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Exploring competing perspectives on government-driven entrepreneurial ecosystems: lessons from Centres for Creative Economy and Innovation (CCEI) of South Korea

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ABSTRACT

Recent research suggests competing aspects of how to promote an entrepreneurial ecosystem for sustainable economic growth from a linear entrepreneurial ecosystem to non-linear ones involving diverse stakeholders beyond the dichotomy between state and market. Competing views and interests embedded in these multiple stakeholders can contribute to understanding how an entrepreneurial ecosystem can emerge, flourish and vanish. However, little systematic research has explored what aspects multiple stakeholders have for a new rising entrepreneurial ecosystem. This paper, relying on Q-methodology, explores different perspectives of stakeholders surrounding the Centres for a Creative Economy and Innovation (CCEIs) in South Korea. Application of Q-methodology with a qualitative and statistical approach allows us to clarify various competing stakeholder perspectives on entrepreneurial ecosystems embodied by the 17 government driven CCEIs. We found six different views on how to evaluate the role and function of the CCEIs deeply connected with strong state intervention and big conglomerate companies (BCCs): (1) the BCC-led CCEI ecosystem, (2) the CCEI own ecosystem, (3) a strong critic of the state-led CCEI ecosystem, (4) a negative viewpoint on the politics-led CCEI ecosystem, (5) the state-led CCEI ecosystem and (6) a strong critic of the current Korean venture capital system.

KEYWORDS

Creative economy; government driving innovation; collaborations between small and big companies; Centres for Creative Economy and Innovation

1. Introduction

Entrepreneurial ecosystems have grown with various competing perspectives involving economic and non-economic benefits and political interests (Abernathy & Chakravarty, 1978; Block, 2008; Ebner, 2006, 2007; Kim & Nelson, 2000; Stam, 2015) and the perspective varies among different institutions and norms embedded in relationships between state, market and civic communities around the world. The American innovation model, Israel's start-up model and the Nordic social innovation model – each has its own unique strengths and weaknesses for designing and implementing effective policies supporting new start-ups based on innovation (Breznitz & Cowhey, 2012; Engel & del-Palacio, 2011; Frenkel & Maital, 2014; Senor & Singer, 2009; Stiglitz, 2015). While there have been

debates regarding which model is better or more effective to promote sustainable economic growth and welfare (Stiglitz, 2015), little empirical research has investigated what type of entrepreneurial ecosystem is appropriate in Asian countries. Although some studies have explored the Japanese innovation model (Nonaka & Takeuchi, 1995; Okimoto, 1989), few studies have explored entrepreneurial ecosystems in Asian countries such as South Korea with fast follower strategy (Kim, 1997; Kim & Nelson, 2000) and Taiwan (Breznitz, 2007; Wong, 2005) in terms of what stakeholder perspectives are involved in building the ecosystems. This paper explores various perspectives and roles of stakeholders embedded in the recent government-driven entrepreneurial ecosystem of the current Park Guen-Hye Administration in South Korea.

South Korea as one of Asia's four little dragons has demonstrated a very successful story of economic growth through strategic industrial policies among underdeveloped and developing countries. More particularly, the Korean development model has been well known as a successful government-driven growth and innovation model (Wade, 1990). Since the late 1970s and early 1980s, the Korean innovation model has started transforming its entrepreneurial ecosystem from an imitation model to an innovation model (Kim, 1997; Kim & Nelson, 2000). However, since the 1997 economic crisis, the economy of South Korea has faced fundamental problems of national competitiveness and economic strength. Economic growth rates have been dropping since 2000, and unemployment among young people is increasing. A pessimistic view argues that South Korea may not exceed the US\$30,000 of GDP per capita. South Korea has been stagnant at 20,000 dollars per capita during the last decade. In order to surpass the recent stagnant growth, the current Park Guen-Hye administration has introduced and pursued a creative economy ecosystem through creating and shaping new markets with open innovation, promoting start-ups and venture businesses. Establishing both the new Ministry of Science, ICT and Future Planning (MSIP) and Centre for Creative Economy & Innovation (CCEI) represents a unique strategy for the regional ecosystem for creative economy in South Korea. The current 18 CCEIs in South Korea play a key role of promoting a creative economy with collaborations among multiple stakeholders including the relevant ministries of, and public agencies of, central government, local government and big conglomerate companies (BCCs).

The CCEI is a non-profit institution to support start-ups and small and medium-sized enterprises (SMEs) in each specialty area. More specifically, the CCEI plays a role of constructing partnerships between the relevant big corporation and regional enterprises, arranging funds for them to overcome financial difficulties, encouraging managerial and technological innovation and advisory services (called mentoring), promoting communication and cooperative work among participants, and creating new markets and jobs. Now MSIP, local governments, public institutions and BCCs like Samsung and Hyundai, and large corporations (e.g. KT and POSCO) support these functions of CCEI. In 17 major locations, the Government set up 'CCEIs' run by a partnership of large firms and SMEs in collaboration with regional sector councils, educational institutions and the government. CCEIs serve as hubs providing vocational education and training and entrepreneurship programmes customized to local labour market demands. The CCEI currently represents a regional ecosystem for creative economy, and consists of a total of 18 regional centres across metropolitan cities and provinces to support venture start-ups and SMEs.¹ The CCEIs provide research opportunities to explore different perspectives and solutions from various stakeholders from central

governments, to local government, to private financial institutions, to BCCs (e.g. Samsung and LG) and to small–medium business companies.

The success of an entrepreneurial ecosystem depends on whether multiple stakeholders effectively collaborate and whether they can co-manage and co-create an entrepreneurial ecosystem. The bottom line is whether innovative and collaborative governance works for entrepreneurial ecosystems and how to promote successful entrepreneurial governance. Various factors such as government intervention, historical context and environment, cultural components and current business ecosystems can influence building a successful entrepreneurial ecosystem. The roles of government and business and their impact on nurturing the entrepreneurial ecosystems vary across countries over time. South Korea has illustrated a strong state role of promoting entrepreneurial ecosystems. The Park Geun-hye administration has established 17 CCEIs across metropolitan cities and provinces in order to promote start-ups and venture ecosystems. Big conglomerates are involved in the 17 creative economy centres with various collaboration networks. The most distinct aspect of the CCEI is novel interactions between big conglomerates and various start-ups, which are uncommon collaborations between them for start-ups ecosystem. However, there are competing views on whether or not start-ups can grow with big conglomerates through various connections and co-productions.

This paper examines different perspectives on the topic of regional economic development, focusing on the role of the CCEIs for a creative economy in South Korea. The CCEIs are designed to provide various government-based supports including legal, financial, investment and marketing strategies, and overseas expansion opportunities. The CCEIs appear to be a typical top-down model to promote an entrepreneurial ecosystem where the government sector is a visible entity to facilitate regional economic development. In other words, the CCEIs illustrate a top-down approach to an entrepreneurial ecosystem initiated by national government and presidential leadership.

