The Factors Affecting Individuals' Choice to be Entrepreneur: A Comparison Between Efficiency-Driven Economies and Innovation-Driven Economies

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Thesis submitted to the
Faculty of Graduate and Postdoctoral Studies
in partial fulfillment of the requirements for the
MSc in Management

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Abstract

The purpose of this study is to examine the influence of institutional (environmental) factors and personal (attitude, human capital) factors on the probability of becoming an entrepreneur. In particular, this study aims to make a comparison between different types of economies. The data for this study is derived from the 2011 Adult Population Survey (APS), the 2011 National Expert Survey (NES) of Global Entrepreneurship Monitor (GEM) and the World Bank Database, and covers 32 countries, including efficiency-driven economies and innovation-driven countries. This study applies hierarchical logistic regression and uses multilevel modeling for the cross-country, cross-individual dataset. The results reinforce the importance of environmental factors (regulative and normative), attitude factors, and human capital factors. The findings of this proposed study will contribute to the further analysis of the GEM database to understanding the diversity of nascent entrepreneurial activities in different contexts.

1. Introduction

The rate of self-employment is increasing around the world. Currently in the United States and Canada, almost 10% of workers are self-employed (Hipple, 2010). The rate of self-employment in Canada alone has increased by 11% in the last decade (Statisitcs Canada, 2014). Meanwhile, the rate of self-employment is even higher in developing countries (Diez, 2012). For example, Field (2014) reported that the rate of self-employment stands at 15% of the total working population in developing countries such as Thailand and Turkey. In the modern world, self-employment is often used as a measure of entrepreneurship (Diez, 2012; Parker, 2009).

In recent years, researchers have paid increasing attention to understanding the phenomenon of entrepreneurship creation and growth (Audretsch 2012; Wennekers et al, 2005; Urbano, 2013). Most research agrees that the creation of entrepreneurship triggers economic growth. Thus both researchers and policy makers have made substantial effort in the study of entrepreneurship (Bosma, 2013; Bowen, 2008; Hechavarria, 2012; Kristiansen, 2004; Obschonka, 2010; Wennekers, 2005; Wilson, 2007). Over the past decade, the literature of entrepreneurship has grown enormously, with topics including opportunities recognition, discovery of entrepreneurial intention, management of new business and different factors that affect the intention of entrepreneurs (Franco, 2010; Turker, 2009; Van Gelderen, 2008; Wong, 2005).

One main stream of research that has gained substantial interest from scholars focuses on the study of nascent entrepreneurship. A sizeable body of comparable studies has worked on explanations of the determinants of nascent entrepreneurship (Wennekers, 2005; Wilson, 2007; Van Geldren, 2008). Many scholars have investigated the reasons why people become self-employed (Franco, 2010; Franke, 2004; Turker, 2009; Iakovleva, 2011; Wu, 2008). For example, Hechavarria (2012) conducted research on distinguishing individuals who continued to pursue entrepreneurial opportunities from those who abandoned their efforts. The factors discussed in previous literature include the institutional level (Diaz-Casero, 2009; Estrin, 2013; Klyver, 2012; Urbano, 2013) and the individual level (Franco, 2010; Van Gelderen, 2008; Wilson, 2007; Urbano, 2013). Applied to the field of entrepreneurship, Urbano and Alvarez (2013) pointed out that the institutional factor represents the set of rules that describe the economic, social and

political environment for entrepreneurial activities, including government policy, tax or regulation (Bowen, 2008). Individual level factors articulate the individual characteristics which relate to the behaviour of individual entrepreneurial activities (Driga, 2009; Wilson, 2007; Wong, 2005). Scholars have put many efforts into investigating the entrepreneurial activities at the individual level for different levels of target groups (Ajzen, 1991; Basu, 2008; Bowen, 2008; Huyghe, 2014; Reynold et al., 2000, 2005). For example, Wilson (2007) assessed how gender and self-efficacy influence the entrepreneurial intention at the individual level. Van Auken (2004) discussed how education determines a young student's entrepreneurial intention in different countries.

Scholars used to be more focused in their studies of highly-developed countries such as Norway, Germany, Netherlands, UK and the United States (Franco 2010; Franke, 2004; Van Gelderen, 2008; Kristiansen, 2004; Souitaris, 2007; Wilson, 2007). There remain few comprehensive studies however on the state of entrepreneurship in other economies (Gird, 2008; Tkachev, 1999; Turker, 2009; Wu, 2008), especially "cross-cultural" research (Lina &Chen, 2009; Moriano et al, 2011; Iakovleva, 2011). For example, Iakovleva (2011) conducted the study of comparison of entrepreneurial intention among countries in Eastern Europe. Previous studies frequently focused only on comparing two single countries at most (Franke & Luthje, 2004; Linan & Chen, 2009; Wong, 2004) or between selected groups of countries in a specific region only (Giacomin, 2011; Otmazgin, 2011; Wong, 2004).

Moreover, although many scholars paid increased attention to the cross-national variation in the study of entrepreneurship and the reasons behind this phenomenon (Audretsch, 2012; Urbano, 2013), there is limited understanding of the impact of the institutional context in influencing entrepreneurial activities, especially in multi-nations using cross-national data. De Clercq (2010) conducted the two cross-national research projects to determine the impact of regulatory, normative institutional and cognitive institutions in the relationship between associational activity and the level of new business activity in emerging economies, using the data from Global Entrepreneurship Monitor. Burton et al. (2010) mentioned that studies of entrepreneurship including multiple-country database are the exception when using institutional economics to explain entrepreneurship (Urbano, 2013).

This thesis aims to contribute to the literature on determinants in entrepreneurial activities in different types of economies. The focus is on the study in efficiency-driven and innovation-driven countries. The analysis examines whether institutional (environmental) factors, human capital factors, and attitude factors are stable across different levels of economic development and which factors motivate the entrepreneurial intention the most between two types of economies. Specifically, the question addressed in this thesis is: what factor affects entrepreneurial activities the most between efficiency economies and innovation economies?

This study analyzes the influence of institutional (perception of environment, regulative, normative) factors, cognitive/attitude factors and human capital factors on the probability of becoming an entrepreneur. Data were obtained from both the Global Entrepreneurship Monitor (GEM) and the World Bank Database for the year 2011, considering a sample of 37 countries. Multi-level modeling is applied in this study to examine the influence from both macro-level and micro level independents.

The remainder of this thesis is structured into the following sections. Section 2 is the literature review of entrepreneurial intention. Section 3 discusses the hypotheses which guide the research. Section 4 describes the research methodology and data resources of the study. Section 5 presents the results derived from the data analysis. Section 6 concludes the research and outlines the limitations and future implications.

2. Literature Review

The meaning of entrepreneurship can be separated into two categories (Sternberg, 2005). The first is the *occupational notion of entrepreneurship*. Entrepreneurship can be considered as an important vocational option for different types of careers (Van Gelderen, 2008). Arenius (2005) emphasized entrepreneurship as an employment choice, since in a narrow sense entrepreneurship is all about new venture creation (Shane, 2008). Klofsten (2000) conceptualized entrepreneurship as the origins of all commercial occupational activities. The second category of the definition of entrepreneurship is the *behaviour notion of entrepreneurship* (Sternberg, 2005), which refers to "entrepreneurial behaviour" in the sense of capturing entrepreneurial opportunity. Kruger (2000) also confirmed that entrepreneurship is a way of thinking that emphasizes business opportunity.

The importance of the study of entrepreneurship has grown substantially on both the macro level and micro level. From the macro level, econometric research shows that entrepreneurial activities contribute significantly to employment, innovation and economic growth (Van Gelderen, 2008) and plays a key role in driving economic development (Wong, 2005). First, entrepreneurship could benefit society by incubating technological innovations (Turker, 2009). As early as 1911, Schumpeter established the notion of the "entrepreneur as innovator", and how entrepreneurs and their innovations could determine the process of economic development (Kristiansen, 2004). New businesses could promote the development of innovation and provide a greater variety of products and solutions (Franco, 2010). Entrepreneurship could be considered as a driving force for innovation (Luthje, 2003). Since large scale entrepreneurship is frequently associated with significant technological change at the societal level (Obschonka, 2010), technological innovation is in fact viewed as a specific aspect of entrepreneurship (Wong, 2005). Join et al. (2009) defined any form of technology transfer which has some commercial benefit as entrepreneurship. Secondly, entrepreneurship could also trigger economic growth by contributing to job creation (Zahra, 1999). Entrepreneurship can stimulate local economies by creating more employment opportunities and increasing the employment rate for local communities (Basu, 2008).

From the micro perspective, human motivation towards entrepreneurship is gathering more interest (Hechavarria. 2012). Nascent businesses are believed to make contributions to job creation (Carree, 2003). Nascent entrepreneurship is viewed as having an econometric link to economic growth at the national or regional level (Wong et al, 2005). Entrepreneurship offers great opportunities for individuals to achieve financial independence where new ideas might be generated and converted into profitable ventures (Basu, 2008; Turker, 2009). Entrepreneurship has gradually become a common choice of occupational career in recent decades (Obschonka, 2010), since the individual career preferences are increasingly favoring self-reliance (Van Gelderen, 2008). Also, entrepreneurial activity may have positive effects for the new entrepreneurs through high levels of responsibility and autonomy (Sternberg. 2005), Thus, for individuals, entrepreneurship is a relatively important professional option among possible career choices (Van Gelderen, 2008; Obschonka, 2010). In essence, entrepreneurship contributes to economic growth and development by introducing innovation, creating changes and creating competition (Wong, 2005).

With rising rates of self-employment and of companies' desire to seek innovation within, it is paramount that researchers seek to better understand the behaviours and qualities of entrepreneurs to aid the process of starting business (Van Gelderen, 2005). Many scholars commit to conducting theoretical approaches to the study of entrepreneurship (Turker, 2009; Luthje, 2003; Wilson, 2007; Wennekers, 2004; Franke, 2004; Wu, 2008). Among those empirical studies, entrepreneurship research could be considered as systemic academic research, which is based upon four broad theoretical foundations: economic, managerial, psychological and socio-cultural (Veciana, 2007).

Since the aim of this study is to assess several factors which could affect entrepreneurial activities across multiple countries with varying levels of economic development, this literature review first provides an overview of several key multi-country studies as outlined in Table 1, and will then provide a detailed discussion of the influence of different factors on individual entrepreneurial activities in different economies.

Table 1 summarizes several papers that discovered factors affecting the entrepreneurial activities across different regions. The evidence suggests that the institutional (environmental) factors, human capital factors and attitude factors would affect the individual entrepreneurial choice.

In terms of dependent variables, the most used variable is nascent entrepreneurship rate. Many studies use total entrepreneurship activity (TEA) which is one of the most important indicator in GEM project (Bosma, 2013). In term of independent variables, empirical studies involve variables that cover two levels:

Micro Level (individual level): Numerous empirical analyses focus on the individual level analysis of entrepreneurial activities (e.g. Autio et al, 2001; Lee, 2003; Kristiansen, 2001). The two major factors considered to be the main research target are cognitive (attitude) factors and human capital factors. 1) Ang and Hong (2000) mentioned that the cognitive factor includes risk-taking propensity, tolerance of ambiguity, and internal locus of control, innovativeness and independence. Franco (2010) defined cognitive factors to encompass personal factors, which could separate entrepreneurs from non-entrepreneurs. Abbey (2002) categorized personality traits, individual motives and some specific characteristics into personal factors. Luthje (2003) mentioned that the personality traits and attitudes could have a significant impact on young

entrepreneurs' choices. 2) The individual level has also been concerned with researching structural factors (human capital factors), such as gender, marital status, age, education, previous experience, and parental experience. Many studies have focused on the influence of explicit demographic characteristics (Franco, 2010; Turker, 2005; Stewart et al, 2003; Lee et al, 2003; Wilson, 2007). Turker (2005) found that the human capital factors are statistically significant in explaining entrepreneurial intention. Wilson (2007) examined the impact of gender on entrepreneurial activities. In conclusion, the individual characteristics include demographics (age, gender, education level, and income level), social resource (personal network), and attitudes (fear of failure, self-efficacy in entrepreneurial skills and knowledge, perceived behavioral control).

Macro level (institutional level): The macro level study of entrepreneurship comprises the study of the role of government and industry in encouraging or constraining entrepreneurial activities (Huyghe, 2014). Many researchers have focused on the investigation of the macro environment (Begley et al, 2001; Hayton et al, 2002). Researching the macro-environment is attractive, since macro factors may have the potential to have a great impact on the entrepreneurial intention of whole groups (Hayton et al, 2002). Early Global Entrepreneurship Monitor research reported that, for instance, GDP and national unemployment rates might have an impact on national entrepreneurial activities (Reynold, 2000). Therefore, the institution factors mainly include economic development level (GDP per capita, GINI index, unemployment rate, inflation rate) and entrepreneurship environment (government policy, regulatory protection, market openness level, financial access, level of taxation, corruption).

Table 1 Summary of empirical studies on entrepreneurial activities in Multi-national studies

Multi-Countries Study

Paper	Purpose of Study	Data& Methods	Result
Alvarez, 2011	Analyze the influence of environmental factors on entrepreneurial activity in Latin America	GEM survey; Logistic regression	Informal institutions are related to the entrepreneurial activity in Latin America.

