

The Impact of Humane Entrepreneurship on Business Ecosystem and Economic Development*

by Yong Jin Kim **, Ki-Chan Kim ***, Chang Seok Song ****, and Myung Soo Kang *****

With the advancement in digital transformation with smart technologies and the collapse of industry borders, increasing is the importance of understanding customer problems, fostering employee capabilities, and enhancing the partner capabilities to properly provide the best service to customers. This is what is called the humane entrepreneurship in the 4th Industrial Revolution. Humane entrepreneurship is believed to play a critical role in developing business ecosystems and thus economic growth of nations. We empirically tested the ideas that 1) entrepreneurship as a meta-structuring action shape the healthiness of business ecosystem and 2) subsequently both entrepreneurship and business ecosystems affect economic development of a country. The results indicate that humane entrepreneurship does not directly affect healthiness of business ecosystem, but the balanced humane entrepreneurship together with opportunity in business ecosystems has a positive relationship with GDP growth. In other words, opportunity can be appropriated by entrepreneurs who have balanced sense between human and enterprise dimension. Data collection and methodologies are discussed further in the paper.

Keywords : *Humane Entrepreneurship, Business Ecosystem, Economic Development*

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I. Introduction

With the advancement in digitalization and smart technologies, industry borders collapse and competitive environment have been changing from efficiency based to creativity based where entrepreneurship plays a critical role in developing economic growth. Previous studies insisted that entrepreneurship directly influences firm performance or economic growth. However, a couple studies argue that entrepreneurship would not directly affect the firm performance but indirectly through individual structures like knowledge management capability (Kim, Song, Sambamurthy, and Lee, 2012; Lee, Jung, and Kim, 2015). Institutionalization theory explains that entrepreneurship plays a role as meta-structuring action in building individual structures including business ecosystem which in turn affects economic growth (Purvis, Sambamurthy, and Zmud, 2001). Following this line of argument, in this study, we investigate 1) how does entrepreneurship as a meta-structuring action shape the healthiness of business ecosystem, the individual structuring actions and 2) subsequently how does entrepreneurship affect economic development of a country? For the entrepreneurship, we use the concept of humane entrepreneurship which consists of two sub-dimensions: humane dimension and enterprise dimension. The healthiness of business ecosystem is defined as an overall performance of business ecosystems which can be measured by the three determinants of business ecosystem health: robustness (the capability of an ecosystem to overcome difficulty to survive), productivity (the ratio of output to input), and niche creation or creativity (the capability to create meaningful diversity and new businesses) (Iansiti and Levien, 2002). To examine the research questions, we used the data about humane entrepreneurship and healthiness of business ecosystem collected through survey method from 19 countries.

II. Literature and Theory Development

Prior research has posited three possible

ways that entrepreneurship is related to a country's GDP per capita. First, there is no relationship between Entrepreneurship and GDP per capita. Second, there is a linear relationship between Entrepreneurship and GDP per capita (The Entrepreneurship, Growth and Public Policy Group, 2008). Third, there is a U-curve relationship between Entrepreneurship and GDP per capita.

Among these three, it was found that the third explanation may be the most plausible, as it was observed that there is a U-curve relationship between Entrepreneurship and GDP per capita (Carree, Van Stel, Thurik, and Wennekers 2007; Wennekers, Van Stel, Carree and Thurik, 2010). However, According to Acs, Desai, and Klapper (2008b) who examined the relationship between entrepreneurship and economic growth in terms of GDP per capita with 40 years of world economic data, when entrepreneurship is grouped into opportunity and necessity, the ratio of opportunity to necessity entrepreneurship always increases as the GDP per capita grows. This study is designed to re-examine the phenomenon with more data.

