

The Ambidextrous Development for the Universities in East Asia for Coastal Competitiveness Through Internationalization: An Exploratory Discourse on South Korea and Guangdong, China

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Abstract

The article mainly discusses how diverse international theories such as constructivism, neo-institutionalism, and socialism add to meeting the challenges of the regional conflicts and industrial upgrading in the higher education in East Asia, specifically in South Korea and China. China's 14th Five-Year Plan is to quicken the process of digital civilization structure to shape smart cities and digital towns where a new image of high-quality digital life is established in order to build a community of shared future for humankind, which requires the captivation of an extremely educated employment strength into the real industry especially near ocean areas. Currently, South Korea is still facing the numerous challenge such as its overall industrial structure, labor market and higher education, which needs to improve the roles of its government, industry, and universities regarding to the knowledge formation and skill adaption. Key factors of ambidextrous design to balance exploitation and exploration in the given organizational structure were suggested with internationalization of the higher education in order to develop the regional competitiveness in East Asia.

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Keywords: *Digital China; IR Theories; Higher Education; Innovation; Marine.*

1. Introduction

East Asia provides homes for one-fifth of the population in the world [1]. Its location offers access for Japan, South Korea, China, etc. to interact with the global economy generating an industrial atmosphere for the entrepreneurial spirit, meanwhile, Pacific Rim economies have lately taken advantage of the enormous labor pool of China by manufacturing the high-tech products [2]. Traditionally, East Asia itself was a system of hierarchy with regional solidity where China shaped tributary relations with other nations in return for their security guarantee due to Confucianism influence encouraging the philosophies of harmony, order, and nonviolence, which enhanced a type of constructivist explanation for East Asian international relations stressing the exclusive organizing values that structured state-to-state interactions [3].

Guangdong province is in the southernmost part of the China mainland where China's second largest river, the Pearl River, flows through. Covering an area of 179,700 square kilometers, of which 1,448 sq. km are islands, Guangdong is the first province in China to conduct maritime trade and international migration including 30 million overseas Chinese from 160 countries and regions attribute their hometown to Guangdong [4]. Guangdong is also the fastest economically developing province in China with the most advanced business and trade. Guangdong's GDP has been topping in China for 32 years with the annual growth rate of 6% from 2016-2020 and its GDP exceeded 11 trillion RMB with foreign trade as the major role in driving Guangdong growth in 2020, such as medical supplies, traditional garments and home appliances including 4.3% of GDP from the primary industry, 39.2% from the secondary industry and 56.5% from the tertiary industry [5]. For the first time, the province's GDP in 2020 surpassed that of South Korea even though it had already exceeded Spain, Australia and Mexico [6].

An exploratory discussion is going to be conducted as the qualitative research to explore the marine regions in East Asia and their challenges. More experts considering the new requirements of the digital economy need to be trained to create regional innovative and scientific technological ecosystems based on universities to make a breakthrough in scientific and innovative technological developments, including those associated with digitization [7].

2. Theoretical Framework

Many East Asian countries' involvements and preferences demonstrate that straightly applying the main norms of International Relations Theories (IRT) to East Asia international relations are challenging due to the East Asia's unique history as well as its social and cultural performance [8]. Both the constructivists and structural realists share a mutual ontological premise where structural realism defines the international system as anarchy, and the constructivists observes the East Asian international system as hierarchy [9]. The IRT's prejudice toward European experiences and great power politics creates disappointing accounts for and erroneous forecasts about East Asia IR [10]. Japan, China, and possible other states in this region were interacting with each other, not only as units belonging to a common international system, but each as a system in which autonomous units

existed and competed with varying analytical relevance [11]. The shortcomings of IRT in explaining East Asia IR, such as the assumption of an anarchic international system, the balancing behavior of states for survival, institutionalization/legalization for international cooperation, and leadership in international institutions and the role of historical memories, need to be modified and make it more suitable for East Asia IR 'bringing East Asia in' for IRT [12]. It helps internationalizing higher educational institutions in the East Asia to develop better higher educational strategies for regional competitiveness of each nations in East Asia.

