

Social Capital – A “Super Connector” for Internationalization and Integration: The Role of Hong Kong Universities in the Development of the Greater Bay Area

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Introduction

At the beginning of 2018, the Beijing government announced the state plan concerning The Greater Bay Area (GBA) integration of Guangdong Province, Hong Kong and Macau’ (“Dawan district”). Since then, there have been numerous discussions among local governments, government departments, businesses and academics about this plan. With this call for “greater political and national assimilation”, it is time for Hong Kong to review its position in the Greater Bay Area. What role can Hong Kong play? What are the pros and cons of this regional economic and social integration?

Deloitte (2018) recently published, “From ‘World Factory’ to ‘World-class Metropolitan Area’”(The Whitepaper for Developing Guangdong-Hong Kong-Macau Greater Bay Area). This report points out that the Greater Bay Area has the potential to become a world-class bay area based on five major benchmarking criteria: land size, resident population, economic growth, port volume, and air traffic. The report suggests that it has the potential to outcompete the New York Bay Area, the San Francisco Bay Area, and the Tokyo Bay Area. On top of this, the Greater Bay Area can further upgrade the innovation and technology of Chinese manufacturing; and, under the Belt and Road Initiative, it can facilitate international trade, technology, and manufacturing.

The GBA development plan is a released recently guiding policy for the on-going implementation of the integration of Guangdong Province, Hong Kong and Macau. Presently, the availability of data is very limited. Therefore, the methodology of this paper only reviews secondary data from existing academic articles,

newspaper reports, other reports, university websites and policy papers.

This paper analyses and discusses the role of Hong Kong universities in the development of the Greater Bay Area from the perspective of educational sociology. It proposes that the social capital of Hong Kong universities for internationalization and integration should be the main driver behind the development of the innovative knowledge economy in the Greater Bay Area.

The concept of social capital highlights the importance of using social connections and social relations in achieving goals. Social capital theory has been widely applied to the field of business studies, but not in the research of higher education in China. The concept of “institutional social capital” has been used to examine British degree programs offered in Hong Kong and their implications for young people locally (Waters and Leung 2013), but there is no research about why, how and to what extent the institutional social capital of Hong Kong universities can contribute to the development and internationalization of the new Greater Bay Area development plan in China. Universities as institutional actors are indeed motivated by their own instrumental needs to engage other actors to access their resources for the purpose of gaining better outcomes. Applying the concept of social capital will help us to deepen our understanding of the dynamic interaction between social capital embedded in Hong Kong’s higher education institutions and the internationalization and development of higher education in the Greater Bay Area in mainland China. This paper is the first paper to apply the “social capital” theory to identify the possible structural opportunities

under the new political, economic and social agenda of developing and integrating the Greater Bay Area.

The Bay Area: Hub for Global Talents

There is one thing in common for world's most important bay economic zones: they are also hubs for global talents. Talent is their key to and the foundation of their knowledge economy. Higher education both plays an irreplaceable role and provides a unique platform to cultivate such talent. Take the San Francisco Bay Area as an example, there are more than twenty internationally renowned universities (including, Stanford University; the University of California University, Berkeley; and the California Institute of Technology) and a long list of top scientific research institutions (including NASA and the Solar Energy Research Centre) which nurture numerous American talents, and elites from all over the world, for the development of the high-tech and innovation-led knowledge economy in that area (Liu 2014). Many of these elites have become entrepreneurs whose innovation and vitality attract, nurture, and retain further human resources. This kickstarts a ripple effect involving multinational corporations and local and overseas students who stay close to the San Francisco delta.

Edward Glaeser, a professor of economics at Harvard, suggests that, as a hub of high-tech talents, universities are the key to the prosperity of Silicon Valley and the development of "entrepreneurial and interactive" culture ["Technology and City", Transcript from CitiesX (a MOOC course by Professor Edward ED GLAESER, Harvard University)]. Face-to-face interaction facilitates the research and development of innovation in the area, as social activities like chilling in bars and cafes facilitates brainstorming to inspire creative ideas and projects. In terms of economic efficiency, he further points out that a cluster of start-ups would outperform a few monopolistic companies.