Alvarez, 2011	Analyse the influence of environmental factors on entrepreneurship at Spanish regional level.	GEM APS + NES Spanish Regions; Logistic regression	Both informal and formal factors influence entrepreneurship.
Alvarez, Amoros, 2014	Use an institutional approach to examine the effect of regulations on entrepreneurial activity	GEM 49 countries; 2001-2010	Positive influence of government spending and entrepreneurship legislation on entrepreneurial activity; unemployment legislation is positively related to entrepreneurship
Ao (2014)	Explore internal/external factors on entrepreneurial intention from the perspective of information transfer.	Questionnaires in China & U.S. ; Logistic regression	Individuals' perceived environmental support is positively related to entrepreneurial intention
Bowen, 2008	Examine the country's institutional environment impact on allocation of entrepreneurial effort	GEM 40 countries from 2002-2004	Allocation of entrepreneurial effort toward high-growth activities is positively related to a country's financial and educational activities targeted at entrepreneurship
De Clercq 2010	Examine the effect of associational activity on the level of new business activity in emerging economies and test associational activity becomes more instrumental for new business creation when aspiring entrepreneurs confront higher institutional burdens	GEM and World Value Survey	Positive relationship between a country's associational activity and new business activity, stronger for higher regulatory and normative institutional burdens and lower cognitive institutional burdens
Estrin,2013	Test the relationship between social and commercial entrepreneurship drawing on social capital theory	GEM 47 countries; multilevel modeling	Country prevalence rate of social entrepreneurship is an indicator of constructible national-level social capital and enhances the likelihood of individual commercial entry

Fernandes, 2011	Identify groups of countries that share similar patterns regarding the characteristic of entrepreneurial attitudes and perceptions	GEM 2009; k-means cluster analysis	Three clusters with different entrepreneurial attitudes among the countries- high, medium and low.
Klyver, 2013	Investigate the extent to which gender equality disintegrates women's self-employment choice and whether this is contingent upon a country's development stage and industries	GEM 61 countries; Logistic regression	Overall gender equality is associated with gender gap in men's and women's self-employment choices and that this association depends upon the country's development stage and industries.
Schwarz, 2009	Examine key factors influencing students' intent to create a new venture in Austria	Questionnaire; Multiple linear regression	Pertaining to the environment conditions, only significant effects of the university on students' interest in business founding were detected
Sesen, 2012	Aims to describe and empirically test a comprehensive model on the entrepreneurial intentions of the university students in which some individual and environmental factor were included	Questionnaire survey ; correlation and regression analysis	Results indicate that as individual factors locus of control and entrepreneurial self-efficacy and as environmental ones social network and access to capital have significant impact on entrepreneurial intentions of students
Stenholm, 2014	Introduce multidimensional measure of the entrepreneurial environment that reveals how differences in institutional arrangements influence both the rate and the type of entrepreneurial activity in a country	GEM 63 countries; GCI,SEM analysis	Differences in institutional arrangements are associated with variance in both the rate and type of entrepreneurial activity across countries
Long et al; (2010)	Analyze the general laws of Chinese entrepreneurial activities at the micro level.	GEM ; Multiple Logistic Regression	1, Most entrepreneurial activities are opportunistic; 2, Most entrepreneurs start their businesses by making full use of available resources or abilities.

Tkachev (1999)	Investigated employment status choice in Russia	Questionnaire; Correlation analysis	TPB theory fit the situation in Russia
Xiaver et al (2010)	Examined the extent to which cultural and economic factors determine the entrepreneurial propensity in Malaysia	GEM 2008 ; Multiple Regression; sample 450 students in Malaysia	1, Cultural and economic factors are determinants of entrepreneurial propensity; 2, Inherent ethnicity does impact propensity for entrepreneurship are determinants of entrepreneurial propensity
Wennekers, 2005	Examine the relationship between nascent entrepreneurship and the level of economic development	GEM 2002 APS ; Linear regression; 36 countries	Confirmed a U-shaped relationship between a country's rate of entrepreneurial dynamics and its level of economic development
Wong, 2005	Explore firm formation and technological innovation as separate determinants of growth.	GEM APS 37 countries	High growth potential entrepreneurship has a significant impact on economic growth.
Van Stel et al, 2005	Test the relationship between entrepreneurship and level of economic development.	GEM,GDP per capital; linear regression	Nascent entrepreneurs affect economic growth; this effect depends upon the level of per capital income.
Urbano and Turro, 2013	Use Resource-Based Theory and Institutional Economic to analyse the entrepreneurial activities within organizations	GEM 2004-2008; 9 countries; Negative binomial regression	Contributes to the development of the literature in corporate entrepreneurship field
Urbano, 2013	Examine the influence of institutional dimensions (regulative, normative and cultural-cognitive) on the probability of becoming an entrepreneur.	Data: GEM; 30 countries; Logistic regression	Favourable institutional factors increase the probability of becoming an entrepreneur.
Unger, 2011	Integrated results from three decades of human capital research in entrepreneurship	Questionnaire	Significant but small relationship between human capital and success

2.1 Institutional (environmental) Factor

Institutional economics has proven to be very helpful to entrepreneurship research (Bruton, 2010; Urbano, 2013). North (1991, p.97) defined institution as "humanly devised constraints that structure political, economic and social interaction", shaping the framework within which individuals choose entrepreneurship (Estrin, 2013). Bosma (2009) mentioned that when explaining differences in regional entrepreneurial activities, one has to consider both the micro and macro phenomena at the same time. Applied to the entrepreneurship study, institutions represent the rules that organise the economic, social and political interaction between individuals and society (Urbano, 2013). Within this institutional framework, there are five dimensions that affect entrepreneurial activity (Sadeghi, 2013; Vidal-Sune, 2012; Urbano, 2013): a) government policies and procedures; b) social conditions and economic conditions (aspects such as economic growth, unemployment rate, inflation rate, etc); c) entrepreneurial knowledge and skill, d) financial assistance for entrepreneurship; and e) non-financial assistance (preparation of business plan, access to contacts and social network). Furthermore, North (1991) categorized the institutions into two parts: formal and informal.

2.1.1. Formal institutions

North (1991) mentioned that formal institutions comprise economic, judicial and political rules. At the macro-level, Veciana (2007) pointed out that institutions create environments that facilitate and inhibit individuals in making decisions and developing strategies. Scott (1995) and Urbano (2013) further categorise the formal institutions into regulative institutional dimensions. The regulative dimension builds on insights from institution theory concerning regulations, policies, rules and laws that influence individual behavior (Scott, 1995; Stenholm, 2010; Urbano, 2013). In particular, one key formal regulative institution that influences entrepreneurship is government programmes (Bowen, 2007; Urbano, 2013). Government plays a key role in creating legal rules and controlling the healthy business environment of entrepreneurship (Diaz-Casero, 2009). Schumpeter (1961) argued that the level of government regulation is particularly important for individuals starting businesses. Another key determinant of the regulatory dimension is the regulation and laws (Stenholm, 2010), which determine the level of access to resources required to create new ventures. For example, the more protective regulations of intellectual property, the more motivation for individuals to start businesses. Baker (2005) also pointed out that if the institutional environment does not support entrepreneurship, the perception

by entrepreneurs of potential business opportunities would be hindered. Strict national regulations on new firms may discourage individuals from thinking of starting a new business (Bosma, 2009). In a heavily regulated economy, there will be fewer newer firms than the ones in a lightly regulated economy (Stenholm, 2010). Thus, it is believed that in less developed countries with unstable regulative policies, the opportunity cost for entrepreneurs will increase due to the potential of corruption and uncertainty about the regulation (Stenholm, 2010).

Another key institutional factor is the access to financial capital (Bowen, 2008; Urbano, 2013). Bowen (2008) found strong positive correlations between the growth of entrepreneurship and available financial capital. The more financial capital is targeted to the potential entrepreneur, the higher the percentage of nascent entrepreneurship is. Sesen (2012) mentions two environmental antecedents of entrepreneurial intentions including access to capital (Luthje, 2003) and knowledge of the potential business sector (Kristiansen, 2004). Van Stel (2007) found that the probabilities of establishing a new company decrease when only the minimum capital required for starting the new business increases.

2.1.2. Informal institutional (Attitude/Cognitive Factor)

Not only are administrative policies or financial regulations important, but also individuals' perceptions of these policy barriers (Bosma, 2009). North (1991) concluded that the informal institutions comprise attitudes, values, and norms of behavior. According to Scott (1995), informal institutions are also a normative dimension which incorporates social norms, values, and beliefs related to human behavior. One stream of studies of entrepreneurship focuses on environmental conditions as key determinants of an individual's aspiration to start a business (Schwarz, 2009). The entrepreneurial environment is defined as a key factor in developing entrepreneurship (Sadeghil, 2013). People's attitudes and behaviors about entrepreneurship are affected by the environment (Sadeghi, 2013). The environment can also provide an explanation as to why the relationship between personal-related factors and entrepreneurial intent is different in different economies (Luthje and Franke, 2004). Many authors have proposed that entrepreneurship depends on both tangible factors (economic) and intangible factors (social-cultural) (Diaz-Casero, 2009; Veciana et al, 2002; Vaillant, 2007). Institutions could benefit the entrepreneurship by creating a favorable climate (Diaz-Casero, 2009). Veciana (2002) draws the

theory for paying more attention to the contextual or institutional factors as determinants for entrepreneurship; this theory makes reference to the different factors perceived by society to conduct human behavior. Bowen (2007) concluded that an important institutional factor that could affect entrepreneurship is the level of educational capital of a country; that is, the level of educational opportunities available to the population. It is believed that the institutional environment could develop and encourage individuals' competence and skills (Bowen, 2007). Entrepreneurs are likely to have higher levels of "perceived feasibility" and "self-efficacy" owing to their training and education (Franco, 2010). Empirical research shows that a higher rate of education leads to a higher entrepreneurship rate (Sternberg, 2005; Wilson, 2007).

Scholars have committed to the theoretical study of the psychology of entrepreneurial activities (Ajzen, 1988, 1991; Bird, 1988; Shaver and Scott, 1992). Among these, two have had the most enduring influence on the field: the Theory of Planned Behaviour (TPB) and Shapiro's Model of Entrepreneurial Event (SEE). The former (Ajzen, 1991) is a general model that provides several ways to conduct research on entrepreneurial intention, and is mainly focused on attitudes, perceived behavioral control and subjective norms (Krueger et al, 2000). Personal attitude could be considered a reflection of opinions held by entrepreneurs (Wu, 2008), because their attitude depends on expectations regarding an individual behavior's impact on outcomes (Krueger, 2000). Perceived subject norms derive from the perceptions people have about performing a particular behavior (Kruger et al, 2000). The perceived behavioral control is viewed as the perceived ability to execute a target behavior (Ajzen, 1991). The second model is created by Shapero and Sokol (1982). According to the SEE, entrepreneurial intentions come from perceptions of desirability and feasibility and from a propensity to act whenever opportunities occur (Kruger et al, 2000). Perceived desirability is defined as the personal attractiveness of starting a business (Kruger, 2000) and feasibility is defined as the degree to which one feels capable (Shapero et al, 1982). Both of these two models are valuable tools for understanding entrepreneurial intention (Kruger et al, 2000) and considerable research has been devoted to testing, advancing and criticizing these two theories in a variety of fields (Fayolle et al., 2006; Shook et al., 2003; Moriano et al., 2011; Tianata, 2011). For example, Van Gelderen (2008) tested the TPB evidence to explain entrepreneurial intentions by surveying 4 four different universities in the Netherlands. He also did further research by testing the three main key

components in the TPB model—attitudinal variables, perceived behavioral control and subjective norms.

2.2 Human Capital Factor

Among empirical entrepreneurship studies, although behavioural psychology models have typically been based on less robust and less predictive approaches (Krueger et al, 2000), it is largely an issue of measurement. Thus, understanding volition requires a more complex approach and more precise measurement (Krueger, 2000). Krueger (2000) points out that the differences in measuring some factors in the theoretical model, such as perceived feasibility, might derive from faulty measures. For construct validity, it has been a tradition in studying an individual's current human capital for entrepreneurship research (Unger et al, 2011) as antecedents of entrepreneurial intention (Goethner, 2012).

At the micro-level study of entrepreneurship, people have social resources and are willing to use them when making the entrepreneurial start decision (Veciana, 2007). The sources are including human capital resources and social networks (Davidsson, 2003). Human capital theory indicated that knowledge could increase one's cognitive abilities, leading to more productive activity (Davidsson, 2000), since an individual could transfer knowledge and skills to practical values (Romer, 1990). Some studies also emphasized the importance of different demographic factors, such as age, gender, religion, ethnic group, education, family, socioeconomic status, and professional experience (Reynolds et al. 1994). It is believed that individuals with higher quality human capital have superior ability in exploiting entrepreneurial opportunities (Davidsson, 2000) and those with greater levels of human capital were more prone to take steps towards starting their own businesses (Shane, 2008). For example, Seo (2013) found that the age, school prestige and related experience among human capitals of entrepreneurs are positively related to their entrepreneurial performance.

Another important stream of human capital studies is the study of social networks (Veciana, 2007). Social networks provide various resource and linkages that may benefit entrepreneurs when starting new businesses (Veciana, 2007). Minniti (2005) mentioned that social networks are a crucial factor in the decision of whether to become an entrepreneur. In the theory of

planned behavior (TPB), if an individual knows other entrepreneurs, she/he may get more positive information from others, and improve his/her self-efficacy to start a business (Ajzen, 1991; Sternberg, 2005). Minniti (2005) mentioned that personally knowing other successful entrepreneurs might increase the self-confidence of the individual and the likelihood of business creation. Higher self-confidence and lower fear of failure will positively affect entrepreneurial choice and decisions (Driga, 2009). Accordingly, Goethner (2012) pointed out that the studies of human capital contribute to a better understanding of entrepreneurship.

