrepreneurs to access and mobilize opportunities and resources and (2) the ease of access to reach each other.
Cultural Support	The Cultural Support pillar combines how positively a given country's inhabitants view entrepreneurs in terms of status and career choice and how the level of corruption in that country affects this view.
Opportunity Startup	The Opportunity Startup pillar captures the prevalence of individuals who pursue potentially better quality opportunity-driven start-ups (as opposed to necessity-driven start-ups) weighted with the combined effect of taxation and government quality of services.
Technology Absorption	The Technology Absorption pillar reflects the technology-intensity of a country's start-up activity combined with a country's capacity for firm-level technology absorption.

Source: The GEDI 2017

\*Individual variables are colored with a white background while institutional ones with the light blue background. Red letters show the changes in the index structure as compared to the previous GEI version.

According to table 1, Sub-Indexes consist of 3 aspects namely: Attitudes Sub-index, Abilities Sub-Index, and Aspiration Sub-Index. The following is the explanation:

- Attitudes Sub-index is for Entrepreneurial Attitudes (ATT). Entrepreneurial attitudes reflect people’s attitudes toward entrepreneurship. It involves opportunity recognition, startup skills, risk perception, networking, and cultural supports of entrepreneurs. Institutional embeddings expressed as the property rights and economic freedom, the quality of the education, the riskiness of the country, the connectivity potential, and the prevalence of corruption.
- Abilities Sub-Index is for Entrepreneurial Abilities include some important characteristics of the entrepreneur that determine the extent to which new startups will have potential for growth, such as motivation based on opportunity as opposed to necessity, the potential technology-intensity of the startup, the entrepreneur’s level of education, the level of competition and digital startup capabilities. These individual factors coincide with the proper institutional factors of taxation and the efficiency of government operation (Governance), technology adsorption capability, the freedom of the labor market and the extent of staff training (Labor Market), and the dominance of powerful business groups as well as the effectiveness of antimonopoly regulation (Regulation).
- Aspiration Sub-Index is for Entrepreneurial Aspiration refers to the distinctive, qualitative, strategy-related nature of the entrepreneurial activity. The individual and institutional factors of product and process innovation such as technology transfer, the applied research potential of science, high growth expectations, venture capital availability and strategy sophistication (Finance and Strategy), internationalization and the availability of risk financing constitute entrepreneurial aspirations.

Based on those sub-indexes table 2 shown the description:

Table 2: The Description of the GEI Index Pillar

Human Capital	The Human Capital pillar captures the quality of entrepreneurs as weighing the percentage of start-ups founded by individuals with higher than secondary education with a qualitative measure of the propensity of firms in a given country to train their staff combined with the freedom of the labor market.
Competition	The Competition pillar measures the level of the product or market uniqueness of start-ups combined with the market power of existing businesses and business groups as well as with the effectiveness of competitive regulation.
Product Innovation	The Product Innovation pillar captures the tendency of entrepreneurial firms to create new products weighted by the technology transfer capacity of a country.
Process Innovation	The Process Innovation pillar captures the use of new technologies by start-ups combined with the Gross Domestic Expenditure on Research and Development (GERD) and the potential of a country to conduct applied research.
High Growth	The High Growth pillar is a combined measure of (1) the percentage of high-growth businesses that intend to employ at least ten people and plan to grow more than 50 percent in five years (2) the availability of venture capital and (3) business strategy sophistication.
Internationalization	The Internationalization pillar captures the degree to which a country’s entrepreneurs are internationalized, as measured by businesses’ exporting potential weighted by the level of economic complexity of the country.
Risk Capital	The Risk Capital pillar combines two measures of finance: informal investment in start-ups and a measure of the depth of the capital market. Availability of risk capital is to fulfill growth aspirations.

Source: *The GEDI 2017*

### 3 DATA AND METHODOLOGY

This paper is based on literature review and conceptual analysis. Literature studies and conceptual analysis are intended to identify the value of GEI in 6 (six) ASEAN member countries in 2015, 2017. GEI provides a detailed description of the health of the entrepreneurial ecosystem of a country. GEI is designed to help the government utilize entrepreneurial power for sustainable economic development.