To develop a world-class bay area, China can learn from other developed bay areas. The experiences of successful bay area economies clearly show that one of the key elements for successful development is the existence of a talent pool. Therefore, at this stage, the first and most fundamental question the Chinese

government needs to address is: How can they develop a dynamic and sustainable talent hub in the Guangdong-Hong Kong-Macau Greater Bay Area? The experiences of other successful bay areas provide insights and, in particular, they identify internationally recognized higher education institutions as indispensable to educate, coach, and partner with local and global elites to facilitate talent pooling and nurturing. Thus, the next question is: to what extent do the current GBA-based universities receive international recognition in order to attract talent domestically and internationally?

In China, apart from a handful of leading institutions, most institutions are still far from being able to communicate effectively with the international academic community (Cheng 2004). Facing the pressure of globalization, the Chinese government is urging key universities in China to become world-class by launching macro plans – "Project 211" and "Project 985" – which encourage internationalization (Hayhoe and Zha 2004), restructuring and merging (Mok 2005). However, the majority of adjustments are administrative reform, changing higher education governance. There is a lack of initiative in increasing the connectivity of Chinese higher education institutions with foreign counterparts (Mok 2005). Furthermore, research on the Chinese higher education system suggests that it focuses too much on the mastery of knowledge, but neglects developing students' ability to raise and answer questions – that is, critical thinking (Anderson 2016). The cognitive orientation of the Chinese cultural tradition has formed barriers to Chinese educators both practicing and teaching critical thinking. In fact, research has found that the barriers to critical thinking education in China do not reside with the students, but with the teachers, who are reluctant to teach it (Chen 2013). This is especially obvious in the field of humanities and social sciences in which China's scholars have limited freedom to conduct research and have achieved far less international visibility, compared to the fields of engineering and the natural sciences. The above-mentioned challenges and barriers are rooted in the structural educational system in mainland China. Deeper cross-border collaboration with higher education institutions with different educational systems

will create new paths to facilitate diverse research and knowledge transfer beyond the exiting structural constraints. Under the one-country-two-system framework, Hong Kong has a different educational system and governance model. Also, the geographical closeness to other GBA-based cities makes it more convenient for Hong Kong to engage in intercity cooperation within the GBA. Hong Kong undoubtedly has a role in helping the GBA to develop into a regional hub for global talent.

Hong Kong: The Global City with Top 100 Ranked Universities in the Greater Bay Area

During the recent annual meetings of the National People's Congress and the National Committee of the People's Political Consultative Conference ('lianghui'), the Rector of ShenZhen University, Li Qingquan, proposed building a united university for the Greater Bay Area. This would not only strengthen the exchange and interconnectedness between higher education institutions in the region but would also aim to make full use of the respective institutional advantages from Guangdong Province, Hong Kong and Macau for higher education modernization and internationalization. Li's proposal refers to the differentiation of universities in the Greater Bay Area: Hong Kong universities are relatively more well established, followed by Guangzhou, and the rest are far behind. In this sense, Hong Kong has an absolute advantage in cultivating professionals and attracting elites to the region.

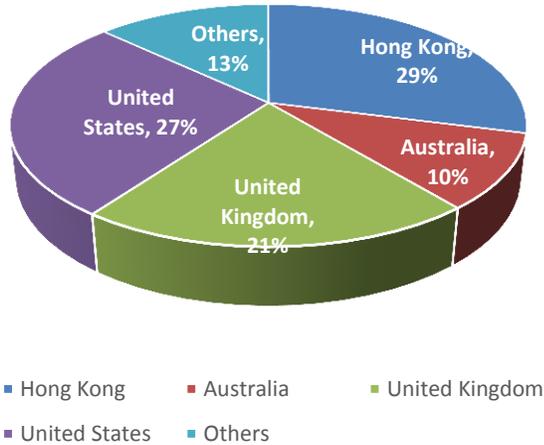
Hong Kong is regarded as having the most internationalized and autonomous academic profession in Asia. It is considered a "regional educational hub" (Cribbin 2010 2015; Mok and Bodycott 2014; 盧&伍, 2017). "An educational hub is a planned effort to build a critical mass of local and international actors strategically engaged in cross border education, training, knowledge production and innovation initiatives" (Knight 2011, p. 227). Hong Kong's universities have developed close relationships with universities on the Chinese mainland, as well as a large number of joint programs of academic cooperation and exchange with overseas universities (Postiglione and

Jung 2017). It is an important part of the global "supply chain" which trains Mainland Chinese students in Hong Kong who then pursue further study in overseas countries (Shive 2010).