The purpose of this research is threefold. First, we review the literature on debates in the research area with respect to how to promote innovation ecosystems in terms of the role of government, the degree of state intervention and various collaborations between government and market. Second, we introduce Q-methodology and explain how it can be used to examine and clarify what perspectives are embedded in the role of CCEI or the impact of CCEI on entrepreneurial ecosystems of start-ups and venture businesses. Application of Q-methodology with a qualitative and statistical approach is used to clarify and understand competing stakeholder perspectives including attitudes and perceptions on entrepreneurial ecosystems embodied by the 17 CCEIs in South Korea. We use various sources including interviews from stakeholders such as government officials, venture capitalists and researchers as well as academic documents such as journals and policy reports in order to generate a series of Q-statements on the policy topic of the CCEIs and entrepreneurial ecosystems. Third, we extend the current state of knowledge by assessing how 36 individuals (P-sample) with 44 Q-statements evaluate the current nature of entrepreneurial systems associated with the CCEIs. We identify six perspectives on the nature of CCEIs: (1) an optimistic view of the BCC-led CCEI ecosystem (pro-BCC contribution), (2) an optimistic view of the state-led CCEI ecosystem (anti-BCC involvement and pro-state intervention), (3) a pessimistic view of the state-led CCEI ecosystem (anti-state intervention and pro-BCC contribution), (4) a pessimistic view of the politics-led CCEI ecosystem with strong criticism of venture capital systems and political projects, (5) an optimistic

view of the state-led CCEI ecosystem with criticism of managerial functions of the CCEI and (6) a pessimistic view on the current Korean start-up ecosystem with strong criticism of the current venture capital system. Finally, we discuss practical and theoretical policy implications of this research.

2. Entrepreneurial ecosystem: market, state, big conglomerates and start-ups

2.1. Competing models of state intervention for entrepreneurship

Recent studies have suggested specific attributes and pillars for a successful entrepreneurial ecosystem (Clarysse, Wright, Bruneel, & Mahajan, 2014; Feld, 2012; Stam, 2015). Various stakeholders such as entrepreneurial leaders, policy-makers from various levels of government, civic community groups, small–medium companies, big companies and venture capitalists can play a key role in building and promoting innovation. These multiple stakeholders can contribute to promoting entrepreneurial ecosystems with various aspects and interests. Along with three big sectors (i.e. state, civic community and market), government, big companies, small businesses, start-ups and policy entrepreneurs interact with one another to build and expand the entrepreneurial ecosystem. However, little research has explored what aspects and interests multiple stakeholders have for a new rising entrepreneurial ecosystem, especially when government attempts to plan and develop the entrepreneurial ecosystem with elaborate managed collaborations among big companies and small–medium businesses.

There are two different versions of how to promote entrepreneurial ecosystems: government-driven vs. market-driven (Berman, 2014; Block, 2008; Ebner, 2006, 2007; Mazzucato, 2014; Wade, 1990). The question is how to nurture an entrepreneurial ecosystem. One version is a strong state-led innovation model and the other is a strong market-led innovation model. Overall, two competing viewpoints on the debate are useful to design entrepreneurial ecosystems.

The first view is based on traditional neo-liberal economists. This view suggests a neo-liberal model to correct market failure. Neo-liberal economists have suggested that the state can play a role in promoting innovation. The market cannot, by itself, provide an optimal level of innovation and entrepreneurship with a huge risk. Government can correct market failures by investing directly and indirectly in science and technology or by using various policy instruments such as tax incentives and subsidies to nudge start-ups. The neo-liberal model emphasizes an innovation capacity embedded in the market mechanism, where the state can provide various policy tools to correct market failures and realize an appropriate level of innovation. However, this model has the fundamental limitation that the market by itself cannot invest in high-risk businesses with publicly oriented missions.

The second view comes from a state-dominant innovation model to promote economic growth. This view puts less faith in free markets as the driver of dynamic competitiveness and more in the capability of governments to promote entrepreneurial ecosystems. This view criticizes the argument that innovative market forces account for economic success in the earlier industrialization of the presently rich countries (e.g. Germany, the US and Japan) and of the East Asian Tigers (e.g. South Korea, Taiwan and Singapore). This view emphasizes government intervention, rather than market forces, for economic

growth and innovation. It should be noted that government bureaucrats design government intervention, sometimes not corresponding to market trends. Research has criticized this model as an incomplete government-driven innovation model with faulty design of policy tools and inappropriate collaboration between bureaucrats and market. However, this government-driven model involves various governmental failures including capture by private interests (e.g. nepotism, cronyism and corruption) and misallocation of resources (e.g. picking winners and losers). A more fundamental problem of this model comes from the bureaucratic micro-management approach entrenched into inflexible and uncreative programmes without considering a long-term plan and performance scheme, and global standards with global connections (Lerner, 2010).

In addition, there is a third model beyond these two competing state models for entrepreneurship. Recent research has reminded us of historically hidden roles of government for economic and social development through various interventions and support of market and society (Mazzucato, 2014). The state has massively intervened in various market failures embedded in market mechanisms. For instance, the state has provided technology (i.e. Internet, GPS, touch-screen display and Siri) that makes start-ups such as iPhone and Google possible (Mazzucato, 2014). However, there are debates on how to promote entrepreneurial ecosystems through various interactions between market and government. Various aspects of the roles of government-driven innovation include active and passive intervention strategies or government-driven and market-driven mechanisms (Berman, 2014; Block, 2008; Ebner, 2006, 2007; Mazzucato, 2014; Wade, 1990). Basically, there are two rationales for government efforts to stimulate entrepreneurship including (1) the role of technological innovation as a spur for sustainable economic growth and prosperity and (2) the role of entrepreneurship, start-ups, and venture capital to embrace new ideas and high risk. The entrepreneurial state intervenes in the market mechanism in order to reduce the private sector's shortcomings. Mazzucato (2014) outlines the significant role governments play in creating and shaping new markets.

2.2. Entrepreneurial ecosystem and big conglomerates

An attractive but intricate research question regarding entrepreneurial ecosystems is whether big companies can sustainably coexist with start-ups and further cultivate new start-ups. In other words, giant companies such as Google, Apple and Samsung can promote fresh start-ups, even though the new start-ups may provide competition in the future. There are incentives and disincentives for such giant companies to support promising start-ups. At least four scenarios for the role of big companies for entrepreneurial ecosystems are possible. First, big companies can demolish emerging start-ups because the start-ups represent competition. The entrepreneurial ecosystem in South Korea appears to be an example of this dark side of the relationship between BCCs and start-ups. Second, big companies can purchase promising new start-ups. Third, government can regulate or induce a managed relationship between BCCs and start-ups through an interactive dependence. For instance, the current Park Guen-Hye Administration in South Korea has encouraged BCCs into supporting new start-ups involved in the 18 CCEIs, including one more privately owned CCEI, the Pohang Centre for Creative Economy & Innovation that POSCO, Korea's largest steelmaker, directly built. Finally, a new entrepreneurial ecosystem can arise when big companies fall, downsize or restructure. The collapse of big companies

can provide opportunities for a rise of entrepreneurship (Isenberg, 2013). A flourishing entrepreneurial ecosystem can come from the failure of big companies. For instance, the fall of Nokia in Finland generated many new ventures.