We propose in this study that higher income leads to more opportunity based start-ups particularly in the innovation driven economy (higher income countries). Well established social safety nets such as government welfare for the unemployed in the innovation driven economies reduces the start-up risks. Thus, we argue that the relationship between entrepreneurship and GDP per capita is J-curved, in particular when considering Humane Entrepreneurship (HE) which is defined as the pursuit of entrepreneurial growth and humane development for opportunity realization and sustainable organization. According to the Max Planck Institute, without entrepreneurship, countries that experience the middle-income trap may not grow further. However, with the concept of humane entrepreneurship, we argue that when enterprise dimension of entrepreneurship is emphasized too much, the economy won't have the expected results. Both human dimension and enterprise di-

mension need to be balanced to have the better effect on national economy.

Healthiness of business ecosystem as the individual structuring action is argued in the paper to deliver the humane entrepreneurship onto economic growth. It has been measured by a scale named HeBEX. HeBEX (2015) has assessed the relative healthiness of countries through the HeBEX model. This model proposed that Creativity (research and development, hereafter R&D; number of patents) drives Opportunity (exports; new businesses) which affects Productivity (GDP per capita). The profits from this relationship fuel future innovation through entrepreneurship (ease of doing business; SME support) and re-investment (investments in R&D). As entrepreneurship is a vital part of economic growth, this paper proposes that Humane Entrepreneurship should likewise have an effect in business ecosystem health. This research would study this link and establish what the relationship between the HeBEX Indices and Humane Entrepreneurship are.

III. Data Collection

In order to gather information about en-

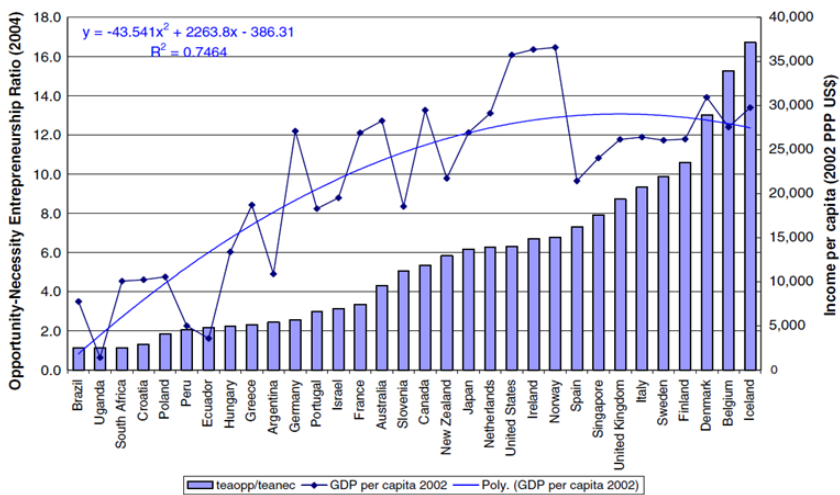
trepreneurship from various countries and organizations, a questionnaire has been prepared. This questionnaire has been disseminated both through hard-copy surveys and as an online form. Ten elements of humane entrepreneurship “state” are scored using a five-point Likert scale (Very low, Low, Neutral, High, Very High). We asked country representatives to sample policy makers, business people, and entrepreneurship educators as respondents of “Humane Entrepreneurship Questionnaire” (Kim and Bae et al., 2016).

IV. Results and Analysis

4.1 Double-Inflection Point Hypothesis: The Neo Middle-Income Trap

Countries whose GDP per capita is between \$10,000 to \$12,000 are deemed to be in the Middle-Income Trap (Agénor, Canuto, and Jelenic, 2012). This research however, has found a different point which is unique to the Digital Economy, the Neo Middle-Income Trap. This new phenomenon does not take place under the analog economy

Figure 1
Necessity based Entrepreneur vs Opportunity based Entrepreneur
(Acs, Desai, Hessels, 2008a)



where efficiency and productivity are key factors for economic development.

To move from the \$25,000 to \$30,000 GDP per capita range in the analog economy, it took Japan 4 years, Switzerland 2 years, Sweden 4 years, Germany and Denmark 6 years, respectively. However, Korea has remained within the \$20,000 to 29,000 GDP per capita range for 11 years since 2006, when they reached \$20,823. Korea has fallen into the Neo Middle-Income Trap, caused by having a relatively low Humane Entrepreneurship (HE Entrepreneurship Trap at Middle-Income Countries), together with Greece, Spain, and Italy.