3. Theoretical framework and Hypothesis

3.1 Theoretical framework

The preceding literature review suggests that entrepreneurial intent is influenced by environmental factors (Bowen, 2007; Diaz-Casero, 2009), individual cognitions (attitudes) of business opportunities (Kruger, 2000; Sternberg, 2005) and the human capital factor (Minnit, 2005). Thompson (2009) indicated that these factors are interrelated and may influence entrepreneurship differently. Moreover, Linan &Chen (2009) confirmed that the cognitive process for entrepreneurial intention is essentially similar in different countries and these determinants of entrepreneurial intention would always stay same. Further, their study mentioned that the national particularities demonstrated themselves in the way individuals apprehend reality and transform it into perceptions toward entrepreneurship. Therefore future study should be applied in a wider sample of different economies to confirm their findings. Further, Iakovleva (2010) also suggested that future studies should address the differences in entrepreneurial intention among different economies. Previous research~~es~~ on environment factors ~~are~~ almost exclusively focuses on single country studies. For example, Sadeghi (2013) tested the environmental factors in students in the U.S.. Sesen (2012) compared the impact of different personalities and environmental factors in Turkish students. Results demonstrated an existing gap in the comparison of environmental factors with different kinds of economies. Thus, comparisons between groups of economies will enable a better understanding of three different factors ~~in~~ affecting entrepreneurial intentions. Against this backdrop, the model of this study aims to examine the relationship between three main dimensions of determinants (environmental factor, cognitive factor and individual characteristic factor which includes education and social network) and entrepreneurial activity in different economies. The main model will be:

Entrepreneurial Activity = f (Environment, Attitude, Human capital,)

Sex is the control variable at the individual level. Each of these variables is discussed below in more detail. The measurement of these variables is discussed in the methodology section.

3.2 Hypothesis

3.2.1 Environmental Factor

3.2.1.1 Regulative dimension

Entrepreneurs do not act in a vacuum; they react to entrepreneurial environments surrounding them. Entrepreneurial environment is defined as a key factor which is critical in developing entrepreneurship (Sadeghi, 2013). Franco (2010) pointed out that environmental factors could influence the decision to begin an entrepreneurial career. Individuals are more inclined to perform entrepreneurial activities (Linan, 2008) and more encouraged to create new business ventures (Sadeghi, 2013) when the environment supports entrepreneurship. Sadeghi (2013) grouped entrepreneurial environments into five broad categories: government policies and procedures, socioeconomic conditions, entrepreneurial and business skills, financial assistance and non-financial assistance. Each category could affect entrepreneurship significantly. Urbano (2013) concludes that there are four different ways for government programmes to influence entrepreneurship: 1) Government supportive policies might lower the entry barriers to the new firm formation. Government policy can influence the market frame and create an entrepreneurship friendly culture that increases individuals' interest to take risks and start a business. A positive attitude of the society towards entrepreneurship and public support from government will motivate individuals to start new ventures (Bowen, 2008). Van Stel (2007) mentioned the examples as the time taken to start a business, the number or cost of the permits or licences or the financial capital requirement for new business. 2) Government regulations have a negative impact on entrepreneurial activities, including the tax regime and labour regulations (Van Stel, 2007). Rich empirical studies demonstrate that bureaucratic, taxation or legal overhead has a negative effect on entrepreneurial activities (Stenholm, 2013; Urbano, 2013). If policies do not ensure individuals are compensated for their efforts in creating value for society, the incentives for entrepreneurial activity will be low (Stenholm, 2013). 3) Supportive government policy would provide financial support for entrepreneurial ventures, which

contribute to the promotion of new business. 4) Supportive government policy would provide information, training and other non-financial support to entrepreneurs.

According to Sambharya (2014), in countries with little economic or market freedom, the entrepreneurship is likely to be discouraged in the informal sector. He also mentioned that the encouragement of market openness and freedom might be particularly important for opportunity-driven entrepreneurship more so than necessity-driven entrepreneurship. The more freedom of the market (including free investment in market enterprises), the more conducive it is to the entrepreneurial activities.

Based on the above arguments, the first two hypotheses will be:

H1a: ***The satisfaction level of government policy is positively associated with individual entrepreneurial activities.***

H1b: ***The level of market openness is positively associated with individual entrepreneurial activities.***

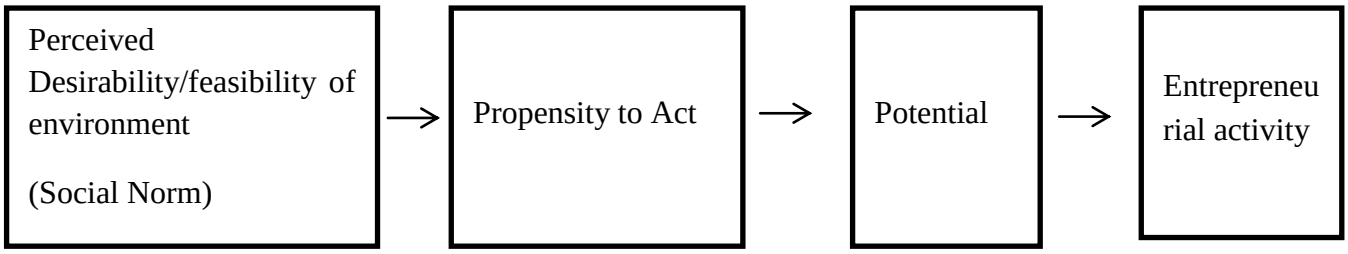
3.2.1.2 Normative dimension

The normative dimension comprises constraint on social behavior through values and social norms (Scott, 1995; Urbano, 2014). In the entrepreneurship field, the normative dimension measures the degree to which a country's residents admire entrepreneurial activity (Urbano, 2014). There are a few perspectives that could reflect the normative dimensions:

First, it is the perception of environment rather than the environment itself that will change the mind of an individual to become an entrepreneur (Diaz-Casero, 2009). According to North (1994), the perceptions from the environment are reflected in the culture of society which can condition social desirability toward entrepreneurship. Jack & Anderson (2012) concluded that the individual's subjective perceptions about their environment and their relative social position play a vital role in the formation of entrepreneurial intention because entrepreneurship is an embedded phenomenon. Individuals' perceived environmental factors are the key factors ~~to~~ in becoming entrepreneurs (Ao, 2014). The social environment of such things as beliefs, values and attitudes has influence in the behavior and decisions made by individuals (Bowen, 2007). The research on the effect of value perception shows a significant effect on entrepreneurial activities (Sadeghi, 2013). The environment will influence people by the perception of desirability and

feasibility to create a new business. People's perception about what others around them, or those who are important in their lives, will think about the creation of a business and whether they will view it as desirable or not will change their own view about the desirability of the creation of a business (Diaz-Casero, 2009). Kruger (1994) has developed a model under the psychological-sociological perspective which aims to conceptualize and demonstrated the notion of entrepreneurship. This model used the work of Shapero & Soko (1982) about entrepreneurial events and the theory of planned behaviour (Ajzen, 1991). It demonstrates the process of how environmental/social norms would affect the entrepreneurial activities.

Figure 1 demonstrates this process:



Source: Kruger& Brazael (1994)

Figure1: the relationship between perceived desirability and feasibility of environment

The Figure 1 is known as the opportunity recognition process, which has traditionally played a key role in research in the entrepreneurship field (Urbano, 2014). The ability of detecting business opportunities allows an individual to develop new products, services, and markets (Alveraz, 2011). Shane (2000) and Urbano (2014) argued that opportunity recognition is one of the most important points in research on entrepreneurial activity.

H1c: It is more likely that individual would start entrepreneurial activity when they are able to identify business opportunity.

Moreover, environmental factors are considered to have a significant impact on the entrepreneurial choice of individuals (Luthje, 2003; Sesen, 2012). Urbano (2014) mentioned that normative dimension reflects the general status and respect to the entrepreneurs and whether individuals consider starting a business a desirable career choice. Furthermore, Carroll (2003) mentioned that the media plays an important role in transmitting sources of information, thereby performing the role of institutional intermediaries (Urbano, 2013). Finally, this study will test

whether the environmental factors will have an impact on the entrepreneurial activities in different economies. However, our starting point is the general hypothesis that:

H1d: In environments where entrepreneurship is viewed positively, people are more likely to start entrepreneurial activities.

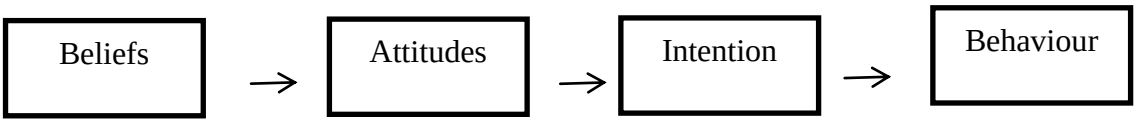
3.2.2 Cognitive (Attitude) factors

The psychological study of entrepreneurial intention leads to the study of *entrepreneurial orientation,* which could be defined as an individual's attitude towards engaging in entrepreneurial activities (Wu, 2008). The Theory of Planned Behaviour has been used in the entrepreneurship literature as a basis for explaining the psychology of entrepreneurial attitude (Linan and Chen, 2009). In this theory, the entrepreneurial intention is influenced by personal attitude, subjective norms, and perceived behavioral control. In particular, personal attitude refers to the extent to which an individual receives a positive or negative evaluation when starting entrepreneurial activity. Attitudes are determined by the whole set of accessible behavioral beliefs linking behavior to various outcomes (Iakovleva, 2010).

Pia (2005) mentioned the concept of perceptual variables, which could describe the subjective perceptions and beliefs of the individuals. According to Ajzen (2002), attitude would influence beliefs which in turn influence intentions and eventually behavior of entrepreneurial activities. Two important factors that could influence the individual's entrepreneurial intention are *self-efficacy* and *fear of failure*.

Self-efficacy describes an individual's belief in their ability to succeed at a given task (Sesen, 2012). Self-efficacy impacts an individual's beliefs and intentions in a way distinct from their success in realizing personal goals (Wilson, 2007). Self-efficacy plays a key role in controlling the individual's attitudinal behavior (Wilson, 2007) and is also considered a motivational construct that influences individual choices (Malebana, 2014). Previous studies have established the importance of confidence in one's skills and ability for entrepreneurial behavior (Pia, 2005). Pihie (2009) stated that self-efficacy is a strong personal belief in the skills and abilities required to initiate a task, while Turker (2009) and Malebana (2014) also confirmed that self-confidence is viewed as a valuable asset for individuals to pursue personal success. Sesen (2012) indicated

that increased self-efficacy yields greater entrepreneurial intentions. According to the TPB theory, one's attitude would directly influence intention and conduct. (Fig.2)



Source: Ajzen (1994)

Figure 2 Theory of planned behavior: behavior as a function of beliefs

Therefore, our next hypothesis will be:

H2a: A belief in entrepreneurial capability is positively associated with entrepreneurial activities

Moreover, previous scholars have detected the relationship between entrepreneurial activities and risk aversion (Kihlstrom, 1979; Urbano, 2014). It is believed that the fear of failure has a negative effect on entrepreneurship (Arenius, 2005). Since most people are averse to risk (Urbano, 2014). In this sense, the the more an individual is willing to take risks, the bigger the probability for them to become entrepreneurs (Arenius, 2005, Urbano.2014). Arenius (2005) also argued that the risk aversion behaviour can be changed through cultural factors that mould attitudes, perceptions and risk profiles. Thus, we pose the following hypothesis:

H2b: It is less likely that people become entrepreneurs when they have a fear of failure when starting a business.

3.2.3 Individual human capital factors

3.2.3.1 Education

Education is a key factor that has been widely shown to affect entrepreneurial intention in many studies in many countries (Franco, 2010; Huyghe, 2014; Lee, 2007; Segal, 2005; Iakovleva, 2011; Van Gelderen, 2008; Veciana, 2005; Wilson, 2007; Wu, 2008). Wennekers (2005) stated that education plays an important role in developing entrepreneurial behavior. Krueger (2000) concluded that educators can influence entrepreneurial intentions and attitudes (Wu, 2008) by cultivating an attitude of innovation, achievement and self-esteem (Robinson et al, 1991). Thus, Turker (2009) concluded that entrepreneurship can be fostered as a result of a learning process. Education is considered to be one of the biggest and most important ongoing investments people make (Wu, 2008). A lot of empirical evidence shows that improving educational levels will help

people achieve overall success (Angrist, 1999) because higher education could change people in their attitude and values of entrepreneurship (Wu, 2008) and could affect entrepreneurial activities in many aspects, in these/the following aspects:

First, a robust body of research has shown that education can improve levels of self-efficacy (Franco, 2010; Turker, 2009; Segal, 2005; Souitaris, 2007; Wennekers, 2005; Wilson, 2007; Wu, 2008). Self-efficacy is the extent or strength of one's belief in one's own ability to complete tasks and reach goals (Basu, 2008). Self-efficacy can influence people's intent to be an entrepreneur (Kristiansen 2004). Education could be helpful in raising one's level of self-confidence, as evidenced in Wilson's (2007) study of MBA students in the U.S.. It is widely believed that people will report higher self-efficacy after taking a higher education program which contains lots of public speaking practices, case studies or guest speaker seminars (Van Gelderen, 2008).

Secondly, Wu (2008) pointed out that the other impact from higher education on potential entrepreneurs has to do with changes in their abilities. Higher education provides adequate knowledge and inspiration for entrepreneurship (Turker, 2009) and students benefit from those courses by gaining more knowledge and are encouraged to turn their thoughts into practice (Franco, 2010; Wilson, 2007). Education might influence the propensity to become self-employed (Lee, 2001). Educators can change students' perceptions and feelings toward entrepreneurship by cultivating new attitudes in students (Robinson, 1991). Wu (2008) mentioned that education would enhance an individual's managerial ability, which in turn increases the probability of entrepreneurship. Moreover, Ferrante and Sabatini (2007) pointed out education would enhance the cognitive abilities of individuals, since the codified knowledge acquired through education helps people to better understanding the specific perspective of working life. Thus, we build the following hypothesis:

H3a: Education is positively associated with entrepreneurial activities across all kinds of economies.

Moreover, in a modern social environment, the family could provide solid human capital resources to nascent entrepreneurship (Kirkwood, 2012). Social networks are of paramount importance for the success of nascent entrepreneurship (Minniti, 2004). It is widely accepted that social networks have a great impact on a desired career path (Basu, 2008). The reason is that

personal social networks are highly related to the availability of new information (Kristiansen, 2003a). Basu (2008) combined three factors—access to capital, business information and the social network—into one factor called instrumental readiness with a combined measurable effect on entrepreneurial intention, which may be considered the perceived barrier for the entrepreneurial activity. In summary, entrepreneurs must be involved in networks to survive in the modern business world (Huggins, 2000). So, our next hypothesis is:

H3b: Higher levels of networks and social capital are positively associated with entrepreneurial activities.

