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GLOBAL ENTREPRENEURSHIP AND SOCIAL INNOVATION IN THE FOURTH INDUSTRIAL REVOLUTION

Entrepreneurial orientation, entrepreneurial education and performance

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Abstract

Purpose – Korean economy is demanding to change from an industrial society to an entrepreneurial society. It is asking for a generational change from the preexisting paradigms of such as labor consciousness, the concept of work and company management. Entrepreneurship is one of the key elements that will lead to a successful business performance under highly uncertain business conditions. The purpose of this paper is to examine the relationship between entrepreneurial orientation and business performance. Also, the authors look for the role of entrepreneurship education in the influence of entrepreneurial orientation on financial and nonfinancial business performance.

Design/methodology/approach – To accomplish the purpose of this study, the authors carried out a survey targeting nascent entrepreneurs and total early-stage entrepreneurs with less than seven years of experience. Based on the Miller's (1983) definition, a group of questions for entrepreneurial orientation, similar to Covin and Slevin (1989), were developed.

Findings – First, among the subfactors of entrepreneurial orientation, it was clear that innovative progressiveness affected nonfinancial business performance. Second, risk-taking propensity did not influence both financial business performance and nonfinancial business performance. Third, entrepreneurship education had no connection with entrepreneurial orientation or business performance.

Practical implications – Nonfinancial business performances are related with long-term goals and growth potential. Innovative proactiveness affects nonfinancial business performance. Thus, entrepreneurs should look for ways to promote their innovative proactiveness. Entrepreneurship education for experienced entrepreneurs is not as effective as that for students.

Originality/value – In the authors' study, survey questionnaires were sent to 200 nascent and total early-stage entrepreneurs searching for business angel investments or entrepreneurship consultants in Korea. A total of 180 entrepreneurs answered the survey questions online. There are not so many valid studies examining the effect of entrepreneurship education for nascent and total early-stage entrepreneurs in Korea.

Keywords Business performance, Entrepreneurial orientation, Survey, Entrepreneurship education, Nascent entrepreneurs

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1. Introduction

Korean economy is demanding to change from an industrial society to an entrepreneurial society (Bahn *et al.*, 2014). It is asking for a generational change from the preexisting paradigms of such as labor consciousness, the concept of work and company management. With more production focused small and large businesses lose the ability to employ more workers, the scale of mass unemployment increases with it. Youth unemployment is one of the most critical social issues in Korea (Park, 2017). However, the development of Information technology and networking is lowering the expenses and entry barriers for entrepreneurs. Increasing the number of entrepreneurs will not just simply improve the economy and produce more profits for the economy. Creating more businesses and hiring more people can provide a social safety net for society. That is why all OECD countries have placed great emphasis on entrepreneurship.

To start a business, an entrepreneur should have an ability to identify entrepreneurial opportunities at the beginning. Only after securing enough financial resources, human resources and physical facilities, entrepreneurs can produce and sell goods or services. Usually, it takes a long time and needs strong intention to start businesses. Entrepreneurship is one of the key elements that will lead to a successful business performance under highly uncertain business conditions. Schumpeter (1934) argued that the driving force to an economic development and a social change is innovation that destroy the existing products or markets. This is also called creative destruction and in the core of this activity is in an innovative entrepreneur. Drucker (1985) said that entrepreneurs are those that sense changes in the future and find ways to adapt to this change. Entrepreneurs who can use this change as a chance will affect the productivity of resources and earn entrepreneurial profits (Say, 1815). Cantillon (1755) said entrepreneurs are those that make the rational decision to make profits despite the risks that follow with it. To accomplish innovations, entrepreneurs need to tolerate high risks from starting a business because they are under fierce competition from existing businesses (Knight, 1921).

Our study defines entrepreneurship based on the entrepreneurial orientation studied by Miller (1983), who has been the spotlight of many researches recently. Miller (1983) characterizes entrepreneurial orientation as the proactive nature of businesses of products and services in the market seeking for new innovations by even investing into it in spite of the high risk following it. Our study ultimately defines entrepreneurial orientation after observing the many proactive, innovative and risk-taking propensity found in the studies of entrepreneurial orientation.