Furthermore, among the 'two regions and nine cities' in the developmental plan of the Greater Bay Area, most of the internationally recognized universities are located in Hong Kong. According to the QS World University Rankings (2018), there are five universities in Hong Kong (the University of Hong Kong, Hong Kong University of Science and Technology, the Chinese University of Hong Kong, City University of Hong Kong and the Hong Kong Polytechnic University) listed among the top 100 universities in the world. Other universities in the Greater Bay Area are currently not listed in the top 100 ranking. This shows that Hong Kong universities are world-class and highly recognized in terms of professors, research, capital, and university management.

The competitive advantage of Hong Kong universities is mainly due to their degree of internationalization. Most of the academics working in Hong Kong hold overseas Ph.D. Degrees (including from North America, the United Kingdom, and Australia), and quite often they have worked and taught at overseas higher education institutions (Table 1). The western academic standards and English as the medium of teaching and researching help scholars in Hong Kong to keep pace with the mainstream international science community and academia, and to publish substantial contributions in top-tier academic journals. With expansion in higher education since the 1990s and with systemic university governance, Hong Kong universities are well funded by the government through the University Grant Committee, and academics receive highly competitive salary and remuneration packages.

TABLE 1 REGION WHERE DOCTORAL DEGREE WAS EARNED 2007 (PERCENT)



Source: The Carnegie Foundation for the Advancement of Teaching, The International Survey of the Academic Profession, CAP 2007 Survey of Hong Kong

In addition to these advantages, the staff and students in Hong Kong universities enjoy a high degree of academic freedom and autonomy. Unlike the rest of China, the internet and the press in Hong Kong still have relatively high degree of freedom. The University Grant Committee provides ordinances and statutes to regulate and protect rights, academic autonomy, and university governance. Above all, the universities in Hong Kong have established a good image among Asian higher education institutions. All these advantages make Hong Kong universities niches of affluent international social networks and social capital.

The Advantage of Universities in Hong Kong: Social Capital, Innovation, and Critical Thinking

In Sociology, social capital refers to resources embedded in social networks and relationships (Lin 1999). It includes not only relationships, interpersonal networks, trust relationships, but also norms and values

(Coleman 1990; Portes 1998; Putnam 1993). The nature of social capital can be analysed from three dimensions: structure, relationship, and cognition. The structural dimension means that during social interaction, if an individual agent is positioned at an advantaged location, he or she can deploy personal connections to apply for a job, to receive needed information, or specific resources (Nahapiet and Ghoshal 1997). The relational dimension means that resources (such as trust) are embedded into relationships and become the governance mechanism of relationships. The cognitive dimension of social capital refers to the shared coding or paradigm which constructs the basis for understanding common goals and promoting collective action within a particular social system (Tsai and Ghoshal 1998). Social capital provides individuals and organizations with the collectively-owned capital and credentials for access to information and opportunities that facilitates the production and sharing of intellectual capital (Nahapiet and Ghoshal 1998).

The social capital of Hong Kong universities is deeply rooted in the global recognition that Hong Kong, as a global financial hub, has gained by upholding sound legal, judicial, and administrative systems throughout the last century. Hong Kong universities have provided a fertile environment for scientific research and innovation; and ensured academic freedom, academic autonomy, a free flow of information, and mobility of talents. Higher education institutions and research organizations have accumulated years of experience in cross-border cooperation which has become collective-trusted social capital. For instance, in the last decade, Hong Kong universities collaborated with Shenzhen to jointly establish new research institutes and enterprises (Table 2) which enabled Hong Kong and its universities to become a regional playmaker in science and technology and thus further accumulated social capital for Hong Kong’s higher education institutions.