3.2.4 Countries Differences

Economic Development and Entrepreneurship

Wennekers (2005) mentioned that there is a tradition of distinguishing between 'stages of economic development' for emphasizing discontinuities in development. This dates back to Rostow's theory (1960), which categorized countries into five stages of economic growth: the traditional society, the preconditions for take-off, the take-off, the drive to maturity and the age of high mass-consumption. In the modern view, economic development implies an evolutionary path from resource-based economy to knowledge-based economy (Acs, 2010; Porter et al, 2002). Porter et al. (2002) categorized the countries into three main stages of economic development according to a country's per capita gross domestic product (GDP) and the share of primary goods relative to its total exports: 1) Factor-driven stage 2) Efficiency-driven stage, and 3) innovation-driven stage.

Countries with a high rate of agricultural self-employment in the factor-driven category are still in the low-cost efficiencies and low value-added production stage (Acs, 2010; Wennekers, 2005). With the development of production efficiency and technology, economic growth becomes more capital intensive (Wennekers, 2005). In efficiency-driven economies, institutions support industrialization in pursuit of higher productivity and economies of scale (Iakovleva, 2011). As the economy develops further, technology gradually generates economy growth (Wennekers, 2005) and the innovation-driven stage appears, marked by highly-developed knowledge (Acs, 2010) and high-income status (Iakovleva, 2011). According to Porter et al (2002), countries in this stage innovate at the global technological frontier and innovative

entrepreneurs may have a significant impact on the creation of new jobs as well as economic growth and wealth (Iakovleva, 2011).

Based on the stage-development theory above, many previous scholars were interested in the relationship between the economic development level and entrepreneurship (Schultz, 1990; Carree et al., 2002; Wennekers, 2005; Bosma et al, 2008; Acs, 2010; Wennekers et al, 2010; Iakovleva, 2011). In early work, several authors (Schultz, 1990; Yamada, 1996) believed there was a negative correlation between the level of economic development and self-employment based on the research on a large cross-section of countries. Later on, a reversal of the negative relationship between real income and self-employment was detected (Acs, 1994; Carree, 2002). Finally, a U-shaped relationship between the level of per capita income and the business ownership was found and tested successfully (Carree, 2002; Wennekers, 2005). Recently, there are few arguments about this relationship. For example, Acs (2010) implied a mildly S-shaped rather than U-shape relationship between entrepreneurship and economic development based on the empirical research. Nevertheless, in Wennekers et al (2010)'s study, they conducted further and deeper analysis on the level of economic development and nascent entrepreneurship which notably combines aspects of occupational and behavioral entrepreneurship, including "necessity" versus "opportunity" entrepreneurship (Acs, 2006). The results from Wennekers et al (2010) confirmed a significant U–shaped relationship between nascent entrepreneurship and levels of economic development.

Efficiency-Driven economies & Innovation-Driven economies following GEM

The World Economic Forum's (WEF) Global Competitiveness Report (2010-2011) analyzed twelve pillars as benchmarks for testing the competitiveness of countries. These twelve pillars relate to three main elements: 1) Basic requirements (institutions; infrastructure; macroeconomic environment; health and primary education) 2) Efficiency enhancers (Higher education and training; Goods market efficiency; Labor market efficiency; Financial market development; Technological readiness; Market size) 3) Innovation and sophistication factors (Business sophistication; innovation). The WEF then groups countries into three categories: 1) Factor-driven countries, based primarily on unskilled labor and natural resources; 2) Efficiency-driven countries, which have higher and more efficient production process; and, 3) Innovation-driven countries which could conduct sophisticated production process with innovation. According to

Kelly et al (2012), GEM groups the participating countries into three levels: factor-driven, efficiency-driven, and innovation-driven based on the WEF 2010-2011 Report. The category of the countries is listed as below (Table 2):

Table 2： Entrepreneurial Activity by Phase of Economic Development 2011

Factor-Driven Economies	Efficiency-Driven Economies	Innovation-Driven Economies
Algeria	Argentina	Australia
Bangladesh	Barbados	Belgium
Guatemala	Bosnia and Herzegovina	Czech Republic
Iran	Brazil	Denmark
Jamaica	China	Finland
Pakistan	Colombia	France
Venezuela	Croatia	Germany
	Hungary	Greece
	Latvia	Ireland
	Lithuania	Japan
	Malaysia	Republic of Korea
	Mexico	Netherlands
	Panama	Norway
	Peru	Portugal
	Poland	Singapore
	Romania	Slovenia
	Russia	Spain
	Slovakia	Sweden
	South Africa	Switzerland
	Thailand	Taiwan
	Trinidada& Tobago	United Arab Emirates
	Turkey	United Kingdom
	Uruguay	United States

It is believed that the level of entrepreneurship differs strongly across countries (Obschonka, 2010; Wennekers, 2005). This variance is due to the differences in the levels of economic development (Blanchflower, 2000). Some authors, like Schultz (1990) and Wennekers (2005) reported a negative relationship between the level of economic development and self-employment, since the shift from agriculture to manufacturing implies larger enterprises in many sectors, offering more opportunities that people would choose as a career rather than self-employment. Lucas (1978) also showed that the rising real wages would increase the opportunity cost of self-employment. Some authors, however, found a positive relationship between entrepreneurship and national economic growth (Acs, 2006; Van Stel, 2005). For example, Van Stel (2005) analyzed the data from 36 countries and found the relationship did depend on the level of per capital income. Audretsch (2005) found the region with higher levels of entrepreneurial capital had higher levels of self-employment.

Recent studies show a reversal of negative relationship between entrepreneurship and real income at an advanced level of economics (Carree, 2002). At a higher level of economic development, the increasing income would create new markets for small businesses (Wennekers, 2005). Once the basic material needs have been satisfied, higher levels of attention to immaterial needs would be required such as a growing need for self-realization (Wennekers, 2005). Carree et al. (2002), found the support for this U-shaped relationship hypothesis by testing 23 OECD countries from 1976-1996 using regression analysis. A U-shaped relationship is also established between a country's gross inflow into entrepreneurship and its level of economic development (Wennekers, 2005).

Numerous studies have been interested in the study of entrepreneurship in a cross-national setting: in Europe (Franco, 2010; Franke et al, 2004; Tkachev et al, 1999; Van Gelderen, 2008); in Asia (Wang, 2008; Wu, 2008); and, in the USA (Wilson, 2007). Yet, given its large population and dramatic economic growth, further studies of the entrepreneurial intention in those emerging countries are important. Furthermore, during recent decades, interesting cross-regional studies have emerged. For instance, Linan and Chen (2009) compare the entrepreneurial intention between Taiwan and Spain. Iakovleva (2011) grouped and compared several developing countries and developed countries and considered contextual and cultural factors.

With this in mind, Driga (2010) concluded that the perceived barrier for entrepreneurship is unique to each country and few scholars have noticed the gap of international comparison. Wennekers (2005) mentioned that the research on country-level data would be a starting point in the process to building additional insight into entrepreneurship. Thus, we assume that the impact of factors will affect all the economies regardless of the level of economic development. Following this, it is the aim of this paper to contribute to filling the empirical gap in research on the comparative determinants of entrepreneurial intention in efficiency-driven countries and innovation-driven countries. In this study, we establish the next hypothesis that:

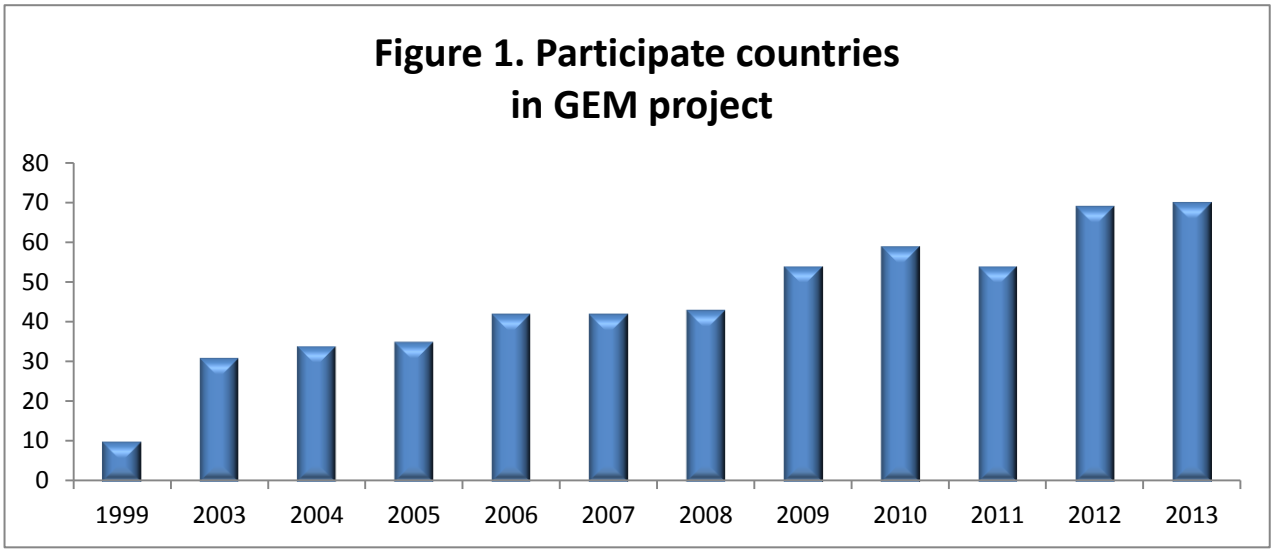
H4: The influence on entrepreneurial activities is generally the same regardless of economies.

4. Methodology

4.1 Data Source

The data for this paper is derived from the Global Entrepreneurship Monitor's (GEM). GEM is a collaborative project and conducted by London Business School and Babson College (Sternberg, 2005). Before the GEM project, an understanding of the relationship between national growth and entrepreneurship was still limited (Wennerkers, 2005) due to the process of business venture creation and its variance across regions (Bosma, 2013). This limitation still exists despite the increase in interest in the role of entrepreneurship, and entrepreneurship has been widely acknowledged for forcing the shaping of economic changes (Reynolds et al, 2005). At that time, entrepreneurship suffered two significant gaps: 1) the data of new businesses in different countries could not be collected systematically because government databases were not comparable (Bosma, 2011). 2) The available data on entrepreneurship was not timely updated and thus could not provide information on the entrepreneurial qualities of the population (Sternberg, 2005), which led the development of various studies on entrepreneurship (Wennekers, 2005). Scholars thus decided to create a project called Global Entrepreneurship Monitor (GEM) to measure differences in the level of entrepreneurial activities across nations, to discover the determinants of entrepreneurship across various economies, and to identify policies that enhance the national level of entrepreneurship (Bosma, 2013).

GEM was first created in 1997 (Bosma, 2013) and first conducted in 1999 (Alvarez, 2014).



Only 10 countries (G7, Denmark, Finland and Israel) participated in the initial stage of the GEM project in 1999 (Wennekers, 2005). The project was gradually welcomed by scholars in many countries; a wide range of countries including different types of economies (Reynolds et al, 2005) are participated in the GEM project. With the development of the project, the GEM expanded to 32 participating countries in 2003 under the supervision of Paul Reynold (Bosma, 2013). Figure 1 shows the number of participating countries in the GEM project from 1999-2012. It is reported that GEM involves more than 200 academics and researchers to produce annual national and regional reports that focus on different specific themes (Alvarez, 2014).

In order to provide access to harmonized information on entrepreneurial phenomena (Alveraz, 2014) and make its reports an important basis for policy makers to design policies related to enhancing entrepreneurial activity in different countries (Sternberg, 2005), the GEM project takes a comprehensive socioeconomic approach (Bosma, 2013). First, the paramount focus of the GEM project is to provide harmonized data on the levels and types of entrepreneurial activity (Reynolds et al. 2005). For this purpose, the GEM team developed a unique data collection strategy aimed at different levels of sources (Sternberg, 2005). The GEM generates the database and monitors entrepreneurial framework conditions in different countries via the harmonized surveys of experts in the entrepreneurship field (Bosma, 2013). GEM created the Adult Population Survey (APS), which contains three major components of entrepreneurship (attitudes,

activity and aspirations) (Bosma, 2013) to provide standardized data on each population's entrepreneurial preference, capacities and activities (Sternberg, 2005). Secondly, according to Alveraz (2014), key questions and information in each country are asked in either phone interviews or face-to-face interviews about their assessments. This step of opening discussion promises the reliability of the measurement of the GEM procedures (Reynolds et al. 2005). In order to systematically control the annual data collection procedures (Reynolds et al. 2005), each participating country is required to complete the Adult Population Survey (APS) as well as the National Expert Survey (NES) (Bosma, 2011). The NES questionnaire ~~is~~ was created to ask the respondent to evaluate items related to the entrepreneurial framework.

In addition to the various surveys and interviews, GEM researchers designed the GEM model to reflect the complexity of the relationship between entrepreneurship and global economic development (Bosma and Levie, 2009; Kelly et al, 2011). During the continuous improvement of the adopted measurement, the model has been revised to focus more on the different phases of economic development (Wennekers et al, 2005) in line with Porter's typology of "factor-driven economies", "efficiency-driven economies", and "innovation-driven economies" (Bosma, 2009;Porter et al, 2002).

With all the efforts of the GEM research team, the GEM report and analysis have more advantages than any other entrepreneurial database in the current world (Alveraz, 2014; Reynolds et al, 2005; Wennekers, 2005), since the GEM procedures are based on using the same standardized survey research methodology across a wide range of countries (Reynolds et al, 2005). Scholars and policy makers can compare the results of the GEM procedures ~~on~~ in the same countries from year to year, to compare estimates of the GEM population survey with efforts to use national administrative data (Reynolds et al. 2005).