To accomplish the purpose of this study, we carried out a survey targeting nascent entrepreneurs and total early-stage entrepreneurs with less than seven years of experience. Our purpose was to find out how the proactiveness, innovativeness and risk-taking propensity of entrepreneurial orientation influence both financial and nonfinancial business performance through multivariate regression analysis. We also tried to examine the moderating effect of entrepreneurship education on the relationship between entrepreneurial orientation and financial and nonfinancial business performance.

To achieve our goal, we will discuss through the following procedures. First, we will look at the previous studies related to entrepreneurship and entrepreneurial orientation, entrepreneurship education and business performance. Second, we will propose the research model and hypothesis of this study. Then we will describe the format of the survey we took. Also, sample and issues regarding measurement variables will be discussed. After performing reliability and validity analysis, we will test the hypothesis of our research model. The relationship among entrepreneurial orientation, entrepreneurship education, financial and nonfinancial business performance will be investigated through multivariate regression analysis.

2. Theoretical background

2.1 Entrepreneurship and entrepreneurial orientation

Entrepreneurship is a distinctive character that defines the entrepreneurs different from managers or employees (Carland *et al.*, 1984). Entrepreneurs are known to search for and take innovative, proactive and risk-taking actions. Compared to entrepreneurs, managers or workers tend to avoid the risks involved with entrepreneurial actions. Entrepreneurship is a defining characteristic of entrepreneurs who continuously search and identify new business opportunities and create new values for growth (Brockhaus, 1980). Also, it is generally recognized that entrepreneurship is one of the most important ways to build wealth in a capitalist society. In addition, entrepreneurship is a driving force for economic growth and social change (Schumpeter, 1934).

Depending on different objects of studies and theories, entrepreneurship has a multitude of meanings. McClelland (1961) suggested that those who choose to start a business prefer to pursue challenging goals, work independently and seek challenging tasks that are hard but possible. He claimed individuals who have high need for achievement(N-Ach) tend to become entrepreneurs and looked for empirical evidence to support his argument. It is known that entrepreneurs tend to not always pursue high risks but may tolerate the risks if they are unavoidable in one's tasks (Brockhaus, 1980). As an entrepreneur, it is important to minimize risk, but it is also important to acknowledge the risk in businesses and to share it with others while trying to seize opportunities under uncertainty. Self-efficacy, the idea of having the conviction in one's ability to accomplish tasks, is proven to be connected to entrepreneurship by many empirical studies (Bandura, 1982). Innovativeness refers to being able to carry out creative and original ideas and draw out due diligence processes such as producing new products, new processes, new development of suppliers and raw resources. Innovativeness is one of the key components of entrepreneurship that create values that businesses want while drawing out new changes or combinations through creative ideas and combinations. Proactiveness is the ability to make strategic decisions towards a progressive direction to control the market by identifying and exploiting market opportunities and recognizing changes in the market earlier than other competitors. This is a necessary property to create a competitive advantage and maintain initiative by discovering new opportunities through future demands and developing and launching new products and services at the market. An entrepreneur must have the technical and management knowledge to find new business opportunities while reading the changes in the market and society. Ultimately, an entrepreneur must have the creative entrepreneurship for business activities that have long-term vision and insight for decisions about the future market.