TABLE 2: LIST OF THE 22 STATE KEY LABORATORIES AND RESEARCH CENTERS

University	Title of the state lab or research centre	Year of establishment
The University of Hong Kong	Brain and Cognitive Sciences	2005
	Emerging Infectious Diseases	2005
	Liver Research	2010
	Synthetic Chemistry	2010
	Pharmaceutical Biotechnology	2013
City University of Hong Kong	Millimeter Waves	2008
	Marine Pollution	2009
	Precious Metals Material Engineering (RC)	2015
The Chinese University	Oncology in South China	2006
	Agrobiotechnology	2008
	Phytochemistry and Plant Resources in West China	2009
	Digestive Disease	2013
Hong Kong University of Science & Technology	Molecular Neuroscience	2009
	Advanced Displays and Optoelectronics Technologies	2013
	Tissue Restoration and Reconstruction (RC)	2015
	Control and Treatment of Heavy Metal Pollution (RC)	2015
The Hong Kong Polytechnic University	Chirosciences	2010
	Ultra-precision Machining Technology	2009
	Steel Construction (RC)	2015
	Rail Transit Electrification and Automation Engineering Technology (RC)	2015
Hong Kong Baptist University	Environmental and Biological Analysis	2013
The Hong Kong Applied Science and Technology Research Institute	Application Specific Integrated Circuit System (RC)	2012

Source: Cheung, Tony and Su, Xinqi.(2018)

In any 21st century economy, innovation is one of the key ingredients for successful cities. So, it is with developing a successful bay economy. A paper presented in the 2018 World Economic Forum Annual Meeting stated that an “innovative city” can cover a broad range of different styles, sectors and outcomes. It can refer to a city where commercial breakthroughs by world-famous multi-national companies occur, or where ground breaking research is carried out by universities and the public sector, or a place where new ideas are created by start-ups and entrepreneurs. The same paper also reported that Hong Kong is one of the “Big Seven” global cities traditionally associated with innovation, being home to multinational corporations, having a

wealth of talent and clusters of world-class universities (weforum 2018).

The academic structure and social and political conditions in the other cities of the Greater Bay Area are different from Hong Kong. Academic freedom in mainland China has long been restricted, especially in the fields of humanities and social sciences. It has also been widely observed that there is a lack of critical thinking to promote open discussion of controversial issues. Meaningful and respectful dialogues in many areas in China are restricted because of a lack of free expression of different voices and positions without fear of penalty. Also, universities in the rest of the Greater Bay Area, like many universities in non-first-tier cities in mainland China, have less opportunity for overseas

student exchange, international cooperation, and cross-border research projects. Therefore, there are structural strains that hinder China’s academic institutions from being internationalized.

Looking at the possible roles Hong Kong universities could play in the development of the Greater Bay Area from a sociological angle, Merton’s Strain Theory (1968) can provide insight to explore the opportunities and possibilities for internationalization and innovation inducement among the universities in the entire region within the structure of global and cosmopolitan networks. Merton’s strain theory refers to the structural stains that bear on an individual’s otherwise “normal” behaviour when accepted norms conflict with social reality. There are five possible adaptations when the cultural goal has new means (Table 3). In Merton’s view, the innovation would be nourished when cultural goals are socially accepted and there is an alternative means that can be used beyond the existing institutionalized means.

TABLE 3 ROBERT. K. MERTON (1968)’S STRAIN THEORY: FIVE MODES OF ADAPTATION

CULTURAL GOALS	INSTITUTIONALIZED MEANS		
	Accept	Reject	
Accept	Conformity	Innovation	
Reject	Ritualism	Retreatism	Through new means
		Seeking new goals	Rebellion

When higher education institutions in Guangdong Province are pursuing internationalization (cultural goals) through collaboration with universities in Hong Kong, new institutionalized means in Hong Kong would be facilitated as the alternative tools to solve the administrative barriers associated with the Mainland’s structural system (e.g. the strict territorial-tied research funding). This alternative means for internationalization includes creating new paths for resources sharing, new collaboration networks, research synergy, and mutual academic recognition within southern China. It also requires developing a new gateway for the Mainland

Chinese universities and research institutes to connect with the world through the cultural, human, and social capital of Hong Kong institutions.