Today, the GEM project is growing stronger and is gradually covering more academic gaps in the field of entrepreneurship (Alveraz, 2014). The research design of the GEM team allows estimates of the widest possible range of entrepreneurial activities (Reynolds et al, 2005), and the model GEM created was to guide research on the behalf of entrepreneurship in national economic growth (Bosma, 2009a). Moreover, the GEM database is clustered horizontally across the countries and vertically within countries over times (Alveraz, 2014). In this regard, the

project has been more successful than could ever have been anticipated (Reynolds et al, 2005), and thus meta-analysis from both scholars and policymakers are interested in working with the GEM database (Bosma, 2013) since the richness of GEM data and its knowledge capital are truly relevant (Alveraz, 2014). GEM produces both high-quality reports and high-quality academic publications (Acs, 2011). Bosma (2013) found 89 peer-reviewed academic papers using GEM data published between 2004 and 2011 in journals listed in SSCI (Social Science Citation Index). Based on the significant progress made by GEM research (Reynold et al, 2005), the GEM database has become one of the most significant reference sources in leading high-impact entrepreneurship research within the business and management areas (Alvarez, 2014).

4.2 Data in this paper

The database that the current study uses is the GEM database from 2011. 2011 is the 13th annual survey of the GEM project. According to Kelly et al (2011)'s report, the GEM team interviewed over 140k adults in 54 economies internationally in 2011, including various countries of different development levels. The GEM database would be the first choice of the current study. There are several reasons for this; first, GEM measures multiple phases of entrepreneurship (Bosma, 2013), which provide researchers opportunities for investigating the state of entrepreneurship across phases in a society (Bosma, 2010; Kelly et al, 2011). Since the current study focuses on the entrepreneurial activities and GEM data provides the data and surveys targeted to entrepreneurs for years, the current study chooses the GEM database as most of the scholars who conducted the entrepreneurial research did (Acs, 2011; Alevarez, 2014). Second, GEM also noticed and emphasized the profile of entrepreneurs, including the characteristics of individuals such as age, gender etc (Kelly et al, 2011). The different characteristics of individuals might differ considerably across the economies (Wong, 2005). Moreover, characteristics like age or gender are hypothesized to have an enormous impact on entrepreneurial activities (Franco, 2006; Linan and Chen, 2009; Reynolds, 2007; Wilson, 2009). The current study will conduct deep and further investigation on the correlation between those characteristic factors and entrepreneurship across the world. GEM thus became our best choice. Thirdly, the GEM team groups all the participating countries into three levels: factor-driven, efficiency-driven and innovation-driven, with Porter (2002)'s theory and WEF Report. It also

provides the standard benchmark for this multi-national study. Table 2 has shown the different categories of the GEM participating countries. In this study, the category of the countries will be based on the category of GEM as Table 2. The last reason for usage of GEM is that the data of 2011 is all available on the website of GEM so that researchers can easily download and use it.

Factor-Driven Economies	**Efficiency-Driven Economies**	**Innovation-Driven Economies**
BasicRequirements; Agriculture subsistence to Natural resource Extraction; Regional scale-intensive agglomerations	Industrialization&Economies of Scale; Large firm domination which supply chain niches open for SMEs	R&D, Knowledge intensity; Service sector expansion; Greater potential for Innovative entrepreneurial activity

Table 2: Features of Different Economies

Adult Population Survey (GEM). Data on the allocation of entrepreneurial effort toward activities were drawn from GEM's *Adult Population Survey*. One of the most important surveys in the GEM project which developed standardized measures of the level and nature of a country's entrepreneurial activities (Bowen, 2008). This survey is conducted by private market survey companies based on a representative weight sample in each different country (Bosma, 2013). The GEM team also conducted the telephone interview, face-to-face interviews using a standardized questionnaire translated from English into each individual's native language (Bosma, 2013). This method ensures that the aggregate country-level variables are representative of each country's adult population (Bowen, 2008; Reynold et al, 2005; Wennekers, 2005).

National Expert Survey (GEM). The GEM project has also invented standardized measures of a country's institutional context with respect to entrepreneurship. The NES survey chooses experts based on their reputation and experience and gathers quantitative information from them in each GEM country (Bosma, 2013). Experts also conduct face-to-face interviews for the environment of each country (Kelly, 2011). Data for the NES survey are all calculated and harmonized by the GEM team, so it is easier and more efficient for conducting the cross-countries research (Bosma, 2013). A total of fourteen entrepreneurial framework conditions were included in the NES survey, including finance, government policy, government programs, entrepreneurial education and training, R&D transfer, commercial and professional infrastructure, internal market openness,

cultural and social norms, capacity for entrepreneurship, economic climate, physical infrastructure, work force features, perceived population composition, and political/ institutional /social context.

Merged database

Only countries with data available in both the APS and NES survey are selected in this study. As a result, there is a total of 37 countries selected for this study, including 20 efficiency-driven economies and 17 innovation-driven economies.

4.3 Model

Main model will be the model we discussed above:

Individuel Entrepreneurial Activity = f (Institution Environment, Attitude, Human Capital)

This model contains three main dimensions: institution environment, attitude human, capital factors. Each dimension contains several detailed questions which represented each variable (listed above). First we will test the descriptive statistics of each variable. And then use the multilevel hierarchical logistic regression analysis for analyze of main model. Hierarchical logistic regression is an appropriate method when the dependent variable is dichotomous (Hosmer & Lemeshow, 2000) as is in this study where entrepreneurial intention is coded as 0 for no and 1 for yes. We use multilevel modeling on our cross-country, cross-individual data set because it has a hierarchical structure in which individual represents level one, and countries represent level two. This is because individuals from the same country are more likely to exhibit similar patterns in their behaviour (Estrin, 2013). Individual's engagement in entrepreneurial activities is systematically influenced by country factors (Estrin, 2013), thus multilevel modeling takes this into account.

The form of the logistic regression equation that will be used is:

$$p(x)=\alpha_{0j}+\alpha_{1j}(opportunityrecognition)+\alpha_{2j}(careerchoice)+\alpha_{3j}(highstatus)+\alpha_{4j}(mediaattention)+\alpha_{5j}(skill)+\alpha_{6j}(fearoffailure)+\alpha_{7j}(education)+\alpha_{8j}(personalnetwork)+\Upsilon_{ij} \quad \text{.....(1)}$$

$$\alpha_{0j}=\beta_{00}+\beta_{01}(governmentsupport)+\beta_{02}(marketopeness)+\mu_{0j} \quad \text{.....(2)}$$

In the equation 1, p(x) is the measure of entrepreneurial activities. α_{0j} is the intercept. In equation 1, the individual engagement in entrepreneurial activities is a function of the country group intercept (α_{0j}) and a linear component of individual-level control variables plus random error (Υ_{ij}). Equation 2 specifies the group intercept (α_{0j}) as a function of a common intercept (β_{00}) and a linear component made up of the country-level of all predict variables (government support & internal market openness) plus a random, country-level error term （μ_{0j}）

For testing differs among two different economies, we will test the model with the data from two different economies.

4.4 Measure

As we stated before, this article analyses the effect of institutional factors (regulative and normative dimensions), attitudes factors and human capital factors on entrepreneurial activity. Within this aim, the following variables are used:

4.4.1 Dependent variable

The dependent variable for this study is the measurement of individual entrepreneurial activity, thus could be derived from GEM's Adult Population Survey of variable of total entrepreneurial activity (TEA). TEA is the best-known indicator of the GEM project, which produces an annual assessment of the entrepreneurial activity, aspirations and attitudes of individuals across a wide range of countries (Bosma, 2013). Many scholars have used TEA as the index of dependent variable when analysing the entrepreneurial activities (Alveraz, 2011; Wennerkers, 2005; Urbano, 2011, 2014). GEM defined the TEA that percentage of adults aged 18-64 setting up a business or owning –managing a young firm (up to 3.5 years old), including self-employment (Reynolds et al., 2005).

In this study, we used the survey data from APS regarding the question: "Are you currently involved in the early-stage entrepreneurial activity?" The answer is coded as 1=Yes, 0=No. According to Bosma (2011), all the GEM data in country level have been weighted along a series of dimensions, so the data used in this study will be adjusted with weight so that the data could be as close as possible to fit into the model.

Independent Variable

Independent variables are composed of three dimensions: institutional factors, cognitive factors, and human capital factors. The data are all derived from 2011 GEM Adult Population Survey (APS) and National Expert Survey (NES).

Institutional Factor: Regulative dimension of institutions are composed of satisfaction level of government support and market openness from the GEM National Expert Survey. These dimensions are measured on a five-point likert scale where 1= completely false and 5=completely true.

Normative dimension of environmental factor is measured as how the respondents viewed for their environments. There are four questions represent measure of environmental factors. It composed of perception of opportunities (Arenius and Minniti, 2005; De Clercq, 2005), career choice attitude, media attention and view of high status life (Estrin, 2013; Urbano, 2013) from APS survey. These dimensions are coded as 1 for Yes and 0 for No.

Attitude/Cognitive factors are composed of two dimensions. The first dimension is entrepreneurs' belief in creating new business. The variable is measured as business knowledge, skills, and experiences gained (Arenius and Minniti, 2005; Urbano, 2013). The second dimension is the entrepreneurial willingness is measured as fear of failure (Arenius and Minniti, 2005; Urbano, 2013). The final result thus will represent the attitude/cognitive factor.

For individual human capital factors, the data will derive from the demographic questionnaire from APS. For the education factor, the data will be recoded to three groups, coded 1 for lower education level, coded 2 for secondary education level, and coded 3 for higher education level. According to Alvarez (2011) and Arenius and Minniti (2005), the Social network is measured as knowing other entrepreneurs.

Control variable

Recent research has also shown the importance of social-demographic factors and the development level of economics (Arenius and Minnnit, 2005; Estrin, 2011; Wennekers, 2005; Urbano, 2013) when explaining the entrepreneurial behavior. Thus, this paper will use two different levels of control variables, to ensure that the results were not unjustifiably influenced by such factors. In each model, we controlled the individual's social-demographic characteristic:

Sex Empirical research has indicated that men's participation rates in entrepreneurship are significant stronger than women's rates (Arenius and Minniti, 2005; Wilson, 2007) A binary variable for sex factor is dichotomous (1=male, 0=female) in this paper to test for the significance of sex effects.

Table 3 provides the description of the variables and the sources of data.

Table 3 Description of variables

	Variable	Description and database	Source	Level
Dependent variable	Individual Entrepreneurial Activity	Binary variable that indicates the question of "Are you currently involve in a new business, including any self-employment or selling any goods or service to others?" 1=Yes, 0=No	GEM APS 2011	1
Independent variables				
Environmental Factors				
Institutional regulative dimension (country level)	Government Support	Average rate by countries, which indicates the respondent agreed with the statement "In my country, Government policies (procurement) consistently favor new firms" 1=completely false 5= completely true	GEM NES 2011	2
	Internal Market Openness	Average rate by countries. which indicates the level of market openness 1=completely false, 5= completely true	GEM NES 2011	2
Perception of Environment (individual level)	Opportunity Recognition	Binary variable which indicates if the respondent agreed with the statement" In the next 6 months, there will be good opportunities for starting a business in the area where you live" 1=Yes, 0=No	GEM APS 2011	1
Normative dimension (Individual level)	Career choice	Binary vairable which indicates that respondent agreed with the statement " In your country, most people consider starting a new business a desirable career choice " 1=Yes, 0=No	GEM APS 2011	1
	High status	Binary vairable which indicates that respondent agreed with the statement " In your country, those successful at starting a new business have a high level of status and respect. " 1=Yes, 0=No	GEM APS 2011	1
	Media Attention	Binary vairable which indicates that respondent agreed with the statement " In your country, you will often see stories in the public media about sucessful new buisnesses " 1=Yes, 0=No	GEM APS 2011	1
Cognitive Factors (Individual Level)	Skills	Binary variable indicates whether the respondent agreed with the statement:"You have the knowledge, skill and experience required to start a new business".1=Yes, 0=No	GEM APS 2011	1
	Fear of Failure	Binary variable indicates whether the respondent agreed with the statement:"Fear of failure would prevent starting a business".1=Yes, 0=No (reverse code needed)	GEM APS 2011	1
Human Capital (Individual Level)	Education	Education level is coded 1 for none or preliminary education, 2 for secondary education, 3 for tertiary education	GEM APS 2011	1
	Personal network	Binary variable which indicates if the respondent agreed with the statement "You know someone personally who started a business in the past 2 years." 1=Yes, 0= No	GEM APS 2011	1
Control (Individual level)	sex	Individual's sex, 1=Male, 0=Female	GEM 2011	1

The countries this paper selected are efficiency-driven countries and innovation-driven countries that based on the classification of GEM team, categorizing on the basis of level of economic development. 17 efficiency-driven economies and 15 innovation-driven economies have been selected based on the data availability of merged database. Table 4 reports the sample of

countries. Table 5 provides the correlation coefficients of the fix effects variables used in this study; both negative and significant correlations are observed.

Table 4 : Sample Descriptive Statistics I

	Efficiency-Driven	Innovation-Driven
countries	Russia	Netherlands
	South Africa	France
	Hungary	Spain
-	Poland	Switzerland
	Peru	United Kingdom
	Mexico	Sweden
	Argentina	Norway
	Brazil	Germany
	Chile	Australia
	Malaysia	Singapore
	Thailand	South Korea
	Turkey	Portugal
-	Barbodas	Ireland
	Lithuania	Finland
-	Croatia	Czech Republic
	Slovak Republic	
	Uruguay	

Table5 Correlations Matrix for Fix Effect

	1	2	3	4	5	6	7	8	9
1, Opportunitierecognition	-0.076								
2, Skill	-0.215	-0.054							
3, Careerchoice	-0.23	-0.057	-0.013						
4, Highstatus	-0.171	-0.061	0.004	-0.146					
5, Mediaattention	-0.14	-0.079	-0.013	-0.121	-0.126				
6, Fear of Failure	-0.204	-0.068	-0.089	0.007	0.029	0.009			
7, Education	-0.498	-0.019	-0.063	0.111	-0.004	0.028	-0.008		
8, Personal network	-0.08	-0.114	-0.0111	0.017	0	-0.013	0.009	-0.086	
9, Sex	-0.147	-0.013	-0.076	0.007	-0.007	0.001	-0.045	0.005	-0.035

5. Results and Discussion

Table 6 provides the results of the logistic regression model of for different variables and entrepreneurial activity in all economies.