4.2 Humane Entrepreneurship Trap

Michael Porter has established that there is a relationship between Economic Development and Entrepreneurship. The 1st stage is factor-driven development, these is entrepreneurship for necessity based start-ups. The 2nd stage is investment-driven development through offshore loans and Foreign

Direct Investment. This efficiency-driven strategy would help a country increase, up until the 1st stage trap, which is Middle-Income Trap in the \$10,000 to \$12,000 GNP per capita range (OECD, World Bank, 2012). The 3rd stage is innovation-driven development, where there are more opportunity based start-ups. Here technology innovation drives economic development which is possible until the 2nd stage trap, the Neo Middle-Income Trap. The 4th stage is CSV-driven development where creating shared value and accumulated capital drives economic development.

4.3 Humane Entrepreneurship and Business Healthiness

Entrepreneurship plays a vital role in determining business ecosystem health (Purvis, 1984). Previous studies such as HeBEx (2015) has incorporated Entrepreneurship as one of its elements. This relationship could best be summarized in Figure 2 where the HeBEx indices has been compared to the

Figure 2
Correlation between Humane Entrepreneurship and Business Healthiness

		HeBEx	Creativity	Opportunity	Productivity	Entrepreneurship
HeBEx	Pearson Correlation	1	.853	.681	.812	.871
	Sig. (2-tailed)		.000	.002	.000	.000
	N	18	18	18	18	18
Creativity	Pearson Correlation	.853	1	.459	.513	.695
	Sig. (2-tailed)	.000		.055	.029	.001
	N	18	18	18	18	18
Opportunity	Pearson Correlation	.681	.459	1	.412	.414
	Sig. (2-tailed)	.002	.055		.089	.088
	N	18	18	18	18	18
Productivity	Pearson Correlation	.812	.513	.412	1	.698
	Sig. (2-tailed)	.000	.029	.089		.001
	N	18	18	18	18	18
Entrepreneurship	Pearson Correlation	.871	.695	.414	.698	1
	Sig. (2-tailed)	.000	.001	.088	.001	
	N	18	18	18	18	18
Enterprise	Pearson Correlation	.651	.423	.555	.458	.719
	Sig. (2-tailed)	.003	.080	.017	.056	.001
	N	18	18	18	18	18
Human	Pearson Correlation	.559	.307	.543	.433	.587
	Sig. (2-tailed)	.016	.216	.020	.073	.010
	N	18	18	18	18	18
Multiplied	Pearson Correlation	.639	.376	.592	.477	.683
	Sig. (2-tailed)	.004	.125	.010	.045	.002
	N	18	18	18	18	18

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Humane Entrepreneurship scores. It was found that there is a significant correlation between HeBEx and the Enterprise Cycle (.651**), the Human Cycle (.559*), and their combined scores (.639**). When looking at the specific HeBEx indices, Creativity is found to be linked to the Enterprise Cycle, while Opportunity and Productivity are found to be essential in both.

4.4 Humane Entrepreneurship, Business Ecosystem, and Economic Growth

Following the argument that entrepreneurship shapes sub-structure to affect performance, we develop a structural model where humane entrepreneurship affects healthiness of business ecosystem which in turn affects GDP per capita. Figure 3 illustrates the pictorial form of the structural model.

In Figure 4, HE balance stands for the balance between human dimension and enterprise dimension and HE×Cre, HE×Opp, and

HE*Pro are all interaction terms between HE Balance and three healthiness concepts of business ecosystem (creativity, opportunity, and productivity). All most all of the model fit indices are in the acceptable range (Chi Square 15.778, d.f. 11, $p < 0.150$, normed Chi Square 1.434, NFI .907, TLI .882, CFI .964, RMSEA .117).