Talent Supply Chain: The Model between the Shenzhen Municipal Government and Hong Kong Universities

Although the existing economic structure is manufacturing-driven in the Greater Bay Area, in the recent years, the Shenzhen municipal government has been supporting entrepreneurship in creative industries –especially the Qianhai district which has become an innovation and start-up hub. Universities in Hong Kong not only facilitate collaboration among enterprises in Qianhai, but also motivate students to seek internships, jobs, and sharing opportunities from pioneers in the digital economy. In reference to the Tokyo Bay Area, being an industrial cluster of steel, petrochemical, machine, and high-tech industries, it stands alone as the largest Japanese international financial centre, transportation hub, business centre and shopping haven. Given that the Greater Bay Area has similar resources, Hong Kong universities can provide corresponding talents and targeted education opportunities. This means that Hong Kong could become the human resources supply chain for the economic transformation of the whole Greater Bay Area.

During the Symposium on Innovation and Entrepreneurship Education in the Greater Bay Area organized by the South China University of Technology, the creation of five new platforms was suggested. These platforms – education, training, incubation transformation, international cooperation, and entrepreneurship and innovation research – would facilitate achieving new economic targets, new industrial orientation, and new technologies. They would be developed with an aim to cultivate innovative and entrepreneurial elites, science and technology talents, high-end engineers, entrepreneurs and leaders. The Symposium came up with the idea that the knowledge transfer offices of the regional higher education institutions together with start-ups in digital industries in Shenzhen, could make full use of

partnerships among enterprises, universities, and research institutes for speeding up the gap between research and application.

With world-class universities and international social networks, Hong Kong universities are in an ideal position to facilitate science and technology knowledge transfer and to advance the entrepreneurship ecosystem in Shenzhen and Guangdong Province. Hong Kong universities have established several research organizations and initiatives in Shenzhen, including Shenzhen Institute of Advanced Technology (SIAT) and the affiliated Shenzhen Institutes of Advanced Technology (SIAT), City University of Hong Kong Shenzhen Research Institute (CityU SRI), the Shenzhen Research Institute of Hong Kong University of Science and Technology, The University of Hong Kong-Shenzhen Hospital, and The University of Hong Kong Shenzhen Institute of Research and Innovation (HKU SIRI).

In 2006, the Chinese University of Hong Kong established the Shenzhen Institute of Advanced Technology (SIAT) in cooperation with the Chinese Academy of Sciences (CAS) and the Shenzhen municipal government. Through state funding, this research organization employs five hundred staff members who focus on research in emerging energy, digital cities, low-cost healthcare, and robotic services. In 2009, SIAT became the first national research institution in China to cooperate with a non-Mainland partner resulting in the Chinese University of Hong Kong, with support from the Shenzhen municipal government, establishing the Shenzhen Research Institute (CUHK SZRI). CUHK SZRI is regarded as a milestone for cooperation between Hong Kong and Shenzhen. It has set up a world-class laboratory and conducts state-commissioned research for the Pearl River Delta economic restructuring plan. This creates unprecedented opportunities for researchers in Hong Kong, especially those researching technology developments and its application. In addition, CUHK SZRI offers professional development courses and non-degree training to satisfy the local demand for courses in engineering, management, and healthcare.

City University of Hong Kong Shenzhen Research Institute (CityU SRI) also extends its applied research

and talent development to Mainland China. Its professional education program comprises of 12 research and development centres, including some award-winning research centres like Biotechnology and Health Centre, Centre for Prognostics and System Health Management, Futian-CityUni Mangrove Research and Development Centre, Information and Communication Technology Centre, and Research Centre for the Oceans and Human Health.

Hong Kong University of Science and Technology established the Shenzhen Research Institute of the Hong Kong University of Science and Technology (HKUST SRI) in the Shenzhen Virtual University Park in 2001. It has become the first university among the thirty-eight universities (including Peking University and Tsinghua University) to utilize the facility. It also works as the local liaison office for Hong Kong University of Science and Technology in Shenzhen to manage projects in mainland China and coordinate the enrolment of mainland students.