Table 6 Logistic Regression Results All-Economies

	Model 1		Model 2		Model 3		Model 4	
Fixed part	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE
Normative Dimension								
Opportunities Recognition			0.767924***	0.0272	0.553516***	0.0284	0.43112***	0.0292
Career Choice			-0.0088	0.0288	-0.0037	0.0298	0.0335	0.0307
High Status			-0.0414	0.0290	-0.0103	0.0301	-0.0124	0.0307
Media Attention			-0.0309	0.0274	-0.0389	0.0285	-0.0406	0.0292
Attitude/Coginitive Factor								
Skills					1.698862***	0.0348	1.53355***	0.0359
Fear of Failure					0.420261***	0.0297	0.42548***	0.0303
Human Capital Factor								
Education							0.1115***	0.0208
Personal network							0.89299***	0.0278
Control								
sex			0.441585***	0.0256	0.254158***	0.0267	0.21935***	0.0277
Random Part								
Random Variance	0.3190	0.5648	3.4134	1.8475	2.2904	1.5131	2.8090	1.6760
Government support			0.01364***	0.5315	0.02688***	0.5709	0.0267***	0.1634
Internal Market Openness			0.3132***	0.0139	0.3276***	0.1600	0.3933***	0.6271
Constant	-2.34657***	0.0836	-2.869509***	0.2422	-4.055661***	0.0776	-4.5549***	0.0887

*** Significant at $p \leq 0.001$; ** $p \leq 0.01$;* $p \leq 0.05$

In Table 6, in the first model we tested the model without country means and individual effects. In the next model, following Arenius and Minniti (2005) and Urbano (2014), we entered control variables measuring the individual demographic characteristic of the individual variables (sex). Empirical literatures (Arenius, 2005; Wilson, 2007) show that men are more likely to conduct entrepreneurial activities than women.

In order to explain the impact of the normative dimension on entrepreneurial activities, in model 2, we added normative factors and control variables when adding the covariance of the random slope and intercept. The result shows that the factor of opportunity recognition has a statistically significant positive sign ($p \leq 0.001$), while other three are not statistically significant.

In model 3, we incorporate variable for the normative dimension (career choice, high status, media attention) and attitude variables with the control variables. All coefficients of the attitude/cognitive factors are statistically significant ($p \leq 0.001$), and they have the same expected sign. Thus, the coefficient of skills to start entrepreneurship is significant and positive, as well as the factor of fear of failure (reverse code).

In model 4, the human capital factors (education, personal network) have been added. The normative dimension (high status, media attention) is not statistically significant. The regulative dimension (government support and market openness), opportunity recognition, attitude/cognitive factors and human capital factor are statistically significant for explaining entrepreneurial activity.

We also applied the same multilevel modeling to the innovation-driven economies and efficiency-driven economies respectively. Table 7 and Table 8 provide the results in Innovation-driven economies and Efficiency-driven economies respectively. Table 9 has shown the result of all economies together.

Table 7 Logistic Regression Results Efficiency-Economies

	Model 1		Model 2		Model 3		Model 4	
Fixed part	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE
Normative Dimension								
Opportunities Recognition			0.656564***	0.0335	0.442937***	0.0350	0.330415***	0.0359
Career Choice			0.0198	0.0335	0.0160	0.0350	0.0459	0.0402
High Status			-0.0037	0.0368	0.0079	0.0382	0.0055	0.0390
Media Attention			-0.0073	0.0351	-0.0141	0.0365	-0.0080	0.0374
Attitude/Coginitive Factor								
Skills					1.625025***	0.0438	1.488918***	0.0449
Fear of Failure					0.385671***	0.0380	0.381308***	0.0388
Human Capital Factor								
Education							0.043984*	0.0269
Personal network							0.797659***	0.0347
Control								
sex			0.395056***	0.0316	0.247933***	0.0329	0.206661***	0.0337
Random Part								
Random Variance	0.3468	0.5889	2.9970	1.7310	2.5340	1.5920	1.5570	1.2480
Government support			1.441***	1.2010	1.206***	1.0980	1.538***	1.2400
Internal Market Openness			2.265***	1.5050	2.152***	1.4670	2.113***	1.4530
Constant	-2.0142***	0.1236	-2.454566***	0.0818	-3.651789***	0.0918	-3.603145***	0.1224

Table 8 Logistic Regression Results Innovation-Economies

	Model 1		Model 2		Model 3		Model 4	
Fixed part	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE
Normative Dimension								
Opportunities Recognition			0.97842***	0.0464	0.76799***	0.0483	0.579805***	0.0503
Career Choice			-0.0548	0.0447	-0.0253	0.0462	0.0039	0.0476
High Status			-0.1496	0.0473	-0.0309	0.0489	-0.0521	0.0500
Media Attention			-0.0603	0.0443	-0.0786	0.0458	-0.0623	0.0470
Attitude/Coginitive Factor								
Skills					1.81908***	0.0583	1.650021***	0.0602
Fear of Failure					0.49211***	0.0477	0.520264***	0.0489
Human Capital Factor								
Education							0.134799***	0.0343
Personal network							0.992893***	0.0469
Control								
sex			0.52849***	0.0440	0.26178***	0.0457	0.232452***	0.0417
Random Part								
Random Variance	0.0633	0.2516	2.9920	1.7298	1.6738	1.2937	2.6246	1.6200
Government support			0.0000103**	0.0032	0.03226***	0.1796	0.01949***	0.1396
Internal Market Openness			0.2768298**	0.5262	0.27803***	0.5273	0.35476***	0.5956
Constant	-2.67596***	0.0565	-3.08214***	0.0779	-4.36958***	0.0985	-4.443024***	0.1421

Table 9 Result of logistic Multilevel Bivariate Regression

	Model 1 (All economies)	Model 2 (Efficiency-Driven Econmies)	Model 3 (Innvoation-Driven Economies)
	Coef. (S.E)	Coef. (S.E)	Coef. (S.E)
Environmental Factor			
Regulative dimension			
Government support	0.0267*** (0.1634)	1.538*** (1.24)	0.01949*** (0.1396)
Internal Market Openness	0.3933*** (0.6271)	2.113*** (1.4530)	0.35476*** (0.5956)
Normative dimension			
Opportunites Recognition	0.43112***(0.0292)	0.330415*** (0.0359)	0.579805*** (0.0503)
Career Choice	0.03351 (0.0307)	0.0459 (0.0402)	0.003895 (0.0476)
High Status	-0.01241 (0.03701)	0.0055 (0.0390)	-0.052085 (0.0489)
Media Attention	-0.04061 (0.0292)	-0.008 (0.0374)	-0.062338 (0.0470)
Attitude/Coginitive Factor			
Skills	1.53355***(0.0359)	1.488918*** (0.0449)	1.650021*** (0.0602)
Fear of Failure	0.42548*** (0.0303)	0.381308*** (0.0388)	0.520264*** (0.0489)
Human Capital Factor			
Education	0.1115*** (0.0208)	0.043984* (0.0269)	0.134799*** (0.0343)
Personal network	0.89299*** (0.0278)	0.797659*** (0.0347)	0.992893*** (0.0469)
Controls			
Sex	0.21935*** (0.0277)	0.206661*** (0.0377)	0.232452*** (0.0417)
Constant	-4.5549*** (0.0887)	-3.603145*** (0.1224)	-4.443024*** (0.1421)

*** Significant at p≤0.001; ** p≤0.01;* p≤0.05

According to results shown in Table 9, the relationship between government support and individual entrepreneurial activities is significant in all economies and in efficiency-driven economies; however, it shows a negative and weaker coefficient in innovation-driven economies. This mixed finding has appeared in the previous articles (Bowen, 2008; McMullen, 2008). For example, McMullen (2008) observed a positive relationship between the efficiency of property rights enforcement and opportunity-driven entrepreneurship but no relationship between the same and necessity-driven entrepreneurship. Thus, one possible reason for mixed finding has been detected might due to the scale of different types of entrepreneurship in different groups of countries. Another possible explanation is that the prevalence and policy role of different types of entrepreneurs may vary among different specific countries due to national conditions or socio-cultural influences (Valliere, 2009). The entrepreneurship is a regional phenomenon, where cluster performance is affected by the availability of skilled workers, social interactions, business sophistication and external linkages (Valliere, 2009). Thus, in innovation-driven economies,

there might be more other regulative factors would influence the entrepreneurial activities in innovation-driven economies rather than efficiency-driven economies. For example, Schumpeter (1961) argued the protection of intellectual property is also a basic motive for entrepreneurial action. Third, according to Autio(2008)'s finding, the high-potential entrepreneurship exhibits a significantly positive association with GDP growth has a 1-year lag. In our model, we didn't use the panel data, thus we couldn't detect the time-lag for the model. This might be the reason that the result in innovation-driven economies is not significant. Overall, the result shows that the government support is significantly positive related the nascent entrepreneurial activities.

Moreover, internal market openness shows a positively coefficient to entrepreneurial activities in all economies, which support our H1b hypothesis. It demonstrated that the higher level of internal market openness, the higher activities of the entrepreneurial activities. Once a society owns higher degree of market freedom, it has more potential opportunities for the nascent entrepreneurs and potential entrepreneurs. Moreover, market which has higher degree of openness might also have more opportunities for nascent entrepreneurs to get enough financial assistant (Sambharya, 2014), for example, freely investment in market enterprises. In countries with economies with little economic and market freedom, entrepreneurship is likely to be discouraged.

Result shows that the impact of the market openness in efficiency-economies is much stronger than the impact in innovation-economies. The reason for this case might be due to the different types of economies differs in several respective such as levels of uncertainty, human and financial requirements and different business models (Sambharya, 2014). Overall, consistent with prior literature, this consistent with Bowen (2007) statement that a country's institutional context expected to influence entrepreneurial effort for providing a protective environment for entrepreneurs. And the regulative institutional structures are important for entrepreneurial activities, and it varies slightly depending on the type of economies.

Second, Bergmann (2012) emphasized nascent entrepreneurship as a learning process in which the discovered opportunity is more closely evaluated through action. The creation of a business should around a certain opportunity to make perfect sense (Bergmann, 2012). Result shows a significantly positively coefficient between opportunity recognition and nascent entrepreneurship in both innovation-driven and efficiency-driven economies; this finding strongly supports our

previous hypothesis that it is more likely to that individual start entrepreneurial activity when they are able to identify business opportunity. The perception of environment plays key role in determining individual to begin entrepreneurial activities (Schwart, 2007). An individual can only start a new business if they recognise that there is a business opportunity capable of generating profits. For example, Ao (2014) argued that most entrepreneurs are not aware of government support programs, which are designed to help them because of the poor flow of information. Moreover, with higher awareness of environment, entrepreneurs are more easily to get information about the financial products available for them (Fatoki, 2010). Thus, our result proved that the perception of business opportunities is directly related to the entrepreneurial activities.

For other normative factors, we noticed that in efficiency-economies, the impact of decent career choice to entrepreneurs is more significant. The reason might be the entrepreneurship in efficiency-driven economies is mostly necessity entrepreneurship (Valliere, 2009; Urbano, 2011). The manifestation of necessity-based entrepreneurship in efficiency-driven may primarily as basic subsistence businesses (Valliere, 2009), for example: subsistence farming, family business etc. Choose entrepreneurship as a career might be some people's only choice for living. Moreover, for the impact of high status successful entrepreneurship, the result only shows a very weak coefficient in efficiency-driven economies and the coefficient in innovation-driven economies is not significant. The same result applied to the effect of media attention.

For the attitude/cognitive factors, the coefficient is significantly positively related to the entrepreneurial activities in all economies, which is highly consistent with previous literatures. It strongly supports our hypothesis that*:* a belief in entrepreneurial capability is positively associated with entrepreneurial activities. The individual must have the cognitive properties that enable the entrepreneurial activity to be made (Shane, 2005). The result reassure that self-efficacy, which also could be considered as confidence in the perception of the individual's own abilities) is considered a determinant factor in the ability to start a new business. This finding demonstrates that if people believe they have enough entrepreneurial knowledge and skills, it is more likely for them to start business. Arenius (2005) claimed that individual makes the decision to be an entrepreneur depends on one's assessment of skills. If people lack of confidence in their abilities, they won't choose to create a business (Wilson, 2007). Moreover,

lack of business skill could attribute to the failure of business (Fatoki, 2010). Kazela (2009) finds that many young entrepreneurs become risk-averse because of their social environment. The result of coefficient of fear of failure is negative as expected, thus the result also support the previous hypothesis: it is less likely that people become entrepreneurs when they have a fear of failure when starting a business. Thus, regardless of the external environment, the personal capability and willingness is a strong determinant factor towards entrepreneurship. Mentally prepared individual has higher probability to be an entrepreneur.

Finally, the human capital variables (education, social network) are found to be positively related with entrepreneurial activities. The finding shows that the higher education level the individual has, the more probability of conducting entrepreneurial activities. And education is one of the important factors that could affect entrepreneurial activities in all economies. Individuals acquire knowledge, skills, attitudes and values related to the creation and consolidation of businesses (Vidal-Sune, 2013). Education could also affect the level of perception of business opportunities which positively associated with expectations for growth of new businesses. Result shows a stronger relationship between nascent entrepreneurship in innovation-driven economies than efficiency-driven economies. The reason might be people in innovation-driven countries might have more opportunities to access higher level of education to gain enough skills and knowledge for starting a new business (Linan &Chen, 2009). Higher educational level will also increase individual's self-efficacy, which leads to higher level of entrepreneurial activities (Van Gelderen, 2008; Wilson, 2007).