The test results show that humane entrepreneurship does not directly affect healthiness of business ecosystem and out of three healthiness concepts, only creativity and productivity appear to affect GDP per capita. Among the concepts of healthiness of business ecosystem, creativity affects opportunity which in turn influences productivity, leading to economic growth. Interestingly opportunity which has been known as the most important driver for economic growth (Acs et al., 2008a) does not directly affect GDP per capita, but it affects GDP per capita by interacting with the balance between human and enterprise dimension of humane entrepreneurship. That is to say, opportunity

Figure 3
J-Curve Hypothesis: Humane Entrepreneurship Trap

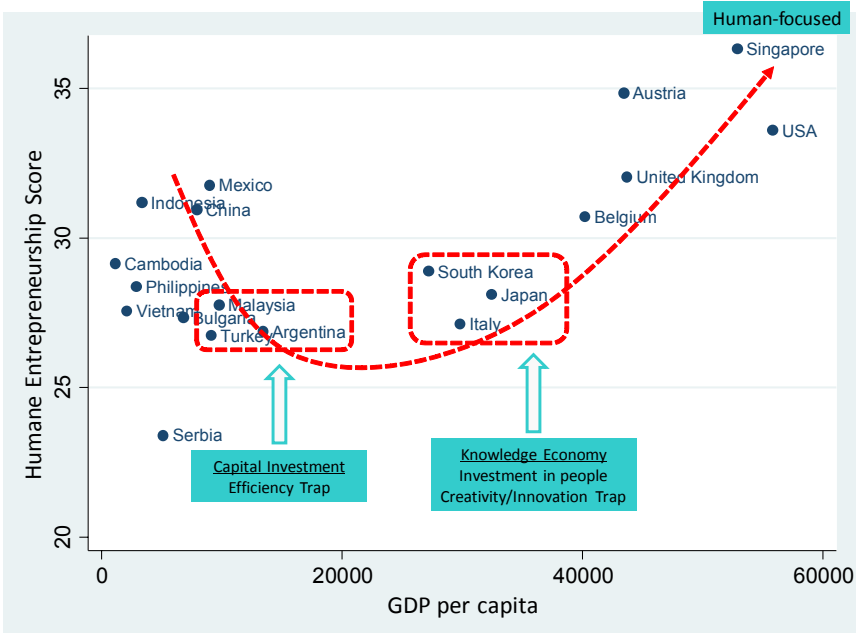
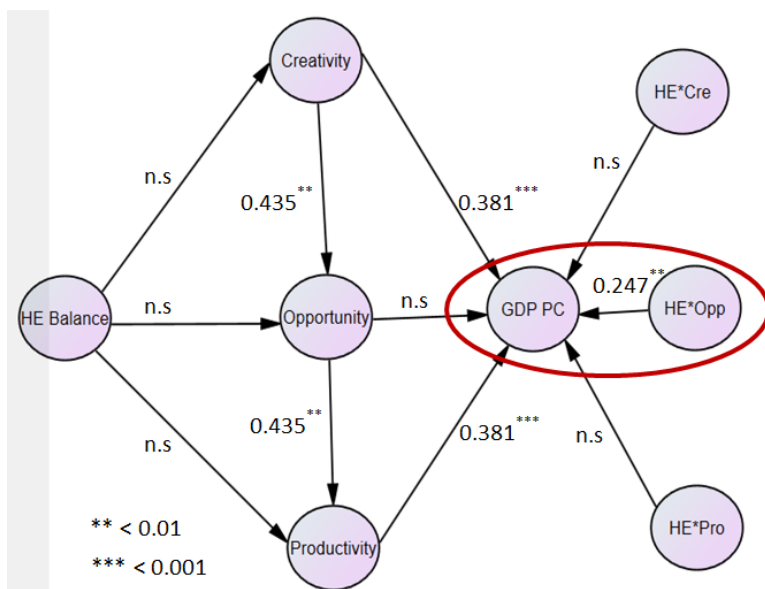


Figure 4
A Structural Model of the Relationship among Key Concepts



affects GDP per capita only with the presence of balanced entrepreneurship between human and enterprise dimension. This finding makes sense when the relationship between opportunity-necessity entrepreneurship ratio and GDP per capita.