Sources of data and information for this paper are derived from the report of The GEDI Institute in the form of an assessment of the Global Entrepreneurship Index (GEI) in 6 (six) ASEAN member countries, namely: Indonesia, Malaysia, Singapore, Thailand, Philippines and Brunei Darussalam. The data displayed is as follows: Global Rank Global Entrepreneurship Index (GEI)

1. Global Entrepreneurship Index (GEI) Score
2. Entrepreneurial Attitude (ATT) Score
3. Entrepreneurial Abilities (ABT) Score
4. Entrepreneurial Aspiration (ASP) Score

### 4 RESULT AND DISCUSSION

The results of data processing scoring and indexing on 6 (six) ASEAN member countries in Indonesia, Malaysia, Singapore, Thailand, Philippines and Brunei Darussalam are as follows:

### 4.1 Global Rank Global Entrepreneurship Index (GEI)

Table 3. Global GEI Rank 6 Negara ASEAN 2015 - 2017

Year	Global Rank		
	2015	2016	2017
Singapore	10	11	24
Malaysia	53	56	54
Brunei Darussalam	60	55	53
Thailand	68	65	65
Philippines	95	91	76
Indonesia	120	103	90

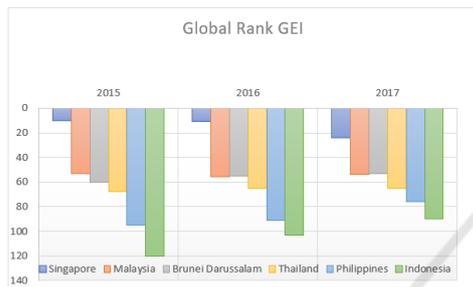


Figure 1. Global GEI Rank 6 Negara ASEAN 2015 - 2017

Data in Table 3 and Figure 1 shows that Indonesia, despite the lowest GEI Global Rank, is among the 6 (six) countries, but the increase from 2015 to 2017 has increased quite well, namely an increase of an average of 14% from the previous year.

### 4.2 Global Entrepreneurship Index (GEI) Score

The following are the results of the GEI Score of 6 ASEAN countries from 2015 - 2017, which shows that Indonesia is still in the 6th position. Therefore Indonesia must try to improve the aspects of ATT, ABT and ASP.

Table 4. Global Entrepreneurship Index (GEI) Score 6 Negara ASEAN 2015 - 2017

Year	GEI		
	2015	2016	2017
Singapore	68,1	66,0	52,2
Malaysia	40,0	37,0	33,4
Brunei Darussalam	36,9	37,3	33,9
Thailand	32,1	33,4	27,1
Philippines	28,7	27,0	24,1
Indonesia	21,0	22,8	21,2

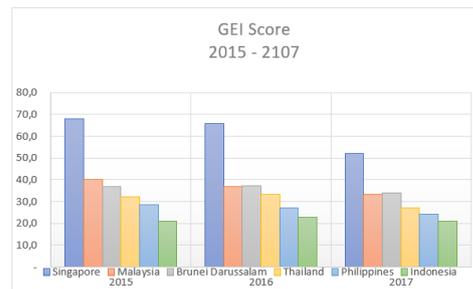


Figure 2. Global Entrepreneurship Index (GEI) Score 6 Negara ASEAN 2015 - 2017

From the data in table 4 and figure 2, GEI Score Indonesia is the lowest position of the 6 ASEAN countries, therefore the need for Government, Community and Business / Industry efforts to collaborate to improve the Global Entrepreneurship Index (GEI) Score. An increase in the Entrepreneurship Index can also be seen from the Ranking of Indonesia in the Ease of Doing Business which increases every year. The increase can be seen in reports from the Indonesia Investment Coordinating Board as shown in figure 3 below:

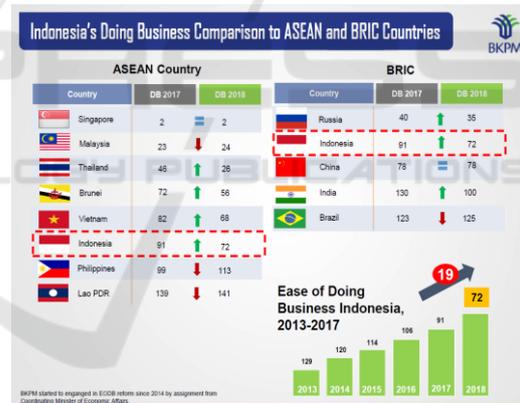


Figure 3. Indonesia's Doing Business from 2013 – 2017

If seen in figure 3, shows that Indonesia can compete enough among ASEAN countries, because each year the ranking is consistently increasing. Therefore, it is expected to be able to boost Indonesia's GEI score.

### 4.3 Entrepreneurial Attitude (ATT)

Entrepreneurial attitudes are societies' attitudes toward entrepreneurship, which we define as a population's general feelings about recognizing opportunities, knowing entrepreneurs personally,

endowing entrepreneurs with high status, accepting the risks associated with business startups, and having the skills to launch a business successfully. The benchmark individuals are those who can recognize valuable business opportunities and have the skills to exploit them; who attach high status to entrepreneurs; who can bear and handle startup risks; who know other entrepreneurs personally (i.e., have a network or role models); and who can generate future entrepreneurial activities. (GEDI, 2017)

Table 5. Entrepreneurial Attitude (ATT) Score 6 Negara ASEAN 2015 - 2017

Year	ATT		
	2015	2016	2017
Singapore	52,1	49,2	37,9
Malaysia	42,5	40,0	36,5
Brunei Darussalam	39,6	32,1	25,8
Thailand	32,1	35,4	28,4
Philippines	34,5	32,2	27,3
Indonesia	29,2	28,8	29,2

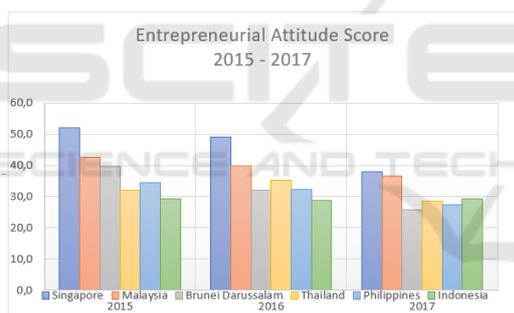


Figure 4. Entrepreneurial Attitude (ATT) Score 6 Negara ASEAN 2015 - 2017

Table 5 and Figure 4 have shown that ATT of Indonesia can compete against Malaysia, Brunei, Thailand and Philippines. According to the data by GEM (General Entrepreneurship Monitor), based on Economies Participating in the 2014 GEM Survey, grouped by Geographic Region and Economic Development Level in Asia & Oceania data shown, Indonesia is in Efficiency-driven Economies, which are consistent to increase industrialization and economies of scale (Table 6).

Table 6. GEM Economic Development Level in ASEAN 5 Countries

Factor-driven Economies	Efficiency-driven Economies	Innovation-driven Economies	
Asia & Oceania	India, Iran <sup>1)</sup> , Kuwait <sup>1)</sup> , Philippines <sup>1)</sup> , Vietnam	China, Indonesia, Kazakhstan <sup>2)</sup> , Malaysia <sup>2)</sup> , Thailand	Australia, Japan, Singapore, Taiwan, Qatar

1) In transition to Efficiency-driven economies  
2) In transition to Innovation-driven economies

Table 7. Entrepreneurial Ability Score (ABT) Score 6 Negara ASEAN 2015 - 2017

Year	ABT		
	2015	2016	2017
Singapore	73,5	71,8	58,3
Malaysia	44,5	42,9	37,3
Brunei Darussalam	40,8	47,6	44,5
Thailand	36,4	37,5	28,6
Philippines	25,0	25,7	23,5
Indonesia	22,1	22,8	16,9