Moreover, the result also confirmed our previous H3b hypothesis that higher level of network and social capital positively associated with entrepreneurial activities. In particular, if one has known someone who already is an entrepreneur, s/he is more likely to start the new business. Wider network could provide more information and an opportunity for individual's to start the business. Furthermore, people who have socialized among entrepreneurs are used to perceiving a lower level of uncertainty and have more confidence in their role as entrepreneurs (Alvarez, 2005).

6. Conclusion

In this paper, we have investigated the impact of different determinants of individual entrepreneurial activities in two different groups of economies: Innovation-driven economies and Efficiency-driven economies. Three different dimensions of factors (environmental factors, attitude factors and human capital factors) have been considered in this study. For environmental factors, we further grouped the factors into two main dimensions, the first one is regulative dimension which includes government support and internal market openness, second is normative dimension which includes opportunity recognition, career choice, high status and media attention. In addition, attitudes have proven to be important for influencing individual entrepreneurial activities (Schwarz, 2009). We grouped perceptive skills and fear of failure as the indicator for our study of attitude/cognitive factors. Furthermore, human capital factors which include education level and social networking have also been recognized as relevant aspects in this study. Consequently, we have developed a multilevel statistical model comprising those factors. Multilevel hierarchical logistic regression has been used ensuring the accurate of the statistical analyse. The final result shows that the influence of government support and internal market openness is stronger in efficiency-driven economies than in innovation-driven economies. The perception of opportunities is important both in efficiency-driven economies and innovation-driven economies. However, other normative dimension environment factors such as career choice, high status and media attention are not significant. For attitude factor, both the skills and fear of failure have the significant impact on individual entrepreneurial activities as we expected in both economies. Results have also shown that the relationship between human capital factors (education and personal network) and entrepreneurial activities is significantly positive in all economies, similar to past research (Linan and Chen, 2009; Wilson, 2007). Table 10 has showed results for hypothesis.

Table 10 Hypothesis Results

Hypothesis	Result	Efficiency-Driven	Innovation-Driven
H1a	The satisfaction level of government policy is positively associated with entrepreneurial activities	supported	supported
H1b	The level of market openness is positively associated with entrepreneurial activities	supported	supported
H1c	It is more likely to that individual engaging in new entrepreneurial activity when they percieve of an opportunity within environment	supported	supported
H1	In environments where entrepreneurship is viewed positively, people are more likely to start entrepreneurial activities	supported	
H2a	A belief in entrepreneurial capability is positively associated with entrepreneurial activities	supported	supported
H2b	It is less likely that people become entrepreneurs when they have a fear of failure when starting a business	supported	supported
H3a	Education is positively asssociated with entrepreneurial activities across all kinds of economies	supported	supported
H3b	Higher level of network and social capital positively associated with entrepreneurial activities	supported	supported

This study makes contributions to the entrepreneurship theory development and has implication for the future management practice.

From a managerial perspective, the study provides fresh evidences based on recent data on how various institutional contexts affect the individual choice to be entrepreneurs. Thus, first, for entrepreneurial company owners, it reminds the employers that they should conduct proper management to their employees from different cultures background. Especially in multinational entrepreneurial company, the awareness of differences would be more important. It also suggested that recruiters in the entrepreneurial company should aware of people's self-efficacy or abilities of adapting to the environments. Second, for policy makers, this study also provides the evidences for improving development of entrepreneurial activities inside one specific economy. For example, according to the results of the study, improving certain aspects of the institutional entrepreneurial environment does not improve the activities of the entrepreneurship. In particular, providing more media stories might not increase the entrepreneurial intentions. Also, high status life for entrepreneurs has seldom impact on individual's entrepreneurial activities. Thus, policy makers could investigate more on individual entrepreneurial career development encouragement rather than media development. Moreover, the results also remind policy makers to aware of regional culture differences between innovation-efficiency economies and efficiency-efficiency economies.

From a theoretical perspective, this study answers the call for more empirical studies on research across countries of different levels of economic development (Driga, 2009; Wilson, 2007). This study explores the extent to which individual-level factors is shaped by national level

institutional factors. Schwarz (2009) noted that the research on the link between individual characteristics and national institutions in a multi-economies context required a deeper understanding. This study bridges the micro and macro perspective determinants in entrepreneurship and extends the recent work in this area. The study shows that the environment might influence the individual choice to be entrepreneur. Thus, when future researchers investigate the influence that institutional entrepreneurial environment on entrepreneurial activities, it is necessary to consider the characteristic of the sample countries selected. The economic development level of the country may affect the result of the analysis.

Limitation

There are some limitations that have to be considered by interpreting the results. First, although this study categorized different groups of countries depends on the level of development, the study does not differentiate the necessity entrepreneurship and opportunity entrepreneurship (Linan, 2013; Sambharya, 2014). Moreover, it is also important to assess the specific effect of several cultural value-dimensions on entrepreneurship (Linan, 2013). Future study should more focus on the research on determinants on opportunity entrepreneurship and necessity entrepreneurship respectively. Moreover, a certain combination of cultural values should be associated with specific policies (Linan, 2013).

Second, this study didn't conclude the factor-driven economies due to the lack of data. Thus, the research didn't cover all types of economies. Most countries in Africa belong to factor-driven countries (Bosma, 2009), and the literatures on entrepreneurship of Africa are limited. Future studies are suggested covering more countries and economies to conduct more completely further investigation.

Third, the variables in this study designed to measure the institutional dimensions are somewhat simplistic and may not fully capture the complexities of various institutional settings. Especially for regulative factors, only government support and internal market openness have been analyzed in this study. However, according to the previous studies (Bowen, 2005; Schwart, 2009), more regulative institutional factors could be used in the future study, for example, tax regulation, corruption etc.

Moreover, while our sample, which included 32 countries, is relatively large in comparison to previous studies, it is still limited given the overall number of countries in the world. The choice of the sample was limited solely by data availability. Finally, the data this study used is the database of 2011, for more accurate and comprehensive research, longitude data covering longer time would be considered.

7. Reference

1. Abbey, Augustus. "Cross-cultural comparison of the motivation for entrepreneurship." *Journal of Business and Entrepreneurship* 14.1 (2002): 69.
2. Acs, Zoltan. "How is entrepreneurship good for economic growth?." *Innovations*1.1 (2006): 97-107.
3. Acs, Zoltan J., and László Szerb. "The global entrepreneurship index (GEINDEX)." *Foundations and Trends in entrepreneurship* 5.5 (2010): 341-435.
4. Alvarez, C., & Urbano, D. (2011). Environmental factors and entrepreneurial activity in Latin America. Academia-Revista Latinoamericana De Administracion, (48), 31-45.
5. Alvarez.C, David Urbano, Alicia Coduras, & José Ruiz-Navarro. (2011). Environmental conditions and entrepreneurial activity: A regional comparison in Spain. Journal of Small Business and Enterprise Development, 18(1), 120-140.
6. Álvarez, C., Amorós, J., & Urbano, D. (2014). Regulations and Entrepreneurship: Evidence from Developed and Developing Countries. Innovar, 24(1Spe), 81-89.
7. Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50, 179–211.
8. Anderson, A., Dodd, S., & Jack, S. (2012). Entrepreneurship as connecting: Some implications for theorising and practice. *Management Decision*, *50*(5), 958-971.
9. Ang, S.H. and Hong, D.G.P. (2000), "Entrepreneurial spirit among East Asian Chinese", Thunderbird International Business Review, Vol. 42 No. 3, pp. 285-309
10. Ao, J., & Liu, Z. (2014). What impact entrepreneurial intention? Cultural, environmental, and educational factors. Journal of Management Analytics, 1(3), 224-239.
11. Arenius, P.(2005) Perceptual Variables and Nascent Entrepreneurship. Small Business Economics (2005) 24:233-247
12. Autio, E., Keeley, R.H., Klofsten, M., Parker, G.G.C., & Hay, M. (2001). Entrepreneurial intent among Students in Scandinavia and in the USA. Enterprise and Innovation Management Studies, 2(2), 145–160.
13. Audretsch, David B., and Erik E. Lehmann. "Does the knowledge spillover theory of entrepreneurship hold for regions?." *Research Policy* 34.8 (2005): 1191-1202.

14. Basu, A., and M. Virick. 2008. “Assessing Entrepreneurial Intentions Amongst Students: A Comparative Study.” 12th annual meeting of the National Collegiate Inventors and Innovators Alliance, Dallas, USA.
15. Begley, T.M. & Tan, W.L. (2001). The socio-cultural environment for entrepreneurship: A comparison Between East-Asia and Anglo-Saxon countries. Journal of International Business Studies, 32(3), 537–553.
16. Beugelsdijk, S. (2007). The Regional Environment and a Firm's Innovative Performance: A Plea for a Multilevel Interactionist Approach. Economic Geography, 83(2), 181-199.
17. Bird, S.R. and S.G. Sapp (2004) Understanding the gender gap in small business success: urban and rural comparisons. Gender and Society 18 (1) pp. 5–28
18. Bird, S.R., S.G. Sapp and M.Y. Lee (2001) Small business success in rural communities explaining the sex gap. Rural Sociology 66 (4) pp. 507–531
19. Blanchflower, D. (2000): “Self-employment in OECD Countries,” Labour Economics, 7, 471–505.
20. Bosma, N. (2013) The Global Entrepreneurship Monitor and Its Impact of Entrepreneurship Research. Foundations and Trends in Entrepreneurship Vol.9, No.2 (2013)143-248
21. Bowen, H. P., & De Clercq, D. (2008). Institutional context and the allocation of entrepreneurial effort. Journal of International Business Studies, 39(4), 747-767.
22. Carree, Martin A., and A. Roy Thurik. "The impact of entrepreneurship on economic growth." *Handbook of entrepreneurship research*. Springer US, 2003. 437-471.
23. Caliendo, Marco, Frank M. Fossen, and Alexander S. Kritikos. "Risk attitudes of nascent entrepreneurs–new evidence from an experimentally validated survey." *Small Business Economics* 32.2 (2009): 153-167.
24. Conner, M. & Armitage, C. J. (1998). Extending the theory of plannend behavior: A review and avenues for further research. Journal of Applied Social Psychology, 28, 1429- 1464
25. Davidsson, Per, and Johan Wiklund. "Levels of analysis in entrepreneurship research: Current research practice and suggestions for the future."*Entrepreneurship theory and Practice* 25.4 (2001): 81-100.
26. Díez, F., & Ozdagli, A. (2012). “Entrepreneurship and Occupational Choice in the Global Economy.” SSRN Working Paper Series, SSRN Working Paper Series, May 2012.
27. Driga, O. (2009) Reasons for the Relatively Lower Entrepreneurial Activity Levels of Rural Women in Spain. Journal Compilation 2008 European Society for Rural Sociology
28. Díaz-Casero et al, Influence of institutional environment on entrepreneurial intention: A comparative study of two countries university students, International Entrepreneurship and Management Journal, March 2012, Vol.8(1), pp.55-74
29. Estrin, S., Mickiewicz, T., & Stephan, U. (2013). Entrepreneurship, Social Capital, and Institutions: Social and Commercial Entrepreneurship Across Nations. Entrepreneurship Theory and Practice, 37(3), 479-504.

30. Fernandes, Paula, Ferreira, João, & Fernandes, Cristina. (2012). Entrepreneurial Attitudes and Perceptions in a Cross-Country Setting: Evidence From GEM Data. European Conference on Innovation and Entrepreneurship, 198-XIV.
31. Ferrante, Francesco, and Fabio Sabatini. "Education, social capital and entrepreneurial selection in Italy." (2007).
32. Fields, G. (2014). 'Self-employment and Poverty in Developing Countries'. IZA World of Labor, 60.
33. Franco. M(2010) Students' entrepreneurial intentions: an inter-regional comparison. Education+ Training Vol.52 No.4, 2010 pp.260-275
34. Franke, N., Christian L., (2004) Entrepreneurial Intentions of Business Students: A Benchmarking Study. International Journal of Innovation and Technology Management, 2004, 1/3:269-288
35. Giacomin, O., Janssen, F., Pruett, M., Shinnar, R. S., Llopis, F., Toney, B. (2011). Entrepreneurial intentions, motivations and barriers: differences among American, Asian and European students. Int Entrep Manag J, 7, 219-238.
36. Gird, A. & Bagraim, J. J. (2008). The theory of planned behaviour as predictor of entrepreneurial intent amongst final-year university students. South African Journal of Psychology, 38(4), 711–724.
37. Grilo, I., & Irigoyen, J. (2006). Entrepreneurship in the EU: To Wish and not to be. Small Business Economics, 26(4), 305-318.
38. Goby, V.P. and Erogul, M.S. (2011) 'Female entrepreneurship in the United Arab Emirates: legislative encouragements and cultural constraints', Women's Studies International Forum, Vol. 34, No. 4, pp.329–334
39. Goethner, Maximilian, et al. "Scientists' transition to academic entrepreneurship: Economic and psychological determinants." *Journal of Economic Psychology* 33.3 (2012): 628-641.
40. Hayton, J., George, G., & Zahra, S. (2002). National culture and entrepreneurship: A review of behavioral research. Entrepreneurship Theory and Practice, 26(4), 33-52.
41. Hechavarria, D (2012) The nascent entrepreneurship hub: goals, entrepreneurial self-efficacy and start-up outcomes. Small Business Economic 39:685-701
42. Hipple, S. (2010): "Self-employment in the United States," Monthly Labor Review. Bureau of Labor Statistics
43. Huyghe, A., Knockaert,M (2014) The influence of organizational culture and climate on entrepreneurial intentions among research scientists. Springer Science +Business Media New York 2014
44. Huggins, R. (2000) The Success and Failure of Policy-Implanted Inter-Firm Network Initiatives: Motivations, Processes and Structure, Entrepreneurship and Regional Development, 12,2: 211-36
45. Iakovleva, T., Lars Kolvereid, & Ute Stephan. (2011). Entrepreneurial intentions in developing and developed countries. Education Training, 53(5), 353-370