Recently, Miller (1983) proposed that successful businesses tend to show innovativeness, proactiveness and risk-taking propensity. He named this construct the entrepreneurial orientation. Firms with entrepreneurial orientation try to identify and exploit new opportunities persistently, create new values and become leaders in markets. According to previous researches, entrepreneurial orientation is an important factor that lead to the successful development of new products, high financial and nonfinancial business performance and high social performance. In addition to usual three factors, Lumpkin and Dess (1996) added competitive aggressiveness and autonomy as for the two additional factors that comprise entrepreneurial orientation. Entrepreneurial orientation was first introduced for an organizational level of studies. However, these days, because of the huge success, a lot of researchers use this construct for the studying of individual level of entrepreneurship studies. The purpose of this research is to examine the relationship between entrepreneurial orientation and business performance. Also, we look for the role of

entrepreneurial education in the influence of entrepreneurial orientation on financial or nonfinancial business performance. Our study measures entrepreneurial orientation using survey questions developed by Covin and Slevin (1991).

2.2 Entrepreneurship education

Israel's venture shows amazing results such as the world's highest venture start-up per capita and the world's largest number of NASDAQ listed companies. Many people in Israel give credit to such as the Chutzpah spirit, the Yozuma fund, the fusion of technology to civilian industries and entrepreneurial education. Vesper (1982) argues that counseling with experts increases the chances of success for entrepreneurs. Lussier (1995), showed, through empirical research, entrepreneurs who had received counseling from experts were more successful than those who had no entrepreneurial education.

A lot of scholars claimed that entrepreneurship courses not only provide students basic knowledge and skill for entrepreneurship but also make students have a positive attitude towards entrepreneurship. Timmons (1994) put strong emphasis on entrepreneurship skills and entrepreneurship education should teach these skills such as the ability to create high performing culture, the ability to connect and network and the ability to lead and work in teams. To succeed, entrepreneurs should have the necessary skills to deal with entrepreneurial problems. Improved skills may increase students' confidence on entrepreneurship and promotes the chances of entrepreneurial success.

Many researchers claimed that entrepreneurship can be learned and taught (Gibb, 2002). McGrath (1999) said through entrepreneurship education, students can study the factors that lead to failure in entrepreneurship and can avoid the same mistakes. Entrepreneurship education may also reduce the negative image of entrepreneurship and business failure. Entrepreneurship education can legitimize the entrepreneurship as a viable career option and develop entrepreneurial culture among students (Donckels, 1991; Johannisson, 1991; Kirkley, 2017). It can give students chances to meet famous entrepreneurs and influence the attitude towards entrepreneurship. In other words, entrepreneurship courses may help students find their role models to become entrepreneurs. According to Peterman and Kennedy (2003), after finishing entrepreneurship education, participants showed significantly higher perception of desirability and feasibility of starting a business. Kuttim *et al.* (2014) confirmed, based on the empirical study of 17 country students, participants in entrepreneurship education showed higher entrepreneurial intentions. Through the empirical investigation on science and engineering students, Souitaris *et al.* (2007) found that because of psychological inspiration, entrepreneurship programs raised the overall entrepreneurship intention. Noel (2001) also found entrepreneurship majoring graduate students showed stronger intentions to start their businesses because, he claimed, education could affect self-efficacy (Gist and Mitchell, 1992). Fayolle and Gailly (2015) found the impact of entrepreneurship education on entrepreneurial intention is negatively influenced by the students' prior experience on entrepreneurship. Because the average experience level of nascent or total early-stage entrepreneurs is high, educational effectiveness may not be as strong.

There are not so many valid studies examining the effect of entrepreneurship education for nascent and total early-stage entrepreneurs in Korea. Most studies have seemed to suffer from small sample problems and methodological flaws (Martin, *et al.*, 2013; Elert *et al.*, 2014). Also, there have been very few studies examining the relationship between entrepreneurship education and business performance in Korea.

2.3 Business performance

In addition to the technical superiority over rival companies, the ability to identify and satisfy the needs of the customers is one of the most important elements for business success. In the long run, to maximize the profit, companies must pursue excellence on every aspect of their business such as creating superior value to customers, satisfying employees, creating better working environments, creating resource for future innovation and performing social responsibility activities. Business performance can be defined as many different ways depending on purposes. An organization has a set of goals. Business performance can be defined as how much an organization achieves these goals. Also, business performance can be defined as how much an organization can cope with fluctuating environmental factors such as profits, productivity, employee satisfaction, social responsibility and business survival. In the empirical research on business performance, diverse measures have been used.