Even though humane entrepreneurship does not appear to affect healthiness of business ecosystem, by showing that the interaction between the balanced humane entrepreneurship and opportunity has a positive relationship with GDP growth, humane entrepreneurship is proved to be a meta-structuring action. In other words, opportunity can be appropriated by entrepreneurs who have balanced sense between human and enterprise dimension.

V. Discussions and Implications

Humane Entrepreneurship is important to move from Factor-driven and efficiency-driven economies to innovation-driven ones. It is possible to reach the \$20,000 GDP per capita level even without innovation, through input of factors. To grow further, proliferation of Humane Entrepreneurship is needed

(Germany Max Planck Institute, 2008; GEM).

Based on the results, investing in production factors such as labor, capital, and land would enable a country to reach \$20,000 GDP per capita. However, to reach \$30,000 or 40,000 GDP per capita, entrepreneurship is required as well (Erken, Donselaar, and Thurik, 2008; GEM; ICSB). Advanced countries (\$40,000 GDP per capita and above) could overcome the Neo Middle-Income (\$25,000 to \$29,000 GDP per capita) trap through Humane Entrepreneurship (J-Curve Hypothesis). \$25,000 to \$29,000 GDP per capita (PPP) countries including Italy, Greece, Spain, and Korea remain in the Neo Middle-Income trap, while advanced countries (\$40,000 GDP per capita and above) including Singapore, USA, Sweden, Austria have increased through a more Humane approach to Entrepreneurship.

In the same line, while previous studies assume that entrepreneurship directly affect economic growth, this study argues that entrepreneurship indirectly affect economic growth via the healthiness of business ecosystem. The test results indicate that en-

terprise dimension and human dimension may exert differential effect on healthiness of business ecosystem among which creativity and productivity influence economic growth while opportunity needs to come along with the balanced humane entrepreneurship to affect economic growth. That is, opportunity positively affect economic growth in the condition of highly balanced entrepreneurship, human side and enterprise side.

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인간중심 기업가정신이 비즈니스 생태계와 경제개발에 미치는 영향*

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스마트기술에 기반한 디지털 전환의 진전과 산업간 경계의 붕괴와 더불어, 고객들에게 가장 적합한 서비스를 제공하기 위해 더욱 중요해진 문제는 고객의 문제를 이해하고, 종업원의 역량을 향상시키며, 파트너들의 역량을 증진시키는 것이다. 이것이 4차 산업혁명시대 인간중심 기업가정신의 핵심이다. 인간중심 기업가정신은 비즈니스 생태계를 발전시키고 국가의 경제발전을 이루는데 핵심적인 역할을 하는 것으로 알려져 있다. 이 연구는 기업가정신이 메타구조화 행동으로 비즈니스 생태계를 구축하고, 비즈니스 생태계의 건강성과 함께 경제발전에 영향을 미친다는 가설을 검증하고 있다. 연구결과, 기업가정신은 직접적으로 비즈니스 생태계에 영향을 미치지 않지만 사람성장과 사업개발 두 가지 측면에서 균형잡힌 기업가정신, 즉 사람중심 기업가정신은 비즈니스 생태계의 건강성 중 기회성과 함께 일인당 국민소득의 성장에 긍정적인 영향을 끼친다는 것을 발견하였다. 다시 말해, 기회성은 사람성장과 사업개발 두 가지 측면 모두에 균형잡힌 사고를 가진 기업가에 의해 활용될 수 있고 이것이 경제성장에 영향을 미친다는 것이다. 이 논문은 또한 자료 수집과 방법론에 대해 자세히 기술하고 있다.

주제어 : 인간중심 기업가정신, 비즈니스생태계, 경제개발

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