Instructional originators apply learning theories such as constructivism, to provide outline for courses and curricula because of their problem-based and learner-centered approaches good for educators' efforts to integrate practice and community involvement into planning and administration pedagogy [13]. Learning and teaching in higher education should be advanced in a complete way including the four aspects such as learning and teaching environment, teaching processes, learning processes, learning outcomes and their assessment just as the social constructivists reflect that learning is a collaborative social process and knowledge is enthusiastically created in and by contextualized circumstances [14]. Therefore, as constructivists promoted, it is very important to approach higher education in a more dependable student-centered way because outcome indicators must be connected to the intellectual understanding of learning and teaching enhancing the behavioral, information processing, cognitive, social and humanistic theories of learning [15]. As a comparison, neo-liberals seek to maximize the role of markets in society which has altered the climate in which higher education by emphasizing the role of knowledge production for corporate advancement instead of self-interest and training, however, constructivism expects that students play a large role in deciding what and how they learn as well as emphasizing higher order skills such as problem solving and self-evaluation [16].

As realists, individuals trust the state is the major actor in international politics and they stress the balance of power by arguing that all the state's movements and adoptions are a reproduction of the shared will of the people, which is also a disagreement since the state is in fact a representative of its people [17]. Obviously, the idea of a national interest is centrally concerned with higher education which needs to be politically good for the given state not excluding international cooperation, or the development of common interest since realists insist in the 'primacy of foreign policy' and see it as an indicator of faulty statesmanship if politicians are not able to carry it through after being justified in the eyes of the international society [18]. Besides the states which realists emphasized as the only key players in the international system, there are non-state actors such as higher educational institutes with no structures of power defined by realists clearly presenting a weakness in the realist theory [19].

Institutionalization, being sketched with three chief hypothetical models such as rational choice new institutionalism, historical new institutionalism and sociological new institutionalism, was defined as the progression of "habitualization, objectification and sedimentation" by which a steady outline achieving intellectual and normative formulation in the areas of establishment, nation, and individuality [20]. The "old" institutionalism whose movement was from law and politics to the economy with humanities' methodology of law, political science, sociology, and etc. are using the inductive methods, however, neo-institutionalism whose movement was from economics to politics and law with methods of microeconomics and game theory are using deductive ways [21]. Moreover, the focus of attention for neo-institutionalism is independent individual

stressing methodological individualism instead of “old” institutionalism which is collective action emphasizing holism for analysis prerequisite [22].

However, neo-institutionalists are obligated to two methods of presence learned from mathematicians and of consequence learned from statisticians exclusive to a descriptive science asking and answering the ongoing conversation of the science or of the policy to be implemented due to their lack of thinking self-critically by offering an existence-theorem analytic narrative on superficially examined history and a significance-test regression coefficient on proxy variables of big data [23]. Public innovation policies and programs are progressively overseen by the central government and its institutionalization development is ingrained in cultural regimes which formulate the elementary thoughts of innovation because the institutionalization is outspread in detailed innovative preparations functioning inside these regimes [24]. For example, the necessity to discourse breaches in business governance has attended as a significant incentive for investment and research institutions to improve socially accountable funds in South Korea [25]. The disappointment of performance-based funding policies in terms of the integral complication of the higher education system whose design suggestions like flexibility, figurative contextualization, and devolved financial supremacy for higher education management need to be discussed [26].

While treating the absorbing economy’s structure as a condition that determines educational contribution to development, it is important to analyze how education would contribute to the upgrading of industrial structure and, in turn, be of benefit to sustainable economic development [27]. Therefore, the research area of this article is to explore how diverse international theories such as constructivism, neo-institutionalism, socialism add to meeting the challenges of the industrial upgrading and internationalization through students or staff mobility for innovation in the higher education in East Asia, specifically in the marine regions of South Korea and China.