Generally, business performance can be classified in two categories, financial business performance and nonfinancial business performance. Financial business performance usually includes growth measures and measures of profitability. In our research, we measured financial business performance with return on asset (ROA), return on equity (ROE), growth in revenue and return on sales. While financial measures focus on short-term financial goals, nonfinancial measures are related with long-term goals and growth potential. Our nonfinancial business performance includes employee growth rate, social responsibility, organizational learning capability and growth potential. Financial measures are less subjective, reliable and easily verifiable. However, they only reflect past performance and do not guarantee future performances. Kaplan and Norton (1992) argued that, to improve the performance measures focusing on the past results, researchers should consider the factors such as internal process include the consider the factors such as the internal process performance, organizational learning and innovation performance, employee satisfaction and customer satisfaction. Many empirical researches have confirmed that subjective measures are correlated with objective financial measures (Pearce *et al.*, 1987).

On a study based on 132 Swedish companies, entrepreneurial orientation had influenced business performance for three years on a study (Wiklund, 1999). Cooper (1990) found that education levels, the level of previous experience, the degree of similarity between previous businesses and the new business were all positively correlated with business performance. He also found that business performance was also affected by the size of initial capital investments.

3. Empirical research

3.1 Research model

Innovative, proactive and risk-taking entrepreneurs will eagerly carry out entrepreneurial activities and achieve high business performances as a result. According to Miller (1983), firms with entrepreneurial orientation pursue innovation in products and markets, take necessary risks instead of avoiding and proactively react to opportunities and changes in environments. Entrepreneurs with entrepreneurial orientation can identify new opportunities, create tangible and intangible resources for innovation and launch innovative products frequently. Thus, they can sell more products and obtain high profits because of innovativeness and competitiveness (Malerba and Orsenigo, 1997). Our research model is shown in Figure 1.

In this article, we examine the relationship between entrepreneurial orientation, entrepreneurship education and business performance. Previous research confirmed that

financial business performance is closely related to nonfinancial business performance. We divided business performance into financial and nonfinancial. Our hypothesis are as follows:

H1. Entrepreneurial orientation is positively related to financial business performance.

H1.1. Innovative proactiveness positively affects financial business performance.

H1.2. Risk-taking propensity positively affects financial business performance.

H2. Entrepreneurial orientation is positively related to nonfinancial business performance.

H2.1. Innovation proactiveness positively affects nonfinancial business performance.

H2.2. Risk-taking propensity positively affects nonfinancial business performance.

H3. Entrepreneurship education is positively related to financial and nonfinancial business performance.

3.2 Sampling and measures

In our study, survey questionnaires were sent to 200 nascent and total early-stage entrepreneurs searching for business angel investments or entrepreneurship consultants in Korea. A total of 180 entrepreneurs answered the survey questions online. We frequently contacted them via email, phone or face-to-face meeting. Among the survey takers, there were 122 (67.8 per cent) total early-stage entrepreneurs with less than seven years of experience and 58 (32.2 per cent) nascent entrepreneurs. The age distributions were 91 (50.6 per cent) entrepreneurs in their 40 s, 35 (19.4 per cent) in their 30 s, 29 (16.1 per cent) in their 50 s, 21 (11.7 per cent) in their 20 s and 4 (2.2 per cent) in their 60 s. The education levels of the entrepreneurs were as follows: 42.8 per cent (77) master's degree, 35.0 per cent (63) bachelor's degree, 8.9 per cent (16) associate's degree, 7.8 per cent (14) doctorate degree and 6.5 per cent (10) high school diploma.