Figure 5. Entrepreneurial Abilities (ABT) Score 6 Negara ASEAN 2015 - 2017

Entrepreneurial abilities refer to the entrepreneurs' characteristics and those of their businesses. Different types of entrepreneurial abilities can be distinguished within the realm of new business efforts. Creating businesses may vary by industry sector, the legal form of organization, and demographics—age, education, etc. We define entrepreneurial abilities as startups in the medium- or high-technology sectors that are initiated by educated entrepreneurs and launched because of a person being motivated by an opportunity in an environment that is not overly competitive. In order to calculate the opportunity startup rate, we use the GEM TEA (Total Early Entrepreneurship) Opportunity Index. TEA captures new startups not only as the creation of new ventures but also as startups within existing businesses, such as a spinoff or other entrepreneurial

effort. Differences in the quality of startups are quantified by the entrepreneur’s education level—that is, if they have a postsecondary education—and the uniqueness of the product or service as measured by the level of competition. Moreover, it is generally maintained that opportunity motivation is a sign of better planning, a more sophisticated strategy, and higher growth expectations than “necessity” motivation in startups. (GEDI, 2017).

According to Elistia (2017), Indonesia has a strong positive correlation between TEA and GDP of 0.853. While the HDI and GDP has a negative correlation-0.911. HDI and TEA a correlation has a negative correlation -0.562. It means that only TEA variables are positively correlated to GDP Indonesia.

Table 8. Correlation HDI, TEA, and GDP in Indonesia from 2013 - 2015

Correlations				
		GDP	HDI	TEA
GDP	Pearson Correlation	1	-.911	.853
	Sig. (2-tailed)		.270	.350
	N	3	3	3
HDI	Pearson Correlation	-.911	1	-.562
	Sig. (2-tailed)	.270		.620
	N	3	3	3
TEA	Pearson Correlation	.853	-.562	1
	Sig. (2-tailed)	.350	.620	
	N	3	3	3

Source: Elistia, (2017), *The Correlation of HDI and GEI towards Economic Growth in ASEAN 5 Countries*, ICSSH PROCEEDINGS, 4th Kuala Lumpur International Conference on Social Science & Humanities (ICSSH), ISSN 2454-5899.

#### 4.4 Entrepreneurial Aspiration

Entrepreneurial aspiration reflects the quality aspects of startups and new businesses. Some people just dislike their current employment situation and want to be their own boss, while others want to create the next Microsoft. Entrepreneurial aspiration is defined as the early-stage entrepreneur’s effort to introduce new products and/or services, develop new production processes, penetrate foreign markets, substantially increase their company’s staff, and finance their business with formal and/or informal venture capital. Product and process innovation, internationalization, and high growth are considered the key characteristics of entrepreneurship. Here we added a finance variable to capture the informal and formal venture capital potential that is vital for

innovative startups and high-growth firms. (GEDI, 2017)

Table 9. Entrepreneurial Aspiration (ASP) Score 6 Negara ASEAN 2015 - 2017

Year	ASP		
	2015	2016	2017
Singapore	78,8	76,9	60,5
Malaysia	33,0	28,1	26,5
Brunei Darussalam	30,4	32,1	31,4
Thailand	27,7	27,3	24,1
Philippines	23,5	23,0	21,5
Indonesia	11,9	16,7	17,4



Figure 6. Entrepreneurial Aspiration (ASP) Score 6 Negara ASEAN 2015 - 2017

In terms of Ease of Doing Business, The economies showing the most notable improvement in performance on the Doing Business indicators in 2015/16 of ten economies are highlighted this year for making the biggest improvements in their business regulations—Brunei Darussalam, Kazakhstan, Kenya, Belarus, Indonesia, Serbia, Georgia, Pakistan, the United Arab Emirates and Bahrain. Indonesia is one of the biggest improvements in their business regulations. In this report tells us the following information of 7 (seven) improvements:

#### 4.5 Starting a Business

Indonesia made starting a business easier by creating a single form to apply for the company registration certificate and trading license. This reform applies to Jakarta. Indonesia also made starting a business easier by abolishing the minimum capital requirement for small and medium-sized enterprises and by encouraging the use of an online system to reserve company names. This reform applies to both Jakarta and Surabaya.