Building a community of shared future for humankind is a mission first stressed by the President of China Xi Jinping in the Report to the 19th Communist Party of China National Congress directing the conceptual development and theoretical framework will strengthen rather than put an end to the nation-state system because its purpose is to inject new vitality to nation-states with a view towards common development of humankind by offers a realistic approach to self-protection for people of all countries around the world [28]. It is discussed that the chief inquiry of the times is the method and ideologies of socialism with Chinese characteristics for the new era where Xi Jinping Thought embodies a realistic analysis acclimating Marxism to the Chinese setting leading in a new era of China’s socialist modernization and governance as well as strengthening the Party [29]. The outline of the 14th Five-Year Plan (2021-2025) for the national economic and social development and long-range objectives through the year 2035 has been officially announced by the National People's Congress of the People's Republic of China in March 2021 to establish a modernized socialist country in an all-round way, which is a common program of action for all ethnic groups in the country involving the political, economic, social, cultural, science and technology; environmental and other priorities [30].

China’s 14th Five-Year Plan to quicken the process of digital civilization structure including keen and appropriate public service or to shape smart cities and digital towns where a new image of high-quality digital life is established. In details, one of the focuses is to expand the level of digital government construction,

particularly to reinforce the open allocation of public data and to promote the collective use of administration affairs information for the efficiency of digitized management services. For an example, in China, the digital administration services have played a significant role in preventing the pandemic, which has opened a window of opportunity for major global reforms of the ways in which people produce, consume and govern [31]. Eventually, the goal of the 14th Five-Year Plan is to build a valuable digital ecosystem where market rules for data factors of production are bound in an orderly policy atmosphere with cyber security guardianship, namely “a community of common destiny in cyberspace” [32].

Building a community of shared future for humankind helps the determination of a win-win solution for the individuals from all countries promoting the mutual growth of all nations by motivating one's own development together with emphasizing the shared interests of mankind since the classical nationalism is disconnected from the reality by adding the idea of “win-win” into the unbiased reality of peaceful cohabitation and joint development after overcoming “the unrealism of classical nationalism” [33].

3. East Asia and Its Challenges

East Asia is at a historic crisis as two chief geopolitical movements reveal: the tactical rise of China, and the influence of China's rise on the established place of the United States in East Asia.

3.1 Higher Education's Role in East Asia

In East Asia area, both exterior and interior challenges are vital to illuminating the difference in national government capacity across the region, for example, collectivist revolutions appear to have both an instant and long-term optimistic effect in convincing the governments to react with more withdrawal to involve in state-building efforts [34]. East Asian countries will ultimately shift from relation-based governance to rule-based cultures even though relation-based governance has assisted East Asian countries accomplish speedy economic growth in the early stages of their development, while, as the possibility of East Asian economies enlarge, East Asian countries ought to implement a rule-based governance scheme for efficiency and competitiveness in the world market [35]. In recent years, indication of influence has been associated with universities' requirements to share their publicly funded knowledge with corporations and municipal society, and importance has been positioned on industry-university partnerships, especially focused on exploration [36]. While South Korea has made extensive advancement in this evolution, China has just got on board on the process [36]. The internationalization of universities is linked with research coordination anticipated by universities and countries for higher significant university world rankings [38].

China has swiftly industrialized an erudite decentralization approach in East Asia diminishing the observation of region's "China threat" has been a significant consideration in this strategy since China was cognizant of its comparative disadvantage keeping its decisions open while consenting Association of Southeast Asian Nations (ASEAN) to continue the initiative [39]. These countries in East Asia including China are powerfully involved in encouraging their higher education systems and universities, making efforts on forming research universities with a global vision and devotion strongly in the national programs to accomplish distinction [40].

