

## THE INFLUENCE OF INNOVATION PERFORMANCE AND NATIONAL COMPETITIVENESS ON ENTREPRENEURIAL EDUCATION

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**Abstract:** The prime aim of the study is to investigate the phenomenon of entrepreneurship education influenced by innovative performance and national competitiveness with moderating role of entrepreneurial orientation. The study was conducted on Indonesian graduates to determine their intention towards initiate businesses. The study determined the relationship between constructs of proposed framework and found that all direct hypotheses found to be positively significant and moderating effect of entrepreneurial orientation was also observed. The study suggests developing policies at higher education sector to develop necessary skills, abilities and knowledge among graduates required for initiating businesses.

**Keywords:** innovation; competitiveness; entrepreneurship education

DOI: 10.17512/pjms.2019.20.2.09

*Article history:*

*Received* October 2, 2019; *Revised* November 10, 2019; *Accepted* November 28, 2019

### Introduction

The economic growth of nation influenced by business activity at large scale considered as entrepreneurship by research scholars and public policy makers. The development of policies and education programs at institutional level aimed for fostering entrepreneurial activities emerged in recent years. It has been suggested by various public policy developers that entrepreneurial education in educational institutes influence and contribute to entrepreneurs activities (Stamboulis & Barlas, 2014). Importantly, the results of studies that determined the influence of entrepreneurial education to entrepreneurship activities found as inconclusive (Stverkova, Pohludka, Kurowska-Pysz & Szczepańska-Woszczyzna, 2018). Number of studies has depicted positive relationship between entrepreneurial education and intention towards becoming entrepreneur and initiate businesses. The studies depicted positive significant results includes (Bae, Qian, Miao, & Fiet, 2014; Rauch & Hulsink, 2015). On the other hand various studies have depicted opposite results that entrepreneurial education didn't find to be influential towards entrepreneurial intention or develop intention towards initiate businesses. These

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studies includes (Oosterbeek, Van Praag, & Ijsselstein, 2010) that depicted averse results of previous positive significant results. In addition to that, the western scholars focused widely on entrepreneurial intentions and education but research scholars have also stated lack of empirical studies on Southeast Asian region. Therefore, the present study intends to determine the influence of innovative performance and national competitiveness on entrepreneurial education with moderating effect of entrepreneurial orientation.

The previous studies have been contributed in identifying the impact of entrepreneurship education on developing entrepreneurial intentions among university students. Previous research scholars contributed in body of knowledge by investigating the comparison of gender in order to seek education, developing intention towards entrepreneurial activities. The studies have identified that women gender found to be under presented in entrepreneurial activities initiated in European Union. The figures demonstrated that female entrepreneurs are only 31% of all entrepreneurs in the world, the studies depicted that female gender found less attractive towards entrepreneurship as it has been identified by various researchers studies that female found to display lower intention towards entrepreneurship as compare to male members (Kurczewska & Bialek, 2014). It has been observed among various studies it is clear that mixed evidences have been depicted by previous research scholars in respect to gain entrepreneurship education that influence entrepreneurial activities, some of the scholars has shown that female found to be more benefited as compare to man in above stated scenario (Bae et al., 2014) and conversely, the studies suggested other way round that male members found to be more benefited as compare to females (Westhead & Solesvik, 2016). The contradiction in determining the entrepreneurial intention have been identified and research scholars have conducted studies with combination of various constructs including entrepreneurial self-efficacy, education, gender and entrepreneurial intention (Nowiński, Haddoud, Lančarič, Egerová & Czeglédi, 2019).

Entrepreneurship is derived through small and medium sized businesses in country that boost economic activities that does not only provide employment but also provide social and political stability, further it influences the creativity and competitive position of the firms (Thurik & Wennekers, 2004). The policy development and research scholars have given attention and focused on need for entrepreneurial activities through effective educational efforts that influence the intention of individuals towards adoption of businesses initiations that energize the entrepreneurial activity. The less developed or developing nations strive for initiate businesses activities by engaging their young population to establish their own business setup and to generate employment. It has been observed that it is very hard to get jobs in current situation for large number of qualified students, therefore, government needs to focus on establishment of businesses to eliminate unemployment rate. The most of the jobs found to be irrelevant with scholars produced and professionals needs different skills set in order to gain common goals