The three dimensions of entrepreneurial orientation can be easily derived from the previous research because numerous researchers in the world have used them (Covin and Slevin, 1989). Innovativeness, proactiveness and risk-taking propensity have widely been used constructs, even though Lumpkin and Dess (1996) added two additional dimensions, competitive aggressiveness and autonomy. Based on the Miller (1983)'s definition, a group of questions for entrepreneurial orientation were developed. To assure reliability and

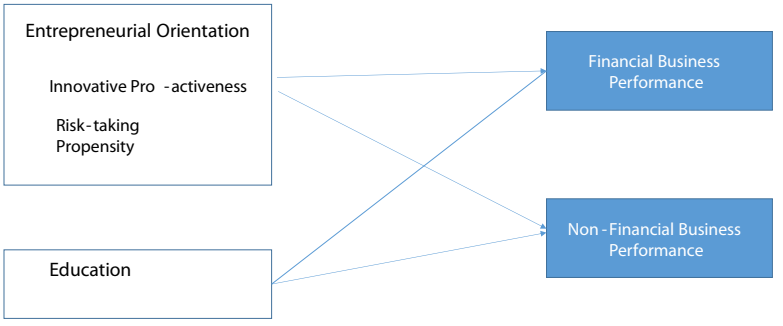

Figure 1.
Research model

validity of constructs, we use the questionnaires similar to the Covin and Slevin (1989)'s scale.

To measure entrepreneurial orientation, a nine-item questionnaire was used: three questions for innovativeness, three questions for proactiveness and three questions for risk-taking propensity. To measure financial business performance, a four-item questionnaire was used: one question for ROA, one question ROE, one question for growth in revenue and one question for return on sales. To measure nonfinancial business performance, a four-item questionnaire was created: one question for loyalty, one question for competitiveness, one question for stability and one question for customer satisfaction. In our study, SPSS 18.0 was used for empirical analysis. Each survey question uses the Likert scale as a tool of measurement and had choices ranging from 1 point standing for "not at all" to 5 points standing for "very much".

3.3 Reliability and validity analysis

Before the hypothesis test, we performed reliability and validity analysis. To find out whether the variables were measured as the study's intention we analyzed the reliability and validity of the list of measurements. Analyzing the reliability of the list of measurements means to repeatedly measure identical concepts to derive identical progress. Analyzing the validity of the list of measurements examines whether the list of measurements was able to deduce what this survey intended to achieve. To verify the construct validity, we conducted exploratory factor analysis. Our paper used principal component analysis with Varimax rotation. The results are shown in Table I.

Item	Factor loading	Eigenvalue	Variance	Cronbach's alpha
Innovative proactiveness				
Inno1	1.708	3.048	117.930	1.804
Inno2	1.633			
Inno3	1.550			
Pro1	1.769			
Pro2	1.735			
Pro3	1.645			
Risk-taking propensity				
Risk-taking1	1.849	2.158	12.694	1.761
Risk-taking2	1.771			
Risk-taking3	1.758			
Financial business performance				
Finan1	1.660	2.669	15.698	1.778
Finan2	1.830			
Finan3	1.688			
Finan4	1.673			
Nonfinancial business performance				
Non-finan1	1.843	2.578	15.162	1.801
Non-finan2	1.754			
Non-finan3	1.740			
Non-finan4				
KMO		1.793		
Bartltt's test		1,108.134 (1.000)		

Table I.
Reliability and validity analysis

Internal consistency test using Cronbach's alpha is the most popular methods for measuring reliability. To establish an internal consistency test, the list of measurements must first satisfy the single dimensionality test. A factor that passes 0.5 of the load range can be regarded as an important variable, proving that all of them are important variables. To verify the reliability of the measurements used on surveys, a reliability analysis was carried out by using calculations that include the Cronbach's alpha.