3.2 Challenges of Digital Guangdong, China and Its Industrial Upgrading

Guangdong province in China published its 14th Five-Year Plan and development objectives for 2035 on April 25 in 2021, evaluates development in five aspects including economic development, innovation, people's livelihood, green development and security [41]. According to the Plan, Guangdong will be devoted to strengthening the infrastructure construction, enhancing the talent attractiveness, advancing the industrial chain optimization and other elements that increase its economic development. Meanwhile, China welcomes the digital age, stimulate the potential of data features of production, and leverage the digital transformations to drive overall changes in production methods, lifestyles, and governance. For example, in order to build new advantages in the digital economy, China is not only strengthening the innovative application of key digital technologies or accelerating the promotion of digital industrialization, but also promoting the industrial digital transformations. It has been proved that the universities can play very important roles in the digital transformation of the economy, for example, placing the base for entrepreneurship and start-up accelerators in order to advance the industrial, advanced, and social development [42].

The growth of Guangdong Province used to be mainly export-oriented. In order to make the domestic demand as a main driving force of the economy in dual circulation, or to reduce the imbalanced development between urban and rural areas, as well as opening up, Guangdong Province has been facing a lot of challenges such as industrial development and infrastructure construction [43].

3.3 An Innovative and Effective Higher Education System with Ranking Success both in Guangdong and South Korea

Universities are the central players and important economic actors in many regions, and many of them are, in general, nationally and internationally active in respect of matters related to sustainable development, meanwhile, the potential of universities as local players and outlines the range of activities they may engage with, and which may allow them to act as pillars to local sustainability initiatives [44]. In 2019, there were total 154 universities in Guangdong Province, nationally ranked as the second compared with other provinces and regions in China [45]. Scholars have confidence that academies explain the path of innovation change and convert the elementary components of national invention systems offering the knowledge production [28]. However, in the 2020 QS World University Rankings, only 14 universities from mainland China cracked the top 400. Among those 14 universities, there are only one university named Sun Yat-sen University located in Guangdong Province but directly administrated by Ministry of Education of China, which means no Guangdong-based university cracked the top 400 [46]. As a comparison, 10 universities from the South Korea are on the list of top 400, which means the South Korea has much stronger international impact in knowledge economy and the creation of the global system of knowledge than Guangdong Province even though both of these two coastal areas have the similar GDP in 2020. Along with Guangdong's 14th 5-year plan, the investment flourishing in organizations of higher education is happening in Guangdong province where 11 new universities are getting opened, with more to come in the following few years for innovation development of the province and the country [47]. Especially, in Shenzhen city, the local government proclaimed that it would capitalize 150 billion yuan (US\$23.21 billion) to establish 20 new universities and colleges by 2025, with an

purpose of increasing the number of full-time students on campus in the city to 250,000 from about 103,800 now [48].

This industrial advancement should be accomplished by gathering industrial innovation competences which require the captivation of an extremely educated employment strength into real industry [49]. However, the upcoming manufacturing revolution has exposed some problems in South Korea such as the requirements for essential updated in the industrial structure and higher education organizations for possible industrial job loss and condensed labor expenses if jobs are replaced by apparatuses, or the vanishing construction of the current commerce in South Korea [50]. Education would add to the progression of industrial structure and sequentially the maintainable economic growth [51]. Currently, South Korea is still facing the numerous challenge such as its overall industrial structure, labor market and higher education, which requires to improve the roles of its government, industry and universities regarding to the knowledge formation and skill adaption [52].