(Aliman & Jalal, 2013). The unemployment rate has increased in recent number of years due to gap in demand and supply for required labor and due to mismatch the higher level of unemployment among youth has been observed. The Global Competitiveness Report 2018 stated that burning issues of economical growth and wellbeing found to be fact that contributed in innovation and spread benefits among firms. Therefore, it has been identified that innovation contribute for economic boosting and generate various benefits at social level specifically utilization of IR 4.0. The innovation capability and innovation performance considered as prerequisite for positive outcomes that influence the economic and social benefits (Herman, 2018).The present study intends to determine the entrepreneurial education influenced by innovation performance and national competitiveness with moderating role of entrepreneurial orientation.

### **Literature Review**

The research studies have expressed the nexus of entrepreneurship, competitiveness and innovation in order to face the real challenges in any country or region. The studies have focused on sustainable development in order to gain competitive advantages based on innovation level through entrepreneurial activities. The research scholars have highlighted the above stated considerations to explore the relationship between entrepreneurial activities, innovation and competitiveness in economic development of any nation. The entrepreneurial education is referred as training provided to enrich the capabilities and knowledge of individuals to enhance the entrepreneurial activities. The knowledge, skills and abilities of an individual assist them to initiate businesses activities that contribute for economic growth by initiate innovation in business processes (Ekpe & Mat, 2012; Rajnoha & Lorincová, 2015).). The entrepreneurial education provides the training and enhance the knowledge of employees and participants in introduce the innovation among business processes and products by developing entrepreneurial attributes among students or participants that support in successful ventures (Ediagbonya, 2013). The entrepreneurial education found to be going beyond guidance for setup new businesses and establish successful ventures. The creativity, innovation capabilities, critical thinking and advancements in sense of self-worth and accountability found to be effective in establishing business activities (Fatoki, 2014). The scholars have explained the relationship between entrepreneurial activities as heart of innovation that contribute for economic growth, developing of job base and to gain competitive advantages. The studies have argued that innovation found to be positively related with entrepreneurial performance and found to be played significant role in social and economic development of nation that backed up by innovative and creative ideas (Szabo & Herman, 2014). The studies have established that entrepreneurs found to be more innovative, creative and efficient towards economic development. The innovative entrepreneurship has been considered as one of key factor for modern economic development (Fagerberg & Sappasert, 2011).

Moreover, the level of innovation also found to be influential towards development level, the positive association between innovation and development has been highlighted and empirically examined that average innovation level found to be contributive for development boost up (Herman, 2018). The studies have addressed the gap of economic development and explained by innovation performance and entrepreneurial innovation contributes for economic growth and development among small and medium sized businesses. The present study intends to investigate the empirical relationship between innovation performance and entrepreneurial education. On the base of above discussion following hypothesis is derived:

H1: Innovation Performance positively Influence the Entrepreneurial Education among Indonesian university graduates

The competitiveness of a nation has been considered as one of complex concept that extensively has been analyzed from different perspective (Carayannis & Grigoroudis, 2014). The studies have been conducted to analyze the competitiveness and defined as set of factors, institutions and policies that found to be associated with level of productivity and development (Schwab, 2017). The research scholars have examined the relationship between innovation and business success as one of important factor for gaining global competitiveness. It has been well established in literature that entrepreneurship and innovation has strong association as considered as an essential factor for national competitiveness. The literature has focused on influential factors of competitiveness including institutions, economic conditions, environmental factors, health and primary education, infrastructure, higher education and training for efficiency . Further, studies have identified the various categories of market outcomes including labor market efficiency; goods market efficiency, financial market development and technological readiness and market size influenced by competitiveness and entrepreneurial intentions (Schwab, 2017).

The highlighted factors influence the competitiveness in various diverse patterns that depends upon economical situation of development. The firms seeks to improve the competitiveness level through innovation and entrepreneurial activities in developing or less developed nations can be achieved through adoption of latest technological advanced improved equipment. The innovation largely based on technological equipment and through innovative driven economies that influence the productivity. The research studies have argued that incremental improvements are no more relevant for sustainability of competitive advantages and productivity (Szabo & Herman, 2014). The studies have been examined and identified that innovation improve the efficiency, productivity and provide significant benefits to consumers. The level of education and industry sector considered as complex sector for information and communication technology that explained as higher level of development and competitiveness at national level (Herman, 2018). The research studies have investigated the level of education and innovation capability that influence the entrepreneurial activities and contribute for national competitiveness to higher extent.