There are competing perspectives on the role of BCCs (i.e. Chaebols) to promote an innovative startup ecosystem in South Korea (Kim, 1997). First, there is a negative view of the role of Korean BCCs. The dominance of large business conglomerates in South Korea hampers the enlargement of SMEs and start-ups (OECD, 2014). The Chaebols have been criticized as a key source of structural inertia to boosting entrepreneurship and start-ups in South Korea (Witt, 2014). For instance, The People's Party's former Chairman Rep. Ahn Cheol-soo criticized the CCEI ecosystem as a 'zoo structure' with a vertically dependent arrangement centring on large corporations. He commented that the CCEIs would be a great opportunity to destroy the zoo structure. However, matching the 17 centres nationwide with large corporations including Samsung, LG and KT and giving monopoly authority for each one to a large corporation would allow unfair vertical collaboration between them and result in the exploitation of start-ups involved in the CCEIs. In his view, most of the emerging start-ups involved in CCEIs would finally be terminated in the 'Samsung zoo' or 'LG zoo' due to these big companies' exploitation of new start-ups.² On the other hand, there are, however, a few successful cases and stories about how big conglomerates have contributed to promoting entrepreneurial ecosystems with start-ups. The case of the CCEIs provides an interesting example of how start-ups can receive various kinds of support from BCCs. The current Park Geung-hye Administration strongly encourages the Korean Chaebols to support start-ups with the CCEIs and has encouraged the big conglomerates to follow a coexisting strategy of corporate social responsibility, collaborating and supporting small suppliers and venture start-ups involved in the CCEIs. The current structure of the CCEI ecosystem in South Korea provides for various collaborations among state, BCCs and start-ups.

2.3. State-driven new entrepreneurial ecosystem in South Korea

There are debates on the appropriate role of government for innovative ecosystems from various stakeholders in South Korea. The unique picture of the regional ecosystem in South Korea is to nurture a field of creative economy through establishing non-profit CCEI, that is, CCEIs. The Park Guen-Hye Administration in South Korea has established 17 centres for creative economy across 8 special and metropolitan cities and 9 provinces (see Table 1). All 17 centres are established by the Korean government with a corresponding large company. Another CCEI is Pohang centre, which is a non-profit institution wholly established by POSCO, not associated with the Korean government. Pohang centre is located at the main campus of Pohang University of Science and Technology (POSTECH). The basic approach to an entrepreneurial ecosystem is based on collaborations among central and local governments, public agencies and large corporations including SAMSUNG, LG, KT and POSCO. The centres function to boost start-ups with venture firms, universities in conjunction with large conglomerates and corporations through providing legal consultations, financing strategies and opportunities, and opportunities to exchange business ideas and technologies.

A distinctive collaboration for an entrepreneurial ecosystem in South Korea comes from each of the conglomerates, including Samsung, Hyundai Motor Group, LG, SK,

Lotte, Hyundai Heavy Industry, Hanwha and GS. All these conglomerates have been assigned to each CCEI within their own special industry areas. For instance, Samsung provides its various resources (e.g. patents, consulting and marketing network) to start-ups involved in the Daegu centre. In the same way, LG provides its patents, supply chains and marketing strategy for start-ups and small businesses involved in the Cheongju centre. It is effective to boost start-ups and small businesses through applying resources of large conglomerates towards a rich entrepreneurial ecosystem. However, it is not reasonable to assume that such BCCs will support start-ups and small businesses involved in the centres without receiving any benefits. The current commitment of the big conglomerates appears to be based on hidden pressure

Table 1. Information about the 18 CCEIS in South Korea.

18 Cities and provinces (CCEI location)	Opening date	Large corporation wholly responsible for CCEI	Major key areas for creative economy	Organization size of CCEI (Personnel/ Budget)	Investment (100 million, unit: Korean Won)
Seoul	July 17, 2015	CJ	Culture, Art, Food & Fashion	14/24.8	–
Busan	March 15, 2015	LOTTE	Merchants Global Distribution, IoT, Film, Industry	22/27.1	2300
Daegu	September 15, 2014	SAMSUNG	IT, Electronics, Textile	17/35.7	300
Incheon	July 22, 2015	Hanjin	High-Tech Logistics	13/21	1590
Gwangju	January 27, 2015	Hyundai Motors	Automobile Industry	12/27.7	1875
Daejeon	October 10, 2015	SK	Star Venture Biz	25/35.5	500
Ulsan	July 15, 2015	Hyundai Heavy Industry	Shipbuilding Plant, Medical Automation, 3D printing	9/27.5	1620
Sejong	June 30, 2015	SK	Agriculture Industry	11/23.4	200
Gyeonggi Province	March 30, 2015	KT	Game Industry Fintech	15/27.1	1050
Gangwon Province	May 11, 2015	NAVER	Big Data	13/28.7	1050
Choongbuk Province	February 4, 2015	LG	Bio, Cosmetics,	19/27.4	1500
Choongnam Province	May 22, 2015	Hanwha	Clean(Solar) Energy	12/27	1525
Jeonbuk Province	November 24, 2014	Hyosung	Carbon Industry	13/28.3	400
Jeonnam Province	June 2, 2015	GS	Bio-chemical New Materials, Agro-Fisher Industry Convergence	14/23.9	1390
Gyeongbuk Province	December 17, 2014	SAMSUNG	IT, Smart Factory	20/33.8	600
Gyeongnam Province	April 9, 2015	Doosan	Machining Industry	14/22.6	1700
Jeju Special Self-governing Province	June 16, 2015	Daum	Smart Tourism Ectric-Auto, Eco-Energy	11/26.3	1569
Gyeongbuk Province (Pohang city)	January 30, 2015	POSCO	Energy, Environment, New Materials	–	–

Source: Junwha Jung (2015). Issues and Challenges of Center of Creative Economy Innovation. NARS Report. These data are based on the date of July 2015.

from the Park Guen-Hye Administration. It appears that the current contribution of big conglomerates is not sustainable.

3. Research method and frame

We used Q-Methodology (i.e. the systematic study of subjectivity) to explore various stakeholders' perspectives involved in promoting a creative economy in South Korea. The Q-methodology is expected to map how various stakeholders think about the role of CCEIs and provide deeper understanding of the opinions and frames of the entrepreneurial ecosystem, especially coupled with the creative economy development strategy in South Korea. We applied the Q-methodology for identifying the underlying different patterns of opinions regarding how to evaluate the role of state intervention, BCCs, the 18 CCEIs and the future of start-ups from stakeholders. We conducted semi-structured interviews with different types of questions about how to promote a creative economy, how to manage the CCEIs and how to collaborate with various stakeholders, which are necessary to understand the nature of start-ups by the CCEI in Korea. We selected interviewees from both top-down approach to policy-makers and bottom-up approach to start-ups involved in the CCEIs. Based on this pilot survey, we introduced 44 Q-statements derived from interviews and relevant literature and documents about the CCEI in South Korea.

Our Q-sample consists of 44 statements derived from previous research on creative economy and industrial policies and interviews from directors of the CCEIs and venture capitalists (See [Appendix](#) for a list of statements by 5 dimensions). The 44 Q-statements include 5 aspects: (1) 16 statements from managerial characteristics and functions of CCEIs, (2) 8 statements from work environments and organizational culture of actors involved in the CCEIs including directors and staff members of the CCEIs and business people involved in the CCEIs, (3) 6 statements from the roles and functions of departments of central government, public agencies and local governments involved in the CCEIs, (4) 8 statements from the role of big conglomerates involved in the CCEIs across the 18 CCEIs and (5) 6 statements of opinions on institutions and public policies of the CCEIs.

Participants from central and local government officials, employees of CCEI and Chaebols, and start-ups were required to sort the 44 Q-statements (See [Appendix](#)). A 11-point scale was used from -5 (strongly disagree) to 0 (neutral) to +5 (strongly agree). Here, +5 corresponded to 'Agree with mostly strongly' and -5 to 'Disagree with most strongly'. Q-methodology emphasizes the qualitative 'why and how' as stakeholders think about the way they believe or expect, rather than focusing on how many stakeholders think a certain perspective (Brown, 1980, 1993; McKweon & Thomas, 1988). We finally used 36 P-sample respondents to conduct various statistical analyses. Based on purposive sampling, the multiple regression method was used to identify key variables for performance function of CCEIs. The P- or 'person' sample is based on thirty participants. They include 13 actors involved in the CCEIs including five business persons from start-ups and venture companies, five persons from big conglomerates, one lawyer to advise the CCEIs, one staff member of the CCEIs and one local government official. In addition, the P-sample includes five participants in the public sector coming from three government officials of the Ministry of Science, ICT and Future Planning and two government officials of other departments of central government in South Korea. The P-sample also includes

four researchers on the creative economy and seven participants composed of five venture capitalists and two workers at big conglomerates. The age of the participants ranged from 23 to 61 years.