According to the upcoming progress trend of China's economy and civilization, the humanistic value as direction, interdisciplinary knowledge system as foundation, and the creative thinking are emphasized together with the teamwork and leadership constructing for the students as an aptitude improvement framework in order to promote the manufacturing strategy level of China's industry and other relevant fields [53]. It is learned from South Korea known for its successful economic development in the post-World War II that world development and industrial promotion occur in a global economic setting through the collaboration of global and local performers [54]. Chinese government needs to serve as a facilitator for transforming the development of human resources into the development of the economy's industrial upgrading. Globalization and its development model in knowledge economy chiefly considering four primary factors for analysis such as economic performance, government efficiency, business efficiency, and infrastructure has been tracking global competitiveness, prompting policies, decision and actions of higher education in a process of competitiveness according to Leyva and Rhoades in 2016 [55] who stressed that higher education system has faced three chief changes: first, a solid connection between economic policy as well as government funding and academic research; second, the change of more long-term associations between companies and academic researchers; and finally, the growing straight involvement of the universities in commercializing research. Education itself or the creation of human capital may not be enough for technology invention or industry upgrading [56]. International knowledge transferring can make great contributions to the competitiveness of enterprises and regions, to the ranking of universities, and to solving common global problems [57]. Based on the research, Maxim Vlasov did in 2021 [58], strategies for the universities are dedicated to making an input to innovation development of the country should include increasing involvement of majority of population into higher education, broader scope of offered programs in *Science, Technology, Engineering and Mathematics Business, Administration and Law*, stimulation of research and academic activities of lecturers and increase of research staff, as well as attraction of scientists from elsewhere and development of student mobility programs. Furthermore, higher education can be normally evaluated in the international context through eight components, which are: 1) Secondary education enrollment, 2) Tertiary education enrollment, 3) Quality of education system, 4) Quality of math and science education, 5) Quality of management schools, 6) Internet access in schools, 7) Availability of specialized training services, and 8) Extent of staff training [59]. In order to discover the channels, motivations, activities and outcomes, and influencing factors of university to industry international knowledge transfer, it is important to understand how

the concepts are related to the internationalization of research and development, innovation systems and higher education [60]. The Chinese-foreign higher education prototype can bring Chinese students an improved opportunity to improve their advanced studies abroad after obtaining transnational academic exercises and English-speaking skills in China, however, 229 joint undergraduate programs and four Chinese-Foreign higher educational organizations had been terminated in eternity because of the below reasons: (a) under level teaching quality; (b) high fees; and (c) poor educational outcomes [61].

4. Regional Competitiveness Through Internationalization of Higher Education

4.1 Higher Education in South Korea

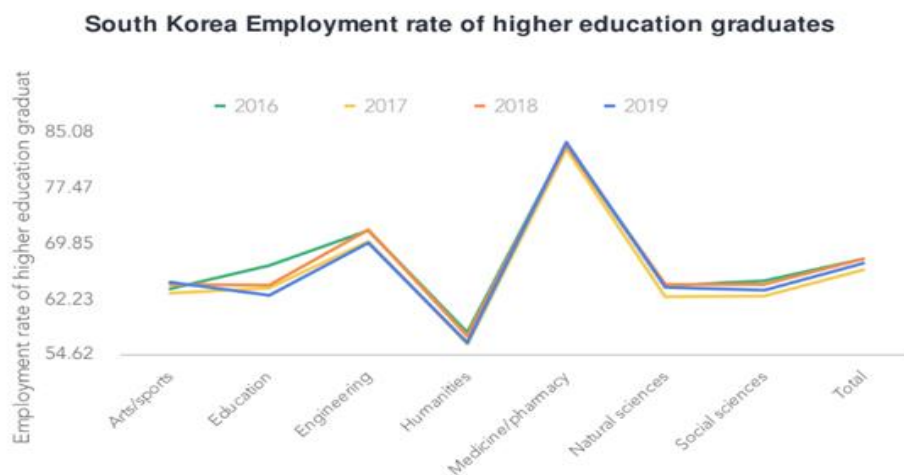


Figure 1: South Korea Employment rate of higher education graduates

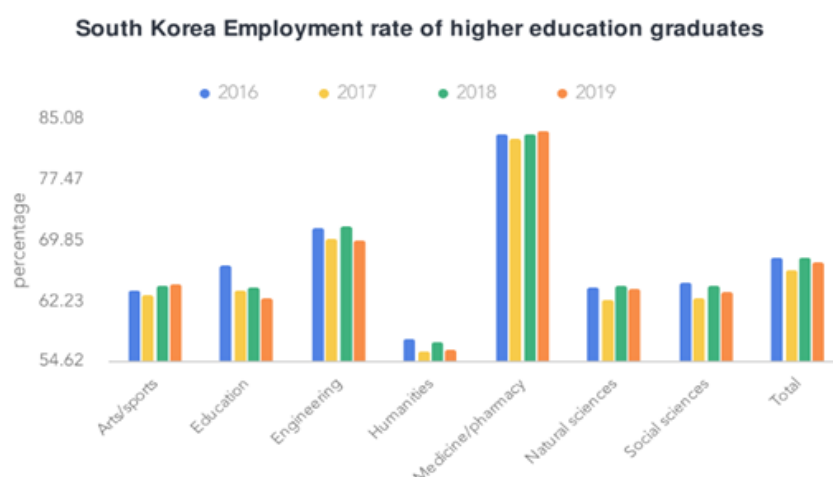


Figure 2: South Korea Employment rate of higher education graduates Data collected from <http://statista.com>, (accessed June, 2021).