The research scholars have examined the entrepreneurial intention among different gender and identified that women in universities found to be significant in numbers and consists of 55% to 60% of total students (Nowiński, Haddoud, Lančarič, Egerová & Czeglédi, 2019). The studies have shown that women found to be lower attractive towards entrepreneurial intentions as compare to male members (Santos, Roomi, & Liñán, 2016). The studies have focused to examine the entrepreneurial phenomenon for different genders that how entrepreneurship education that influence the entrepreneurial intentions. Previously, research studies have examined the impact of gender on entrepreneurial education and intentions. The few studies have examined the effect of entrepreneurial education and intention as positively significant for male or female members towards entrepreneurial intentions.

The above discussion leads towards following hypothesis:

H2: National Competitiveness positively Influence the Entrepreneurial Education among Indonesian university graduates

Entrepreneurial orientation at firm level for determining the performance has been carried out by various studies. These studies identified five dimensions of entrepreneurial orientations including innovative abilities, desire to take risks, autonomy, competitive aggressive and pro-active approaches (Richard, Wu, & Chadwick, 2009). The findings of previous studies have found that entrepreneurial orientation firms influence the performance as significant and positive. Thus, it has been found that significant relationship between entrepreneurial orientation and performance of firms by various research scholars. The results of previous studies found that various individuals possess specific attributes that assist entrepreneurial activities. The studies conducted on health care professionals and found that self-employment regarded as intention towards initiate the business through creative, innovative and self-achievers to gain social status (Rajjani, Bačík, Fedorko, Rigelský & Szczepańska-Woszczyna, 2018). The present study intends to determine the moderating role of entrepreneurial orientation between innovative performance and national competitiveness on entrepreneurial education. The investigation of moderating role between independent and dependent constructs leads towards the following hypotheses.

H3: Entrepreneurial Orientation moderates the relationship between Innovative Performance and Entrepreneurial Education among Indonesian university graduates

H4: Entrepreneurial Orientation moderates the relationship between National Competitiveness and the Entrepreneurial Education among Indonesian university graduates

### **Research Methodology**

The present study is quantitative in nature and conducted on university graduates of Indonesian universities in Jakarta to determine the entrepreneurial education. The

500 questionnaires were distributed and 300 received that were useable to determine the relationship between constructs.

The present phase of study examined the construct validity and reliability by examining the Cronbach alpha, Composite reliability which must remain higher than 0.7 and Average Variance Extract (AVE) which must remain higher than 0.5 in orders to be statistically acceptable. The Table 1 demonstrates the vales of Cronbach alpha, CR and AVE that satisfies the criteria to be accepted according to (F. Hair Jr, Sarstedt, Hopkins, & G. Kuppelwieser, 2014).

**Table 1. Measurement Model Results**

	<b>Alpha</b>	<b>CR</b>	<b>AVE</b>
EE	0.807	0.863	0.528
EO	0.947	0.959	0.824
IP	0.808	0.873	0.634
NC	0.945	0.961	0.859

Discriminant Validity. The discriminant validity satisfy the condition and table 2 demonstrates the discriminant validity of measurement scale, the square root of AVE for each construct is presented and it must be higher than cross-correlation.

**Table 2. Discriminant Validity**

	<b>EE</b>	<b>EO</b>	<b>IP</b>	<b>NC</b>
EE	0.727			
EO	0.548	0.908		
IP	0.546	0.635	0.796	
NC	0.546	0.718	0.652	0.927

Structural Equation Modeling. The current section of the paper presents estimation of structural model and hypothesis testing has taken place. PLS-SEM is used for hypothesis testing.

Table 3 demonstrates the direct relationship between independent and dependent variables. The direct relationship between innovation performances H1 found to be significant on the basis of t-statistics and sig value. The results show that t-value found to be 2.702 and p value found to be 0.007; the H1 accepted statistically. The H2 determines the relationship between national competitiveness and entrepreneurial education, the results of the analysis found that t-value as 2.095 and p value 0.037, hence therefore accepted statistically as H1 and H2 found positive and significant.