4. Various aspects of entrepreneurial ecosystem of the CCEI

4.1. Overall analysis

This paper correlated the Q-sorts of all participants to create a 36-by-36 matrix using the principal components method. The factors were rotated by varimax criteria revealing 5 factors with 3 or more significant loadings with approximately 64% of the total variance. Factor 1 contained 10 significantly loading participants and it explained 20% of the total variance. The significant loading participants include CCEI workers, staff members from local governments and public agencies, workers of BCC and researcher. Factor 2 comprised five significantly loading participants and accounted for 12% of the total variance. Factor 3 had three significantly loading participants with 10% of the variance; Factor 4 did four significantly loading participants with 13% of the variance and Factor 5 did three significantly loading participants of 9% of the variance. All participants who load significantly on a factor hold similar conceptions of the evaluation of the role of or the impact of CCEI on entrepreneurial ecosystems. The factor loading for each Q-sort indicates its correlation with the factor. Table 2 displays the factor loadings of each Q-sort for the five factors. These factors represent individuals' conceptions of how to frame and evaluate the ecosystem of the 18 CCEIs in terms of the roles of government, big conglomerates' contribution to the CCEIs, the roles of the other participants involved in the CCEIs and the environment of venture capital financing. In addition, our factor interpretation proceeds on the basis of the model Q-sort or factor array. The degrees of significant loadings on a factor illustrate that some Q-sorts are more associated with the viewpoint of the factor than the other factors. Relying on the factor weights and raw data collected from individual sorters, we adopted the five model Q-sorts presented in Table 3 because they contained eigenvalues with more than 1.00. However, we divided Factor 2 into two opposite dimensions (see respondent 16 with both a star(*) symbol and a pound (#) symbol and the other respondents 24, 26, 27 and 29, respectively, at Table 2) and adopted a total of six dimensions from the five factors of the creative economy ecosystem of South Korea.

4.2. Six viewpoints of entrepreneurial ecosystem

4.2.1. Factor 1: optimistic view on BCC-led CCEI ecosystem

This group praises the positive contribution of the BCCs to promoting various activities for start-ups involved in the CCEI. View 1 consists of three key perspectives on the role of government, big conglomerates and CCEIs for start-ups. This view can be named as both pro-state-driven innovation and pro-big conglomerates for the CCEIs' operation and start-ups. However, this view argues that the current ecosystem of start-ups in Korea cannot generate great global companies such as Google and Apple. In order to cope with this problem, a strong state-driven innovation is required with an effective partnership between conglomerates and start-ups. In this view, government can push big conglomerates into cooperating with small business and start-ups. In this view, the 18 CCEIs

Table 2. Factors loadings by participant and view type.

ID	Participant	Factor1	Factor2	Factor3	Factor4	Factor5
1	CCEI1	0.5852*	0.0663	-0.0818	0.1574	-0.0639
2	CCEI2	0.6907*	-0.1077	0.2317	0.2605	0.0227
3	CCEI1	0.7767*	0.0952	0.0074	-0.2287	-0.0678
4	CCEI3	0.6906*	0.0272	-0.0073	0.0775	0.2205
5	CCEI4	0.8147*	-0.1452	0.1176	0.1439	0.1791
6	CCEI5	-0.2078	0.5672	0.1019	0.5173	0.0461
7	CCEI4	-0.0552	-0.3106	0.6580*	0.3054	0.0384
8	WVCC	-0.0393	-0.0680	0.1601	0.6143*	0.4150
9	WVCC	0.1832	0.3886	-0.0491	0.7943*	0.1046
10	WVCC	0.1613	0.1596	-0.0626	0.9041*	0.1067
11	WVCC	0.0529	0.2694	-0.0137	0.8990*	0.0967
12	WVCC	0.0406	-0.0838	0.7392*	-0.1192	0.1595
13	GO_MSIF	0.0970	0.1763	0.1849	0.2116	0.6592*
14	GO_MSIF	0.6799*	0.2944	-0.2974	-0.0604	-0.0668
15	GO_MSIF	0.1767	0.2805	-0.0617	-0.0459	0.8094*
16	CCEI4	0.0479	-0.4740*#	0.1419	-0.1261	-0.3380
17	CCEI4	0.8147*	-0.1452	0.1176	0.1439	0.1791
18	WCM	0.1913	-0.4502	0.4112	0.2566	0.6043
19	CCEI4	0.8084*	-0.0174	-0.2301	-0.1542	-0.0114
20	WCM	0.5822*	-0.0021	0.5140	-0.0427	0.0695
21	CCEI5	0.1499	0.2647	0.3259	0.3666	0.2931
22	CCEI4	0.0063	0.0621	0.8404*	-0.1302	0.0507
23	GO_OM	0.5661	0.4867	-0.1960	-0.1058	0.2367
24	GO_OM	0.1216	0.7496*	0.0659	0.2083	0.1430
25	RP	-0.0014	0.1990	0.1829	0.2153	0.6327*
26	CCEI5	0.1982	0.6185*	0.0360	0.0528	0.2310
27	CCEI5	-0.3385	0.6128*	-0.0332	0.3280	0.1879
28	RP	-0.2326	0.1212	0.5584*	0.3964	0.0926
29	RP	0.0878	0.7192*	-0.1322	0.1907	-0.0531
30	RP	0.6946*	0.4038	0.1175	0.0316	0.0571
% Explained variance		20	12	10	13	9

Notes: * = Denotes a statistically significant factor loading (p -value < .05). # = In the case of factor 2, one P-sample (Respondent 16) has an opposite view of Factor 2 composed of three P-samples including Respondents 24, 26 and 27. This study divides Factor 2 into two different factors. The total number of factors in our Q-methodology consists of six dimensions. CCEI1 = Workers employed for CCEI; CCEI2 = Workers from public organizations such as to support start-ups; CCEI3 = Workers from local governments; CCEI4 = Workers from conglomerates such as Samsung and LG and staying at CCEIs; CCEI5 = Start-ups at CCEI; WCM = Workers of big conglomerates; GO_MSIF = Government officials of the Ministry of Science, ICT and Future Planning (MSIF); GO_OM = Government officials of the other Ministries; WVCC = Workers of venture capital companies and RP = Researchers & professors.

in South Korea can play a key role of building the partnership between BCCs and start-ups or between BCCs and small businesses. In this view, government intervention will not lead to market failure and inefficiency. This view is closely compatible with the reason the Korean government established 18 CCEIs for start-ups. The national agenda for creative economy in South Korea assumes that big conglomerates can contribute to building various start-ups through a partnership between big conglomerates and small business ventures and start-ups. In sum, in this view, both pro-state-driven innovation and cooperative partnerships between BCCs and start-ups are required to build sustainable ecosystems for start-ups in Korea. Nonetheless, this view still maintains that start-ups derived from the CCEIs cannot prevail over the current big companies (Table 4).