46. Inglehart, R., Oyserman, D., 2004. Individualism, autonomy, and self-expression: the human development syndrome. In: Vinken, H., Soeters, J., Ester, P. (Eds.),
Comparing Cultures: Dimensions of Culture in a Comparative Perspective Leiden. Brill, The Netherlands, pp. 74–96.
47. Jones, P., Jones, A., Packham, G. and Miller, C. (2008), "Student attitudes towards enterprise education in Poland: a positive impact", Education þ Training, Vol. 50 No. 7, pp. 597-614.
48. Karimi, Saeid, et al. "Understanding role models and gender influences on entrepreneurial intentions among college students." *Procedia-Social and Behavioral Sciences* 93 (2013): 204-214.
49. Kirkwood, J. (2012). Family Matters: Exploring the Role of Family in the New Venture Creation Decision. Journal of Small Business and Entrepreneurship, 25(2), 141-154.
50. Kelley, DJ, Brush, CG, Greene, PG, & Litovsky, Y. (2011). Global Entrepreneurship Monitor: 2012 Report. London Business School.
51. Klofsten, M., & Jones-Evans, D. (2000). Comparing academic entrepreneurship in Europe - The case of Sweden and Ireland. Small Business Economics, 14(4), 299-309.
52. Klyver, K., & Foley, D. (2012). Networking and culture in entrepreneurship. Entrepreneurship & Regional Development, 24(7-8), 561-588.
53. Kristiansen, S (2001). Promoting African Pioneers in Business: What Makes a Context Conducive to Small-Scale Entrepreneurship? Journal of Entrepreneurship, 10, 1:43-69
54. Kristiansen,S.(2002a) Individual Perception of Business Contexts: The Case of Small-Scale Entrepreneurs in Tanzania, Journal of Developmental Entrepreneurship, 7,3: 283-304
55. Kristiansen, S.(2002b) Competition and Knowledge in Javanese Rural Business, Singapore Journal of Tropical Geography, 23, 1:52-70
56. Kristiansen,S and Ryen,A(2002) Enacting their Business Environment: Asian Entrepreneurs in East Africa, African and Asian Studies, 1,3:165-186
57. Kristiansen S (2004) Entrepreneurial Intention among Indonesian and Norwegian students. Jouranl of Enterpreising Culture Vol.12 No.1 55-78
58. Krueger,N.F.Jr.,Reilly,M.D. abd Carsrud,A.L.(2000). Competing models of entrepreneurial intentions, Journal of Business Venturing, 15, 5-6,411-432
59. Koellinger, Philipp. "Why are some entrepreneurs more innovative than others?" *Small Business Economics* 31.1 (2008): 21-37.
60. Lee, Lena, and Poh-Kam Wong. "Attitude towards entrepreneurship education and new venture creation." *Journal of Enterprising Culture* 11.04 (2003): 339-357.
61. Linan. F., Chen, Y(2009) Development and Cross-Cultural Application of a Specific instrument of measure entrepreneurial intention. Entrepreneurship Theory and Practice @2009 Baylor University
62. Lévesque, M., & Minniti, M. (2006) The effect of aging on entrepreneurial behavior. Journal of Business Venturing, 21(2), 177-194.

63. Long.D, Jun Yang, & Jiayong Gao. (2010). Anatomy of nascent entrepreneurship in China: A preliminary study from CPSED project. Journal of Chinese Entrepreneurship, 2(2), 129-147.
64. Luthje, C and Franke, N(2003) The "making" of an entrepreneur: testing a model of entrepreneurial intent among engineering student at MIT. R&D Management 33,2,2003
65. Malebana, M. (2014). Entrepreneurial Intentions and Entrepreneurial Motivation of South African Rural University Students. *Journal of Economics and Behavioral Studies, 6*(9), 709-726.
66. Minniti, M. (2005). Entrepreneurship and network externalities. Journal of Economic Behavior and Organization, 57(1), 1-27.
67. Moriano et al (2012) A cross-cultural Approach to understanding entrepreneurial intention. Journal of Career Development 39(2) 162-185
68. Movahedi, Reza, and Ahmad Yaghoubi-Farani. "Analysis of the barriers and limitations for the development of rural women's entrepreneurship." *International Journal of Entrepreneurship and Small Business* 15.4 (2012): 469-487.
69. Mueller, S.L. & Thomas, A.S. (2001). Culture and entrepreneurial potential:Anine country study of locus of control and innovativeness. Journal of Business Venturing, 16(1), 51–75
70. Muofhe, Nnditsheni J., and Willem F. Du Toit. "Entrepreneurial education's and entrepreneurial role models' influence on career choice: original research." *SA Journal of Human Resource Management* 9.1 (2011): 1-15.
71. North, D. C. (1990). Institutions, institutional change and economic performance Cambridge university press.
72. Otmazgin, N. (2011). Commodifying Asian-ness: Entrepreneurship and the making of East Asian popular culture. Media, Culture & Society, 33(2), 259-274.
73. Obschonka,M.(2010) Nascent entrepreneurship and the developing individual: Early entrepreneurial competence in adolescence and venture creation success during the career. Journal of Vocational Behavior 79,2011,121-133
74. Parker, S.C., 2009. "The Economics of Entrepreneurship." Cambridge University Press, Cambridge
75. Porter, M. E., J. D. Sachs and J. W. McArthur, 2002, 'Executive Summary: Competitiveness and Stages of Economic Development', in: M. E. Porter, J. D. Sachs, P. K. Cornelius, J. W. McArthur and K. Schwab (eds.), The Global Competitiveness Report 2001–2002, New York: Oxford University Press, pp. 16–25.
76. Quimby, J., & Desantis, A. (2006). The influence of role models on women's career choices. *Career Development Quarterly, 54*(4), 297-306.
77. Reynold, P.D., Hay, M., Bygrave,W.D., Camp, S.M and Aution, E. (2000) Global Entrepreneurship Monitor, 2000 Executive Report, A Research Report from Babson College, Kauffman Center for Entrepreneurial Leadership, and London Business School
78. Reynolds, P(2005) Global Entrepreneurship Monitor: Data Collection Design and Implementation 1998-2003

79. Rodrigues, R. G., Raposo, M., Ferreira, J., & Do Paço, A. (2010). Entrepreneurship education and the propensity for business creation: Testing a structural model.*International Journal of Entrepreneurship and Small Business, 9*(1), 58-73.
80. Rostow, W. W., 1960, The Stages of Economic Growth; a Non-Communist Manifesto, Cambridge, UK: Cambridge University Press.
81. Sadeghi, M. et al (2013), The Role of Entrepreneurial Environments in University Students Entrepreneurial Intention, World Applied Programming, Vol(3), Issue (8),361-366
82. Saber, F. (2003) The Ways to Develop Women's Entrepreneurship of Iran: Solution of Empowering Women along with Economic, Social, and Political Equity, Roshangaran and Women's Research Publication, Tehran
83. Sambharya, R., & Musteen, M. (2014). Institutional environment and entrepreneurship: An empirical study across countries. Journal of International Entrepreneurship, Journal of International Entrepreneurship, 5 November 2014.
84. Schwarz, Erich J., Wdowiak, Malgorzata A., Almer-Jarz, Daniela A., & Breitenecker, Robert J. (2009). The Effects of Attitudes and Perceived Environment Conditions on Students Entrepreneurial Intent: An Austrian Perspective. Education & Training, 51(4), 272-291.
85. Sesen, H. (2013). Personality or environment? A comprehensive study on the entrepreneurial intentions of university students. *Education and Training, 55*(7), 624-640.
86. Seo, J. Y., & Choi, Y. (2013). The role of human capital in entrepreneurial process of IT ventures in Korea. *International Journal of Smart Home, 7*(1), 199-208.
87. Shapero, A., 1982. Social Dimensions of Entrepreneurship. In: Kent, C., Sexton, D., Vesper, K. (Eds.), The Encyclopedia of Entrepreneurship. Prentice-Hall, Englewood Cliffs, pp. 72–90
88. Shane, S., 2008. Illusions of Entrepreneurship: The Costly Myths that Entrepreneurs, Investors, and Policy Makers Live By. Yale University Press, New Haven, CT
89. Shook, J. R. (2003). Entrepreneurship and values in a democratic and pragmatic economics: Commentary on 'A transactional view of entrepreneurship'. *Journal of Economic Methodology, 10*(2), 181-190 272.
90. Shumpeter, J. (1939), Business Cycles: A Theoretical, Historical, and Statistical Analysis of the Capitalist Process, New York: McGraw-Hill
91. Schultz, Theodore W. "The economic importance of human capital in modernization." *Education Economics* 1.1 (1993): 13-19.
92. Singh, S., Mordi, C., Okafor, C. and Simpson, R. (2010) 'Challenges in female entrepreneurial development – a case analysis of Nigerian entrepreneurs', Journal of Enterprising Culture, Vol. 18, No. 4, pp.435–460.
93. Sternberg R., Wennekers S(2005) Determinants and effects of New Business Creation Using Global entrepreneurship monitor Data. Small Business Economics 24:193-203
94. Stenholm, P., & Hytti, U. (2014). In search of legitimacy under institutional pressures: A case study of producer and entrepreneur farmer identities. Journal of Rural Studies, 35, 133-142.

95. Stewart, W.H., Carland, J.C., Carland, J.W., Watson, W.E. and Sweo, R. (2003), "Entrepreneurial dispositions and goal orientations: a comparative exploration of United States and Russian entrepreneurs", Journal of Small Business Management, Vol. 41 No. 1, pp. 27-46.
96. Souitaris, V., Zerbinati, S. & Al-Laham, A. (2007). Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources. Journal of Business Venturing, 22, 566-591.
97. Tamásy, C. (2006). Determinants of regional entrepreneurship dynamics in contemporary Germany: A conceptual and empirical analysis. Regional Studies, 40(4), 365-384.
98. Tkachev,A.,&Kolvereid,L.(1999). Self-employment intentions among Russian students. Entrepreneurship and Regional Development, 11(3), 269-280.
99. Turker, D (2008) Which Factors affect entrepreneurial intention of university students Journal of European Industrial Training Vol.33 No.2,2009 pp. 142-159
100. Urbano, D., & Turró, A. (2013). Conditioning factors for corporate entrepreneurship: An in(ex)ternal approach. International Entrepreneurship and Management Journal, 9(3), 379-396.
101. Urbano, D., & Alvarez, C. (2014). Institutional dimensions and entrepreneurial activity: An international study. Small Business Economics, 42(4), 703-716.
102. Unger, Jens M., et al. "Human capital and entrepreneurial success: A meta-analytical review." *Journal of Business Venturing* 26.3 (2011): 341-358.
103. Van Gelderen (2005) Success and Risk Factors in the Pre-Startup Phase. Small Business Economics 24: 365-380
104. Van Auken, H. (2006) The influence of role models on entrepreneurial intentions. Journal of Developmental Entrepreneurship Vol.11 No.2 157-167
105. Van Gelderen (2008) Explaining entrepreneurial intentions by means of the theory of planned behavior. Career Development International Vol.13 No.6 pp.538-559
106. Veciana, J.M., Aponte, M., & Urbano, D. (2005). University students' attitudes towards entrepreneurship: A two countries comparison. International Entrepreneurship and Management Journal, 1(2), 165–182
107. Vidal-Suñé, A., & López-Panisello, M. (2013). Institutional and economic determinants of the perception of opportunities and entrepreneurial intention/Determinantes institucionales y económicos de la percepción de oportunidades y de la intención emprendedora. Investigaciones Regionales, (26), 75-96.
108. V.Souitaris .,Stefania Z., Andreas L.(2007) Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resoures. Journal of Business Venturing 22, 556-591
109. Van Stel, Wennekers, S(2003), Explaining nascent entrepreneurship across countries, SCALES-paper N200301
110. Van Stel, A., Storey, D. J., & Thurik, A. R. (2012). The effect of business regulations on nascent and young business entrepreneurship.Small Business Economics, 28(2-3), 171-186.

111. Wang C.K, Wong PK. (2004) Entrepreneurial interest of university students in Singapore. Technovation 24, 163-172
112. Wennekers, S. (2005) Nascent Entrepreneurship and the level of economic development. Small Business Economics (2005) 24:293-309
113. Wennekers, S. (2010). The relationship between entrepreneurship and economic development is it U-shaped? (Foundations and trends in entrepreneurship, v. 6, issue 3, p. 167-237).
114. Wilson, F., Kickul, J., & Marlino, D. (2007). Gender, entrepreneurial self-efficacy, and entrepreneurial career intentions: Implications for entrepreneurship
115. Wong, Poh Kam, Yuen Ping Ho, and Erkko Autio. "Entrepreneurship, innovation and economic growth: Evidence from GEM data." *Small Business Economics* 24.3 (2005): 335-350.
116. Wu,S, Wu, L (2008) The impact of higher education on entrepreneurial intentions of university students in China. Journal of Small Business and Enterprise Development Vol.15 No.4 pp. 752-774
117. Xavier, S., Ismail, A., & Ahmad, S. (2010). Cultural and Economic Determinants of Entrepreneurial Propensity: A Study of Multi-Ethnic Society in Malaysia. Journal of Asia Entrepreneurship and Sustainability, 6(2), 67-83.
118. Yamada, G., 1996, 'Urban Informal Employment and Self-Employment in Developing Countries: Theory and Evidence', Economic Development and Cultural Change 44, 289–314.
119. Y.Hamidi, Daniel, Karl Wennberg, and Henrik Berglund. "Creativity in entrepreneurship education." Journal of Small Business and Enterprise Development 15.2 (2008): 304-320.
120. Zahra, S. (1999). The Changing Rules of Global Competitiveness in the 21st Century.The Academy of Management Executive (1993-2005), 13(1), 36-42.
121. Zampetakis, Leonidas A., et al. "Creativity and entrepreneurial intention in young people Empirical insights from business school students." *The International Journal of Entrepreneurship and Innovation* 12.3 (2011): 189-199.
122. Zhang, Z. (2009) 'The genetic basis of entrepreneurship: effects of gender and personality', Organizational Behavior and Human Decision Processes, Vol. 110, No. 2, pp.93–107.