We investigated the employment rate of graduates of various majors in higher education in South Korea from 2016 to 2019. The following figures 1 and 2 show the trend of industry in South Korea in recent years and reflect the renewal of higher education in terms of majors. As can be seen directly from Figure 1 and Figure 2, the employment rate of graduates in the major of medicine or pharmacy has always been dominant among any other majors which indicates nearly 15% higher than that of graduates from total higher education. Also, there is a big gap with those majoring in humanities, in 2019, the employment rate of graduates in the humanities industry is even nearly 30% lower than that of graduates in medicine or pharmacy. So, we can say that the medical industry in South Korea is quite prevalent. Arts/Physical Education, Natural Sciences, Social Sciences, Education, and Humanities majors all have lower employment rates than graduates of higher education which belongs to the category of total employment rate showing in the figures 1 and 2. It might affect the sustainable innovation and competitiveness of South Korea for long-term.

Illustrating on the realist viewpoint in international relations, internationalization of tertiary education nationally in East Asia is instrumentalized to assist national economic competitiveness and expansion and political safety, while the vital feature of teaching and learning is observed [62]. South Korea as one of the chief student senders from East Asia establishes a geographical student mobility involving the worldwide rearrangement of the whole family [63]. It is correspondingly significant that higher education organizations enable domestic students' relationships with international students and promote their intercultural capability which affect their upcoming educational and career choices [64]. As for the international cooperation of higher education in South Korea, it is not difficult to see from **Figure 3** that the number of overseas students in South Korea has an obvious rising trend in the past 10 years, reaching a maximum of 160,000 in 2019 and an increase of 64,000 compared with 10 years ago by 2020. In 2020, the number of foreign students coming to South Korea affected by the epidemic declined, but the overall trend of foreign students is steadily increasing.

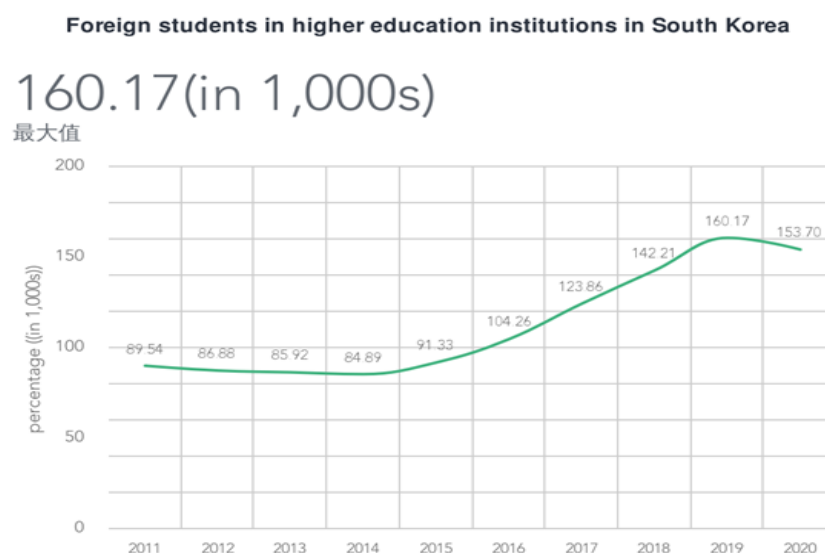


Figure 3: Foreign students in higher education institutions in South Korea Data collected from <http://statista.com>.