4.2.2. Factor 2-1: optimistic view on state-led CCEI ecosystem

This group strongly supports the current model of CCEI designed by the Park Geun-Hye Administration but believes that the roles of the BCC are not reliable for start-ups in CCEI.

Table 3. Factor scores.

	Factor1	Factor2	Factor3	Factor4	Factor5
Q1	-1	+5	+1	+4	-1
Q2	+1	+4	0	+1	0
Q3	0	+4	-1	+1	-1
Q4	+1	+3	-3	+5	+2
Q5	-3	-1	+1	-1	-5
Q6	0	+3	0	+2	+4
Q7	+1	0	-1	-2	+1
Q8	+1	+1	-4	0	+1
Q9	0	-1	-4	-5	0
Q10	-1	0	0	+2	-2
Q11	-1	+1	-3	+2	0
Q12	+3	+2	-1	-4	+2
Q13	+3	0	-2	-1	+3
Q14	+4	+1	+2	+3	+2
Q15	0	0	+2	0	+1
Q16	-3	-1	+3	+5	+4
Q17	0	-3	-2	0	+2
Q18	+2	-3	-3	0	0
Q19	+2	-3	-2	+1	+1
Q20	-2	-1	-1	+2	+3
Q21	-2	+4	+4	-2	+5
Q22	-2	+5	+5	-1	+5
Q23	+5	-4	0	-2	-1
Q24	-1	-2	+1	0	-3
Q25	+2	0	-1	+3	+4
Q26	-2	0	-5	+2	-4
Q27	+4	+3	-3	+4	+3
Q28	-2	-1	+1	+1	-2
Q29	-1	+2	+3	+3	+2
Q30	-3	-4	+5	-2	0
Q31	+2	-4	+2	-4	-2
Q32	+3	+1	+2	+4	+3
Q33	-3	-2	+4	0	-3
Q34	+5	-3	+3	-4	-2
Q35	+4	-2	+3	-3	-1
Q36	+3	-2	+2	-3	-3
Q37	+2	+2	+4	+3	-5
Q38	+1	+2	0	-1	-3
Q39	-5	-5	-2	-3	0
Q40	-5	-5	-2	-5	-4
Q41	0	+3	0	+1	+1
Q42	-4	+1	-5	-2	-1
Q43	-4	+1	-5	-2	-1
Q44	-4	+2	-4	-3	-4

Note: +5: Most strongly agree; -5: most strongly disagree; 0 = Neutral.

In this view, CCEIs can contribute to building regional ecosystems for creative economy. In this view, the CCEIs are praised for state-driven innovation but strongly denounce the role of big conglomerates. This view also strongly criticizes the current venture capital system of South Korea, where the joint guarantee system functions to hamper new start-ups due to the huge financial risks involved in the joint guarantee contracts and collateral network. Even if the government removes the joint liability system and supports angel investors and funding, entrepreneurs will still have a shortage of capital because joint guarantee contracts and collateral do not disappear. Furthermore, in this view, the current joint surety system should be eliminated because it prevents entrepreneurs from doing start-ups. This view is negative regarding the partnership between BCCs and start-ups. While supporting the positive role of central government for the CCEIs as

Table 4. Factor 1: praising BCC-led optimistic CCEI ecosystem.

Selected Q-statements	
+5	Q23. BCCs appropriately contribute to operating the function of CCEI
+5	Q34. BCCs make sincere efforts for the success of start-ups involved in CCEI
+4	Q35. BCCs provide useful supports for the globalization of start-ups involved in CCEI
+4	Q27. Start-ups involved in CCEI are more likely to succeed than other start-ups not involved in CCEI
+4	Q14. Working at CCEI makes people comfortable
-4	Q33. Government budget for CCEI is being wasted due to functional overlaps among various agencies and organizations involved in the CCEI
-4	Q42. Start-ups inside CCEI compete, rather than cooperating with each other
-4	Q43. Some successful start-ups supported by CCEI can grow global companies exceeding the capacity of current big companies such as Samsung and Hyundai in South Korea
-5	Q44. Start-ups supported by CCEI can create various innovations to destroy monopolistic structures derived from current big companies
-5	Q39. State-driven policy for creative economy is outdated and is not likely to be successful

Note: +5: Most strongly agree; -5: Most strongly disagree; 0 = Neutral.

presidential agenda, in this view, local governments and BCCs do not work well together (Table 5).

4.2.3. Factor 2-2: pessimistic view on state-led CCEI ecosystem

This group contains an opposite view to that of Factor 2-1. In this view, the idea that government can drive a creative economy through establishing the CCEIs is strongly criticized and that the idea of a creative economy and introduction of the CCEIs are no more than a political agenda. In other words, the state-driven entrepreneurial ecosystem as political agenda does not work. In this view, there is strong disagreement with the notion that state-led CCEI programmes can encourage various start-ups through nourishing new ideas. The CCEIs led by government cannot create regional ecosystems of creative economy. On the other hand, in this view, the current joint surety system is not a problem. In this view, big conglomerates are considered to help the CCEIs and to work well together with local governments (Table 6).

4.2.4. Factor 3: strong critics on politics-led CCEI ecosystem

Overall, this view is very pessimistic for current and future ecosystems for start-ups in South Korea. The current ecosystem for start-ups in South Korea does not work due to the joint surety system. In this view, start-ups derived from the CCEIs cannot prevail over the current big companies. In addition, this view notes ineffective collaborations among various stakeholders such as departments of central government and agencies, local governments and big conglomerates involved in the CCEIs. Individuals loading on this factor criticize the dark side of the current venture capital system in South Korea and disregard the establishment of CCEIs as a short-term political agenda. In this view, the current presidential agenda for creative economy involved in the CCEI will not sustainably work for the next administration. In addition, in this view, the entrepreneurial ecosystem in the CCEIs is strongly criticized for many flaws derived from poor design and management to implement start-up programmes. For instance, this view underscores wasteful overlaps of programmes and resources among various agencies and organizations involved in the CCEI. This view also addresses formal and informal communication problems among people who work at the CCEI. In sum, in this view, there is a strong belief that the current joint surety system is a big obstacle to start-ups in South Korea, that the

Table 5. Factor 2-1: praising state-led CCEI ecosystem.

Selected Q-statements	
+5	Q1. CCEI contributes to gathering and disseminating all sorts of ideas for business start-ups
+5	Q22. Joint surety system should be eliminated because it dampens the spirit of entrepreneurship and prevents innovative start-ups
+4	Q21. Joint surety system is a main obstacle to promoting creative economy
+4	Q2. CCEI contributes to building regional ecosystem of creative economy
+4	Q3. Various programmes of CCEI are coherent and effective for start-ups
-4	Q19. Local governments and big conglomerates cooperate with each other effectively when supporting CCEI
-4	Q31. The collaboration between BCCs and CCEIs is reliable
-4	Q23. BCCs appropriately contribute to operating the function of CCEI
-5	Q30. CCEI is nothing more than the current presidential agenda
-5	Q39. State-driven policy for creative economy is outdated and is not likely to be successful

Note: +5: Most strongly agree; -5: Most strongly disagree; 0 = Neutral.

Table 6. Factor 2-2: critics on state-led CCEI ecosystem.