**Table 3. Direct relationship**

	<b>Beta</b>	<b>t-values</b>	<b>p-values</b>
EO -> EE	0.233	2.480	0.013
IP -> EE	0.263	2.702	0.007
NC -> EE	0.207	2.095	0.037

### Indirect hypothesis

The present section of study determines the moderation role of entrepreneurial orientation between independent and dependent variables of the framework. The moderating role of entrepreneurial orientation was examined between innovation performance and entrepreneurial education as H3 demonstrated. The moderating investigation of entrepreneurial orientation between innovative performance and entrepreneurial education found that t-value as 2.865 with p value as 0.004; therefore H3 accepted statistically. The hypothesis H4 determines the relationship between national competitiveness and entrepreneurial education with moderating effect of entrepreneurial orientation. The results of the moderating effect demonstrate that t-value as 2.306 with p value as 0.022; therefore, H4 accepted on statistical grounds.

**Table 4. Moderating relationship**

	<b>Beta</b>	<b>t-values</b>	<b>p-values</b>
Moderating Effect 1 -> EE	-0.226	2.865	0.004
Moderating Effect 2 -> EE	0.165	2.306	0.022

### Discussions

The findings exposed that the innovation performance has increase the entrepreneurial education in the graduates' students of Indonesia because the innovation increase the interest of the students. The findings are match with Laursen and Salter (2006) outcomes. Moreover, outcomes explain that national competitiveness also enhance the students' interest in the entrepreneurial education in the students of Indonesia. These results are similar with Kao et al. (2008) who also found positive link with them. Finally this study found that entrepreneurial orientation enhance the student interest towards the entrepreneurial education.

### Conclusion

The prime concern of the present study is to determine the influence of innovation performance, national competitiveness on entrepreneurial education with moderating effect of entrepreneurial orientation among Indonesian university

graduates to adopt businesses. The study utilized the SMART-PLS to examine the relationship and found that all direct hypotheses H1 and H2 significant and positive that innovation performance and national competitiveness towards entrepreneurial education. The study also determined the moderating role of entrepreneurial orientation and found to be significantly positive and accepted.

This study recommended to the regulators that they must form the policies for the entrepreneurial orientation that enhance the interest of entrepreneurial education in the graduate students. The present study has few limitations such as it used only two predictors to predict the entrepreneurial education such as innovation performance and national competitiveness and future studies may include more predictors.

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### WPLYW INNOWACJI I KONKURENCYJNOŚCI NARODOWEJ NA KSZTAŁTOWANIE PRZEDSIĘBIORCZOŚCI

**Streszczenie:** Głównym celem badania jest zbadanie zjawiska edukacji w zakresie przedsiębiorczości, na którą wpływ mają innowacyjne wyniki i konkurencyjność kraju, z moderującą rolą orientacji na przedsiębiorczość. Badanie przeprowadzono na indonezyjskich absolwentach, aby określić ich zamiar rozpoczęcia działalności gospodarczej. Badanie określiło związek między konstruktami proponowanych ram i stwierdziło, że zaobserwowano również wszystkie bezpośrednie hipotezy, które okazały się pozytywnie znaczące i moderujący wpływ orientacji na przedsiębiorczość. Badanie

sugeruje opracowanie polityk w sektorze szkolnictwa wyższego w celu rozwijania niezbędnych umiejętności i wiedzy wśród absolwentów niezbędnych do zakładania przedsiębiorstw

**Słowa kluczowe:** innowacja; konkurencyjność; edukacja przedsiębiorczość

### 创新绩效和国家竞争力对创业教育的影响

**摘要:**本研究的主要目的是调查受创业绩效和国家竞争力影响的创新绩效和国家竞争力影响的创业教育现象。这项研究是针对印尼毕业生进行的,以确定他们打算创业的意图。这项研究确定了拟议框架的构架之间的关系,并发现所有直接假设都具有积极意义,并且还观察到了创业导向的调节作用。该研究建议在高等教育部门制定政策,以在创业者中发展必要的技能,能力和知识

**关键词:**创新 竞争力; 创业教育