The University of Hong Kong-Shenzhen Hospital (HKU SZ Hospital, also called Shenzhen Binhai hospital) is a teaching hospital located in Shenzhen. It aims to link clinical trials, scientific research, and education. HKU SZ Hospital responds to the growing public demand for quality medical services through providing medical technology, modern facilities, and state-of-the-art medical management. In cooperation with the Shenzhen municipal government and the University of Hong Kong, it targets the grooming of medical talent from among the young immigrant population in Shenzhen taking advantage of its unique geopolitical position. The University of Hong Kong established another institute in March 2011. Shenzhen Institute of Research and Innovation (HKU SIRI) was established with the mission of facilitating knowledge transfer and technology application for Mainland industries. The research staff and students of HKU SIRI can apply for research grants from Mainland institutions, including but not limited to the National Key Research and Development Program (973 Program), the National Natural Science Foundation, and the Shenzhen municipal Science, Technology, Industry, Trade and Information Technology Committee.

Hong Kong research institutions carry out research collaborating with laboratories in Shenzhen. This has resulted in knowledge transfer concerning biomedicine and biotechnology. Other examples of knowledge transfer include CUHK SZRI's work in Robotics and Automation, CityU SRI's project on Information and Communication Technology, HKUST SRI's teaching of Business Administration, and HKU SRI's project concerning E-Commerce.

In summary, Hong Kong higher education institutions have locational advantages, interdisciplinary faculties, and international research networks. They are thus in a unique position to promote Hong Kong and Shenzhen's research and development projects. Therefore, in the quest for a solid knowledge economy and economic integration in the Greater Bay Area, Hong Kong's degree of internationalization and social capital are indispensable for pushing forward the proposed university-wide collaboration.

Hong Kong's Social Capital: A "Super Connector"

As an international financial centre, Hong Kong is a regional hub for financing and investment, it can thus promote Guangdong technology and manufacturing to the global market, and boost the market-led economic growth in the Greater Bay Area. By June 2017, Hong Kong had a total of 3,752 regional headquarters, regional offices, and offshore companies affiliated to overseas parent companies. The overseas parent companies are mainly from the United States (19 percent), followed by Japan (18 percent), and then Mainland China (9 percent) and the United Kingdom (9 percent). As one of the freest economies, Hong Kong's Foreign Direct Investment, in terms of stock and investment volume, ranked second in the world, followed only by the United States (Hong Kong Trade Development Council 2017).

In addition to the Mainland and Hong Kong Closer Economic Partnership Arrangement (CEPA) and the Guangdong-Hong Kong framework, Hong Kong's role in nurturing professionals and elites in the Greater Bay Area has virtually become omnipotent. Hong Kong is the East Asia base for multinational corporations which

facilitate international capital flow, pool cross-cultural management experiences, and attract local and global talents. Also, as a long-standing international metropolis, its social, economic, and legal systems are internationally reputed and globally recognized. With leading telecommunication facilities and a population with fluency in English, Cantonese, and Mandarin, Hong Kong enterprises connect well with Asian and western economies. All in all, Hong Kong's social capital can become a "super connector" for the internationalization of the Greater Bay Area.

The implementation of the development plan of the Greater Bay Area has catalysed discussions in universities in Guangdong Province, Hong Kong, and Macau on how to enhance the quality of education and the effectiveness of coaching professionals through collaboration. Clearly, as a hub of higher education in the region, Hong Kong has the social capital which is indispensable not only to facilitate this collaboration, but also for the internationalization of the Greater Bay Area, and to connect inner and outer economies. That is to say: on one hand, Hong Kong's universities accumulate social capital for internationalization; and on the other hand, they connect relevant assets and networks with partner institutions and organizations, facilitate synergy of regional integration, and establish mechanisms for knowledge production and sharing within the Greater Bay Area. As such, Hong Kong's social capital is a "super connector" for internationalization and integration.

This article aims to provide a cutting-edge discussion calling for more comparative and international higher education studies about the pattern of internationalization and globalization in the context of Chinese convergence and divergence. More research on the mechanism of mutual recognition and quality assurance among Chinese cities and special administrative regions is needed for a better understanding of strategic management of Chinese higher education institutions for internationalization in the context of GBA integration. Additionally, the evaluation of intercultural competence, employability, and professional mobility cannot be neglected in this age of global academic entrepreneurialism.

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