Selected Q-statements	
+5	Q30. CCEI is nothing more than the current presidential agenda
+5	Q39. State-driven policy for creative economy is outdated and is not likely to be successful
+4	Q19. Local governments and big conglomerates cooperate with each other effectively when supporting CCEI
+4	Q23. BCCs appropriately contribute to operating the function of CCEI
+4	Q31. The collaboration between BCCs and CCEIs is reliable
-4	Q2. CCEI contributes to building regional ecosystem of creative economy
-4	Q3. Various programmes of CCEI are coherent and effective for start-ups
-4	Q21. Joint surety system is a main obstacle to promoting creative economy
-5	Q1. CCEI contributes to gathering and disseminating all sorts of ideas for business start-ups
-5	Q22. Joint surety system should be eliminated because it dampens the spirit of entrepreneurship and prevents innovative start-ups

Note: +5: Most strongly agree; -5: most strongly disagree; 0 = Neutral.

current CCEI does not work well due to its poor institutional design and inadequate implementation, and that CCEI's roles for and impact on the entrepreneurial ecosystem will be weak and may disappear in the next administration (Table 7).

4.2.5. Factor 4: supporting the design of CCEI ecosystem with critics on several key functions in CCEI

Overall, this view supports a positive role of CCEIs to promote start-ups while distrusting the role of big conglomerates for a favourable start-up ecosystem. In this view, CCEIs can effectively gather and disseminate all sorts of innovative ideas for business start-ups and people involved in the CCEIs, such as lawyers, patent attorneys and financial experts provide useful ideas and collaborations for start-up. However, in this view, several functions in the CCEIs are criticized. For instance, in this view, there is strong disagreement that people involved in various organizations inside the CCEIs can effectively cooperate with each other. This view highlights that effective collaboration among various agencies and actors inside the CCEI has not yet happened. In addition, the contribution of BCCs in this view is not reliable. In sum, the purpose and design of the CCEI in this view are supported with some criticisms of its dysfunctions but the contribution of BCC to promoting the entrepreneurial ecosystem in the CCEI is unreliable (Table 8).

4.2.6. Factor 5: strong critics on venture capital ecosystem for start-ups

This view strongly criticizes the current venture capital system in South Korea, while supporting the current role of the CCEI driven by government. In this view, there is strong

Table 7. Factor 3: pessimistic view on politics-led inadequate ecosystem.

Selected Q-statements	
+5	Q22. Joint surety system should be eliminated because it dampens the spirit of entrepreneurship and prevents innovative start-ups
+5	Q30. CCEI is nothing more than the current presidential agenda
+4	Q21. Joint surety system is a main obstacle to promoting creative economy
+4	Q33. Government budget for CCEI is being wasted due to functional overlaps among various agencies and organizations involved in the CCEI
+4	Q37. The role of BCCs to promoting start-ups in CCEI can be evaluated as valuable contribution to our society
-4	Q8. People who work at CCEI communicate well with each other through formal meetings and events
-4	Q9. People who work at CCEI communicate well with each other through informal meetings and events
-4	Q44. Start-ups supported by CCEI can generate various innovations to destroy monopolistic structures derived from current big companies
-5	Q26. CCEI will continue to work in the next administration
-5	Q43. Some successful start-ups supported by CCEI can grow global companies exceeding the capacity of current big companies such as Samsung and Hyundai in South Korea

Note: +5: Most strongly agree; -5: most strongly disagree; 0 = Neutral.

Table 8. Factor 4: praising the design of CCEI ecosystem with distrust in the role of BCCS.

Selected Q-statements	
+5	Q4. Start-ups involved in CCEI are passionate and inspired
+5	Q16. CCEI looks like state-managed organization, rather than business start-up centre
+4	Q1. CCEI contributes to gathering and disseminating all sorts of ideas for business start-ups
+4	Q27. Start-ups involved in CCEI are more likely to success than other start-ups not involved in CCEI
+4	Q32. Supporters who work at the one-stop zone inside CCEI including lawyers, patent attorneys and finance experts provide appropriate assistance for start-ups
-4	Q12. The quality of mentoring provided by CCEI is excellent
-4	Q31. The collaboration between BCCs and CCEIs is reliable
-4	Q35. BCCs provide useful supports for the globalization of start-ups involved in CCEI
-5	Q9. People who work at CCEI communicate well with each other through informal meetings and events
-5	Q40. Start-ups involved in CCEI mainly depend on personal connections, rather than their capacity

Note: +5: Most strongly agree; -5: Most strongly disagree; 0 = Neutral.

criticism of the idea that new start-ups cannot be nourished due to the current joint surety system and that such joint surety system should be eliminated for new start-ups. In this view, the joint guarantee system is regarded as a foremost financial obstacle to flourishing new start-ups in the Korean venture ecosystem. In addition, this view notes the importance of the CCEI director's leadership. This view also supports a strong state intervention when establishing and managing the CCEIs for creative economy and a positive role of the CCEI in connecting business entrepreneurs and private investors. However, in this view, there is still disagreement that future start-ups derived from the CCEIs will create a new entrepreneurial ecosystem and conquer the current big companies in South Korea (Table 9).

4.3. Various prospects of the CCEI ecosystem

Our analysis based on the Q-methodology from 36 P-samples reveals that an entrepreneurial ecosystem, especially one embedded in CCEI, has multifaceted aspects involving at least five different perspectives. While each perspective represents a distinct viewpoint towards evaluating the current entrepreneurial ecosystem of CCEI, the perspectives overlap in several ways (see Table 10). In addition, the six perspectives of the evaluation of the entrepreneurial ecosystem in CCEI vary from in their preferences for state intervention and the role of BCCs to promote the entrepreneurial ecosystem in the CCEI (see Figure 1).

Table 9. Factor 5: strong critics on venture capital ecosystem for start-ups.

Selected Q-statements	
+5	Q21. Joint surety system is a main obstacle to promoting creative economy
+5	Q22. Joint surety system should be eliminated because it dampens the spirit of entrepreneurship and prevents innovative start-ups
+4	Q6. Leadership of the director of CCEI is valuable for start-ups
+4	Q16. CCEI looks like government-managed organization, rather than business start-up centre
+4	Q25. CCEI plays a key role of connecting business entrepreneurs and venture capitalists
-4	Q26. CCEI will continue to work in the next administration
-4	Q40. Start-ups involved in CCEI mainly depend on personal connections, rather than their capacity
-4	Q44. Start-ups supported by CCEI can generate various innovations to destroy monopolistic structures derived from current big companies
-5	Q5. Programme management and operation system in CCEI are bureaucratic and thus irritating
-5	Q37. The role of BCCs to promoting start-ups in CCEI can be evaluated as valuable contribution to our society

Note: +5: Most strongly agree; -5: most strongly disagree; 0 = Neutral.

Both Factor 1 (BCC-led CCEI ecosystem) and Factor 3 (politics-led CCEI ecosystem) are very pessimistic on the emergence of new giant start-ups in South Korea. Factor 5 is also pessimistic on the emergence of new giant start-ups due to the current problem of the joint surety system. On the other hand, Factor 2-1, Factor 2-2 and Factor 4 have a neutral position on the emergence of new giant start-ups through introducing the CCEI for creative economy.

In both Factor 1 and Factor 3 BCCs are considered to significantly contribute to promoting the ecosystem of CCEI. On the other hand, in Factor 3, state intervention is considered not useful to nurture the entrepreneurial ecosystem. Factor 2-1 has a strong position against the role of BCC and for state intervention to establishing the CCEI, but inversely, Factor 2-2 has a position against the state-driven CCEI model and for the contribution of the BCC.