3.4 Correlation analysis

Correlation analysis is a method to study the relationship between variables, which examines the relationship between two of the variables and how much the two are related to one another. The correlation analysis of variables can become a valuable preliminary data for predicting verification relationship in a set hypothesis. The correlation coefficient r has a range between −1 and +1. If the measured data on the coordinate is close to a positive slope,

Variables	1	2	3	4
Innovative proactiveness	1			
Risk-taking propensity	1.377***	1		
Financial business performance	1.174**	1.101	1	
Nonfinancial business performance	1.346***	1.101	1.400***	1

Notes: ***$p < 0.01$; **$p < 0.05$

Table II. Analysis of correlation among variables

		Dependent: financial	
Variable	β	t	p
(constant)		6.689	000
Innovative proactiveness	1.157	1.933	1.055
Risk-taking propensity	1.041	1.498	1.619
Entrepreneurship education	−1.030	−1.402	1.688
$F = 1.911$, R square = 1.134, Adj R square = 1.119			

Note: ***$p < 0.01$

Table III. Multivariate regression analysis for financial business performance

		Dependent: nonfinancial	
Variable	β	t	p
(Constant)		5.065	000
Innovative proactiveness	1.361***	4.687	0.000
Risk-taking propensity	−1.029	−1.377	0.706
Entrepreneurship education	0.113	1.585	0.115
$F = 8.757$***, R square = 1.134, Adj R square = 1.116			
$F = 1.911$, R square = 1.134, Adj R square = 1.119			

Note: ***$p < 0.01$

Table IV. Multivariate regression analysis for nonfinancial business performance

the data has a positive correlation coefficient, and when the measured data on the coordinate is close to a negative slope, the data has a negative correlation coefficient.

Results from the correlation analysis between variables can be found on Table II. The correlation analysis amongst variables of innovative proactiveness, risk-taking proactiveness, financial business performances and nonfinancial business performances are only considered valid at the 1 per cent level. The result shows that the correlation between innovative proactiveness and risk-taking proactiveness are considered valid, showing they have a high degree of dependence. It is same for the correlation between innovative proactiveness and nonfinancial business performance, and also for the correlation between financial and nonfinancial business performance, as both correlations have results proving that the correlations are valid.

3.5 Multivariate regression analysis

Tables III and IV shows the results from the multivariate regression analysis. A variable is statistically significant when the result from the regression equation of the variable is at the 1 per cent level. Regarding the dependent variable of non- financial business performance and the independent variables of innovative proactiveness, risk-taking propensity and the entrepreneurship education, the result from our analysis show that only the innovative proactiveness variable was statistically significant, while the rest of the variables were not. The regression equation demonstrates that when the number of the innovative proactiveness variable increased by 1, the financial business performance increased by 0.517.

Our study uses the multivariate regression analysis to verify *H3*. Tables III and IV displays the result. The result examines the influence of entrepreneurial education on innovative proactiveness and risk-taking propensity, which are the independent variables. The moderating effect of entrepreneurial education had a significance level of 0.253, which demonstrates that it was not statistically significant. This result proves that *H3* of our study cannot be accepted.

4. Conclusion

Korean economy is demanding to change from an industrial society to an entrepreneurial society. It is asking for a generational change from the pre-existing paradigms of such as labor consciousness, the concept of work and company management. Youth unemployment is one of the most critical social issues in Korea. Increasing the number of entrepreneurs will not just simply improve the economy and produce more profits for the economy. Creating more businesses and hiring more people can provide a social safety net for society. That is why all OECD countries have placed great emphasis on entrepreneurship.

Entrepreneurship is one of the key elements that will lead to a successful business performance under highly uncertain business conditions. The purpose of this research is to examine the relationship between entrepreneurial orientation and business performance. Also, we look for the role of entrepreneurship education in the influence of entrepreneurial orientation on financial or nonfinancial business performance.

To accomplish the purpose of this study, we carried out a survey targeting nascent entrepreneurs and total early-stage entrepreneurs with less than seven years of experience. Our results of this study were as followed. First, among the subfactors of entrepreneurial orientation, it was clear that innovative progressiveness affected nonfinancial business performance. Second, risk-taking propensity did not influence on both financial business performance and nonfinancial performance. Third, both entrepreneurship education had no connection with entrepreneurial orientation or business performance.

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