#### 4.5.1 Getting Electricity

Indonesia made the process of getting an electricity connection faster by reducing the time for contractors to perform external work thanks to an increase in the stock of electrical material supplied by the utility. In Surabaya, getting electricity was also made easier after the utility streamlined the process for new connection requests.

#### 4.5.2 Registering Property

Indonesia made it easier to register property by digitizing its cadastral records and setting up a geographic information system. This reform applies to both Jakarta and Surabaya.

#### 4.5.3 Getting Credit

Indonesia strengthened access to credit by establishing a modern collateral registry. This reform applies to both Jakarta and Surabaya.

#### 4.5.4 Paying Taxes

Indonesia made paying taxes easier by introducing an online system for filing and paying health contributions. Indonesia also made paying taxes more costly by levying a new pension contribution at a rate of 2% paid by employers. These reforms apply to both Jakarta and Surabaya.

#### 4.5.5 Trading across Borders

Indonesia made exporting and importing easier by improving the customs services and document submission functions of the single national window. This reform applies to both Jakarta and Surabaya.

#### 4.5.6 Enforcing Contracts

Indonesia made enforcing contracts easier by introducing a dedicated procedure for small claims that allows for parties' self-representation. This reform applies to both Jakarta and Surabaya.

## 5 CONCLUSION

An effort to maintain and enhance the entrepreneurial position that has been achieved at this time, the entrepreneurial practitioners should build sustainable entrepreneurship to create entrepreneurship that is strong, sustainable and mutually supportive and sustainable, by utilizing the synergy of various

elements of society. With the creation of sustainable entrepreneurship, sustainable competitiveness at the national and global levels can be realized. Sustainable entrepreneurship focuses on the skills of entrepreneurs to realize their success through social and environmental change or social innovation.

Entrepreneurship no longer only produces economic success, but sustainable entrepreneurs can manage the "triple bottom line" (corporate profitability, potential benefits for the environment, as well as potential benefits for the community) by balancing economic health, social justice and environmental resilience through their entrepreneurial behavior. Lately, there have been many scientific discussions about entrepreneurial theory and practices related to sustainable entrepreneurship that is oriented towards the community, ethical, economic and ecological goals.

In fact, entrepreneurship has been considered as the engine of economic growth, and it has come to be perceived as a catalytic agent for expansion and promotion of productive activities in every sphere of economic life all over the world. The role and significance of entrepreneurship development in numerous nations worldwide were quite significant. Furthermore, the research of Jeanel Dominique et al. (2017) showed there was a positive relationship between entrepreneurship and economic development. And, the research of Omoruyi et al. (2017) found that innovation, entrepreneurship curriculum training and education, individual entrepreneurial characteristics, the participation of micro, small and medium enterprises, youth empowerment, the collaboration of government-university-industry are the key tool for entrepreneurship development which is stimulating employment are eventually alleviating poverty.

The government effort through the National Entrepreneurship Movement (GKN) is a movement that grows from the bottom, so it has a strong foundation to develop. This condition can increase the ratio of Indonesian entrepreneurs who in 2013/2014 were still 1.67 percent, this year based on BPS data it has risen to 3.1 percent (Ministry of Cooperatives and SMEs, 2017).

So it can be concluded that to realize Indonesia which is more competitive through the development of entrepreneurship and the digital sector, it takes cooperation from all parties. Not only the government, but also the business world, academics, and the wider community to create a conducive entrepreneurial ecosystem.

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