There are also competing views on the role of the function of the CCEIs to design and implement programmes. Both Factor 2-2 and Factor 3 address that a government-driven CCEI ecosystem for creative economy can generate many flaws in designing and implementing programmes involved in the CCEI. For instance, Factor 2-2 strongly disagrees that the CCEI can gather new ideas and diffuse them for new start-ups. Factor 3 highlights wasteful overlaps of programmes and resources among various agencies and organizations involved in the CCEI. However, both Factor 2-1 and Factor 4 strongly support the positive functions of the CCEI to provide plentiful opportunities for new start-ups. For instance, Factor 2-1 underlines that the CCEI can contribute to generating and diffusing innovative ideas for start-ups and to building regional innovation ecosystems. Factor 4 emphasizes that new start-ups involved in the CCEI ecosystem have a strong motivation and an ambitious attitude to develop their businesses and that the current CCEI ecosystem can increase the likelihood of successful start-ups.

Table 10. Different perspectives and roles on entrepreneurial ecosystem: state, BCCs and CCEIS

	The emergence of new giant start-ups	Functions of CCEI	Model of state-led CCEI	Role of BCCs (Chaebols)
Factor 1	Very pessimistic	Agree	Strongly agree	Strongly agree
Factor 2-1	Neutral	Strongly agree	Agree	Disagree
Factor 2-2	Neutral	Strongly disagree	Disagree	Agree
Factor 3	Very pessimistic	Strongly disagree	Disagree	Neutral
Factor 4	Neutral	Strongly agree	Neutral	Disagree
Factor 5	Pessimistic	Agree	Strongly agree	Neutral

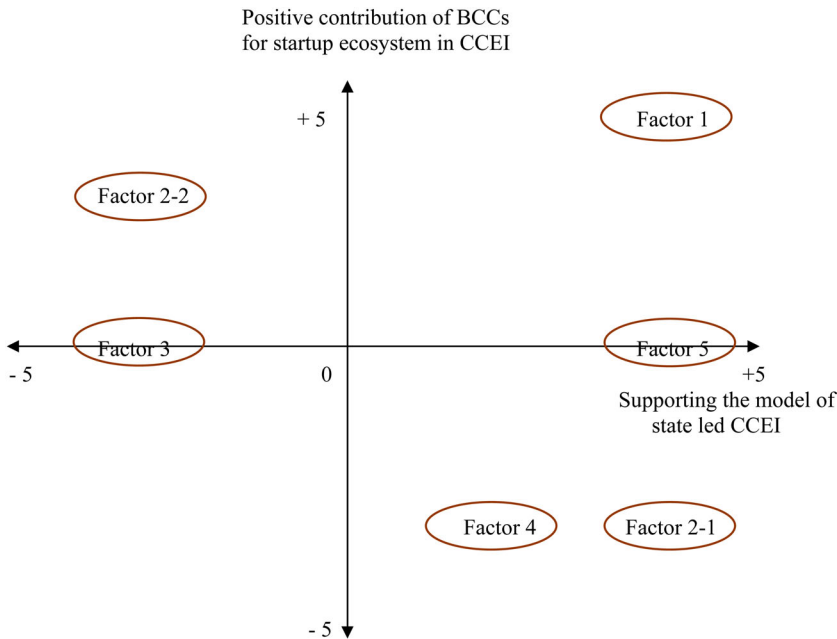


Figure 1. Distribution of six perspectives on the degree to support the positive role of BCC and the model of state-driven CCEI for start-up ecosystem in South Korea.

Note: +5: Most strongly agree; -5: Most strongly disagree; 0=Neutral.

South Korea still drives government-led industrial policy including strong state intervention to build an entrepreneurial ecosystem. However, this is not the whole story of designing and implementing the CCEI ecosystem. The current Park Guen-Hye administration in South Korea forces BCCs into developing the CCEI ecosystem. There are different views including strong pros and cons on the role of the BCCs for the start-up ecosystem. Additional issues come from designing and implementing the Korean start-up ecosystem through establishing the CCEIs. There are serious potential bureaucratic turf wars on which institutions will be involved in designing and managing the CCEI ecosystem and how to govern it. This abnormal bureaucratic process may generate many potential problems including design flaws and overlapped programmes of the CCEI ecosystem in future.

5. Conclusion and further research

There have been debates on the role of government for innovative ecosystems among various stakeholders. From the small government view, state intervention can hinder the creativity and innovativeness of the private market. Friedman (1962) argued that for all industrial areas including art, science and agriculture, innovations never come from centralized government. On the other hand, scholars have supported a strong role of government in order to promote innovative ecosystem. However, beyond the dichotomy between state and market, South Korea has illustrated extensive government intervention with a strong link of market-based policy tools, especially R&D as well as the

financial market. In the case of promoting the role of the CCEIs and creative economy, South Korea has relied on various types of direct and indirect policy instruments through market-based mechanisms to government-driven interventions. The distinct aspect of the state-driven approach for start-up ecosystem in South Korea is a hybrid version of government intervention to induce and stimulate various collaborations among state, big companies, venture capitalists and start-ups (Al-Zoubi, 2016; Bøllingtoft, 2012; Etzkowitz, 2003; Janeway, 2013; Mazzucato, 2014). In addition, the crossbreed structure for start-up ecosystem between private actors (e.g. big companies, medium & small companies and start-ups) and public agencies involves various stakeholders with competing views and interests. This research has explored various perspectives on how to assess the recent efforts in the 17 CCEIs of South Korea in order to promote entrepreneurial activity and start-ups.

We identified six distinct viewpoints of the entrepreneurial ecosystem embedded in the CCEIs. The viewpoint of Factor 1 strongly supports the collaboration between BCCs and state-driven innovation. The viewpoint of Factor 2-1 supports a positive role model of CCEIs, with strong criticism of the current joint surety system, and rejects the positive roles of BCCs and local governments, but the frame of Factor 2-2 strongly rejects the role of CCEI as a government-driven political election project. The frame of Factor 3 strongly criticizes the current venture capital funding system based on the joint guarantee contracts in Korea and the stance of Factor 4 supports the role of CCEI as a national project but rejects the role of BCCs. Finally, the viewpoint of Factor 5 strongly condemns the current joint surety system and strongly rejects the positive role of BCCs, but has concerns about the sustainability of CCEIs in the next administration. These findings reveal competing views on how to promote entrepreneurial ecosystems in South Korea. There are distinctive variations from the degree of supporting (or rejecting) the positive roles of state-led CCEIs, the contribution of BCC to promoting the CCEI start-up ecosystem, and the key functions of the 18 CCEIs for developing and nourishing start-ups. For instance, the viewpoint of Factor 2-1 illustrates a strong disagreement on state-driven entrepreneurial ecosystem but both Factor 1 and Factor 5 strongly support the state-driven ecosystem. The perspective of Factor 1 illustrates a very strong agreement on the positive role of BCCs involved in the CCEIs, but Factor 2-1 shows strong disagreement on the role of BCCs. In addition, the assessment of the positive contribution of CCEIs to promoting an entrepreneurial ecosystem varies from six viewpoints in this paper. Both Factor 1 and Factor 5 strongly agree on the positive role of CCEI, but Factor 2-2 strongly disagrees on the role of CCEI.

Although these six factors provide various perspectives from agreement to disagreement on the positive roles of a state-driven ecosystem, and BCCs' involvement, the emergence of new giant start-ups in South Korea appears to be pessimistic. Our findings provide only pessimistic and neutral perspectives on the emergence of new giant start-ups, rather than optimism on the start-up ecosystem in South Korea. These findings suggest that the current entrepreneurial ecosystem in South Korea faces many obstacles to preventing sustainable entrepreneurial activities due to not only an inappropriate joint surety system and an unfair competition ecosystem from BCCs, but also a critical drawback as an unstable political agenda without durable institutional settings.