Countries such as China, Japan and South Korea expect to connect internationalization with the countries' global competitiveness emphasizing on regional collaboration for economic advance and nationwide safekeeping **Error! Bookmark not defined.** [50]. The South Korea's state is inspiring the nation's universities to undertake a chief role as regional centers engaged in producing the new knowledge and skills for the technological and regional growth throughout the Asia Pacific Region [65].

4.2 International Cooperation of Higher Education in China

The Chinese government including other countries are promoting education diplomacy to improve the national branding because significant diversities exist between international students from different regions in their attitude to China as a country and China as a next stop for higher education [66]. In the spirit of higher education internationalization, the nature of higher education systems can be cataloged into two sorts: receivers and providers of innovations regardless the methods of inventions spreading [9]. Since 2004, the chief government of China permitted a 5-year tactical plan from the Ministry of Education stressing the significance of further introducing the education schemes and inspiring international cooperation as one of the significant approaches of China's educational advance [67]. Due to the national and international circumstances, higher education internationalization has been used for exporting or importing modernizations such as extraneous knowledge, values, higher education models, and standards to serve internal interests, for example, the process of distributing innovative revolutions in the progression of higher education internationalization was described as "outward-oriented" such as China as well as South Korea and the development of welcoming overseas innovations obligatory through higher education internationalization explained as "inward-oriented" higher education internationalization such as Singapore [68].

The most substantial indicator of higher education internationalization is international cooperation among universities concerning interpretation education services, while the uppermost level of internationalization of educational service is joint programs whose international endorsement requirements were created on the basis of the education excellence enhancement influencing the options and authentication of international cooperation, marketing and considered branding of specific programs [69]. As a minimum, 70 international higher education institutions and 1,091 jointed programs for the undergraduate degree have been currently functioning inside 28 provinces and municipalities in China. Both Jiangsu and Shanghai have developed the maximum number 15.7% of internationalized higher education institutions within China, following by Liaoning as 11.4% and Guangdong as 10% [70]. The most well-known form of internationalization of higher education is mobility of students and mobility of scientists (postgraduates and Ph.D. candidates) and teaching staff, which is conditioned by both educational and research activity [71]. Ministry of Education, China figures display that in 2018 there were a total of 492,185 international students from 196 countries or areas pursuing their studies in 1,004 higher education institutions in China, making a rise of 3,013 students (0.62%) compared to 2017 [72]. International students in Hong Kong, Macau and Taiwan are not included in the above data. Moreover, Asian international students occupy 59.95% by continent and international students from South Korea by country of origin ranked top one with 50,600 students in 2018. Compared with other provinces, Guangdong province have been ranking the 7th place for international students studying in China in 2018 with total students of 22,034 [73].

4.3 Key Factors of the Ambidextrous Design for Universities in East Asia

Managing this difficulty of dealing with the pressure between efficiency and flexibility is one of the essential challenges that organizations must face for survival in the global competitive atmosphere enabling ambidexterity [74]. Colleges and universities which are innovative are dissimilar with those requiring stability. How to use the ambidextrous design to balance exploitation and exploration in the given organizational structure were suggested with the diverse concepts of four main concepts: exploitation; exploration; structure; and the ambidextrous design [75].

Big Data

One of the most important factors for the ambidextrous organizations is the big data environment shared by diverse departments which will improve the efficiency and reduce the cost of human resources. Executive influence has an important optimistic influence on inventive performance, which could improve organizations' centrality in network, meanwhile, the organizations in system fundamental location has more recompences in gaining possessions and suggestively advances innovative acts in big data environment [76].

Innovative Culture

Instead of homogenizing processes, innovative organizations develop constant aims about what to harvest enabling individuals to generate the means of production while universities can integrate innovation into their culture as entrepreneurial universities [77]. When it comes to the evidence-based management for today's ambidextrous organizations, sensitization, authentication and systematization of its culture as well as the transformative, synergetic, projective and conserving strategies can become part of strategic planning, in which managers and leaders can build for consistency or shift the organization's balance of exploitation and exploration to address changes in their internal and external environments [78].