While the CCEIs have generated partial success stories promoting incubated companies and start-up clubs, many barriers still remain unresolved. Some argue that it is not easy to

identify and design a robust link between government initiatives and regional innovative ideas and a sustainable policy network that encourages reciprocal interactions from a viewpoint of a bottom-up strategy. It appears that strong bureaucratic barriers and hidden regulations remain limitations to cross-boundary collaboration and cooperation among public and private institutions. Business sector doubts exist about whether or not the CCEIs will be sustainable after the Park Geun-hye administration. Future research assessment might include a long-term perspective on whether or not the current 18 CCEIs will be successful in boosting entrepreneurship even after the current Park Guen-Hye Administration. More specifically several important research questions about entrepreneurial ecosystem include (1) which centres among the 18 CCEIs will be most successful in establishing effective entrepreneurial ecosystems and why, (2) what type of collaborations between the CCEIs and corresponding BCC are most effective in nourishing the entrepreneurial ecosystem, (3) how can the benefits derived from the collaboration among start-ups and BCCs be shared, (4) is the current commitment of the big conglomerates to the CCEIs credible and sustainable, even after the Park Guen-Hye Administration, (5) and is the state-driven strategy through establishing the CCEIs in South Korea effective and relevant for a creative economy and what theory can explain this type of state intervention policy. In addition, public policy and administration issues on entrepreneurial ecosystems contain bureaucratic turf battles on who leads policy design and implements key policy instruments. Further research is required to explore various potential mistakes from overlapped investments and programmes and wasteful bureaucratic competition to implement the Korean government-driven CCEI ecosystem.

Our study has important practical implications for policy-makers and practitioners about how to boost entrepreneurship and start-ups. We have documented six different perspectives on the role and contribution of CCEIs in building and nurturing entrepreneurial ecosystems. One challenge for policy-makers and practitioners is to empirically test the effectiveness of different combinations in the various policy options among different levels and strategies of state intervention and among different levels of involvement of BCCs in CCEIs. Another challenge is to explore additional effective ways to contribute to boosting entrepreneurship and start-ups and to institutionalize programmes of the CCEIs after the current Park Guen-Hye Administration. Further implication is to explore new sustainable entrepreneurial network surrounded in vertical and horizontal merger or acquisitions between Korean big conglomerates and start-ups. For instance, Apple has illustrated many successful acquisition cases with LinX, PrimeSense, FoundationDB, Acunu, Ottocat and Druft. Smart policy intervention is required to eliminate hidden institutional barriers to frustrate sustainable acquisitions among big companies and start-ups in South Korea.

Our study used a small non-representative sample with 36 participants and 44 Q-statements. Although the Q-methodology in our study can reveal various conceptual frames on the entrepreneurial ecosystem embedded in the CCEIs of South Korea, we need to explore whether or not these competing views are still significant with a nationally representative data. Further research is also required to test how the CCEI can contribute to promoting the density of start-ups in South Korea and whether or not the roles of the BCCs involved in the CCEIs are really reliable for the start-ups with longitudinal data or quasi-experimental data.

Notes

1. Source: <http://www.korea.net/NewsFocus/Policies/view?articleId=133106>.
2. See the *Hankyoreh* newspaper on 5 September 2016 (Source: http://english.hani.co.kr/arti/english_edition/e_national/759978.html).

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Appendix.

Q1	CCEI contributes to gathering and disseminating all sorts of ideas for business start-ups
Q2	CCEI contributes to building regional ecosystem of creative economy
Q3	Various programmes of CCEI are coherent and effective for start-ups
Q4	Start-ups involved in CCEI are passionate and inspired
Q5	Programme management and operation system in CCEI are bureaucratic and thus irritating
Q6	Leadership of the director of CCEI is valuable for start-ups
Q7	People who work at CCEI are open minded and creative
Q8	People who work at CCEI communicate well with each other through formal meetings and events
Q9	People who work at CCEI communicate well with each other through informal meetings and events
Q10	CCEI contributes to managing effectively the business start-up fund
Q11	The role and programmes of CCEI are effectively communicated to customers and citizens
Q12	The quality of mentoring provided by CCEI is excellent
Q13	CCEI appropriately spends budget provided by central and local governments
Q14	Working at CCEI makes people comfortable
Q15	Space and design of CCEI office make people flexible and creative
Q16	CCEI looks like government-managed organization, rather than business start-up centre
Q17	Central and local governments effectively cooperate with CCEI
Q18	Central governments and big conglomerates (Samsung, LG, Hyundai, etc.) cooperate with each other effectively when supporting CCEI

- Q19 Local governments and big conglomerates cooperate with each other effectively when supporting CCEI
- Q20 Local governments play a role of supporting CCEI
- Q21 Joint surety system is a main obstacle to promoting creative economy
- Q22 Joint surety system should be eliminated because it dampens the spirit of entrepreneurship and prevents innovative start-ups
- Q23 BCCs appropriately contribute to operating the function of CCEI
- Q24 Universities appropriately contribute to operating the function of CCEI
- Q25 CCEI plays a key role of connecting business entrepreneurs and venture capitalists
- Q26 CCEI will continue to work in the next administration
- Q27 Start-ups involved in CCEI are more likely to succeed than other start-ups not involved in CCEI
- Q28 Other supports such as Techno-park are more useful than those of CCEI
- Q29 Government tends to pursue visible and tangible performance of CCEI
- Q30 CCEI is nothing more than the current presidential agenda
- Q31 The collaboration between BCCs and CCEIs is reliable
- Q32 Supporters who work at the one-stop zone inside CCEI including lawyers, patent attorneys and finance experts provide appropriate assistance for start-ups
- Q33 Government budget for CCEI is being wasted due to functional overlaps among various agencies and organizations involved in the CCEI
- Q34 BCCs make sincere efforts for the success of start-ups involved in CCEI
- Q35 BCCs provide useful supports for the globalization of start-ups involved in CCEI
- Q36 BCCs treat start-ups as equal business partners, rather than sub-contractors
- Q37 The role of big conglomerate companies (BCCs) to promoting start-ups in CCEI can be evaluated as valuable contribution to our society
- Q38 CCEI is perfect place to provide necessary skills and knowledge for start-ups
- Q39 State-driven policy for creative economy is outdated and is not likely to be successful
- Q40 Start-ups involved in CCEI mainly depend on personal connections, rather than their capacity
- Q41 Idea contests held by CCEI significantly contribute to invigorating start-ups and building innovative ecosystem
- Q42 Start-ups inside CCEI compete, rather than cooperating with each other
- Q43 Some successful start-ups supported by CCEI can grow global companies exceeding the capacity of current big companies such as Samsung and Hyundai in South Korea
- Q44 Start-ups supported by CCEI can create various innovations to destroy monopolistic structures derived from current big companies

Statements by dimension

Dimension 1: Q1, Q2, Q3, Q10, Q11, Q12, Q13, Q14, Q15, Q26, Q27, Q32, Q38, Q41, Q43, Q44

Dimension 2: Q4, Q5, Q6, Q7, Q8, Q9, Q40, Q42

Dimension 3: Q16, Q17, Q20, Q24, Q25, Q28

Dimension 4: Q18, Q19, Q23, Q31, Q34, Q35, Q36, Q37

Dimension 5: Q21, Q22, Q29, Q30, Q33, Q39.