Moreover, the systematic development of an ambidextrous organization can be based on actionable practices according to five capability areas including culture, strategy, structure, routines and IT as well as five maturity stages such as beginner, advanced beginner, experienced, skillful and expert [79].

Technology and new ventures that are created by university students and new graduates are intended to examine the connections among university-level structural abilities, the business capabilities of emerging industrialists and the number of start-ups shaped by students and new graduates such as the following features ambidextrous universities possess [80]: (1) ambidextrous universities delivering a good background for the exploration and exploitation of new knowledge in order to assist their students for the entrepreneurial competencies in launching their own new projects; (2) the traditional roles of universities such as research and teaching are vital for the creation of entrepreneurial universities; and finally, university entrepreneurship is path dependent. As the new public management reforms, many business management concepts were transferred to universities including transferring the universities into the ambidextrous organizations for resolving the dilemma of instantaneously empowering inspiration and efficiency [81].

5. Conclusion and Discussion

5.1 Conclusion

It is significantly important for higher educational organizations to know how to establish regional competitiveness through internationalization involving international students and faculty who are the international knowledge carriers. One of the important research findings is how diverse international theories such as constructivism, neo-institutionalism, socialism add to industrial upgrading in the higher education in East Asia to meet the challenges of the regional conflicts. However, the literature in higher education has not stressed the tasks of organizations for servicing the rights of international students [82]. Moreover, how to enable optimistic attitudinal transformation on the way to human rights must come across a mixture of diverse university players, such as students, teachers and managers [83]. It is important for institutions to provide better information to students on rights and to implore institutions to work with a serious sympathetic view of the legal outlines of governments because it will increase the legalism in the higher education [65]. Attitudinal modification on a distinct level emphasizes on the local context and transnational values which are the key fundamentals for a welcome local appreciation of human rights as well as for evolving a human rights values around the world [66]**Error! Bookmark not defined..** Therefore, it is recommended to generate policies encouraging to serve the rights of international students and faculty.

These countries in East Asia including China are powerfully involved in encouraging their higher education systems and universities, making efforts on forming research universities with a global vision and devotion strongly in the national programs to accomplish distinction. China's 14th Five-Year Plan is to quicken the process of digital civilization structure to shape smart cities and digital towns where a new image of high-quality digital life is established in order to build a community of shared future for humankind, which requires the captivation of an extremely educated employment strength into the real industry. International knowledge transformation can make great contributions to the competitiveness of enterprises and regions, to the ranking of universities, and to solving common global problems. International collaboration in teaching and research, application of research excellence into commercial activities, management of the mobile international student/staff and innovative organizational culture are crucial for universities' ambidextrous design. Key factors of ambidextrous design to balance exploitation and exploration in the given organizational structure are suggested with internationalization of the higher education while the local universities in Guangdong province in order to develop the insights of regional competitiveness in East Asia. Other countries in Asia or the Middle East region, such as Qatar and Jordan, also need ambidextrous design for building competitiveness through international collaborations. It shows the traditional roles of universities such as research and teaching are vital for the creation of entrepreneurial universities since there are a high rate of undergraduates going abroad for their future studies which make great contributions to the world innovation system.

5.2 Discussion

Due to the limited time and resources under the context COVID- 19, the analysis of higher educational policies and in-field data collection regarding higher education in South Korea and Guangdong, China are missing. One

of the limitations for this research is that empirical data should be collected to in-depth investigate the ambidextrous development in the universities both in South Korea and Guangdong, China. The empirical analysis needs to cover different dimensions such as innovative culture at organizational level, the technology application such as big data facilities and training, the international staff and students recruitment and settings of the majors and curricula. It is significantly important to find out how those universities turn internationalization to competitiveness especially as coastal competitiveness. How those universities in Guangdong are playing their different roles from those in South Korea both in strategic plannings and practice regarding their contributions to regional competitiveness. Those topics will be very necessary and useful for future research. Without future research to clarify the above questions, ambidextrous development research becomes less useful in practice.

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