



## EXAMINATION OF THE DEGREES OF INTERNATIONALIZATION OF FACULTIES IN THE TOP UNIVERSITIES IN CHINA, HONG KONG, JAPAN, SINGAPORE AND SOUTH KOREA

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### Abstract

In a wide range of global university rankings, Asian universities have currently been better represented than before. As a result, it is often expected that Asian top universities will dominate the world university rankings in the near future. However, though the results of China, Hong Kong, Singapore and South Korea have been generally remarkable in the rankings, Japan has been less successful because of the widely-recognized weakness of Japanese universities, namely internationalization. Japanese universities are assessed as less internationalized partly because most faculties in Japanese universities are not from outside the country. However, internationalization of faculties can be measured by the countries of PhD-granting institutes of faculties rather than their nationalities. Further, though the proportion of faculties with overseas PhDs or the quantity of internationalization of faculties is an important factor to measure the internationalization of faculties, the proportion of faculties with the world's best universities is also significant to understand the quality of internationalization of faculties. This paper thus examines the quantity and quality of internationalization of faculties in the top universities in China, Hong Kong, Japan, Singapore and South Korea in order to understand whether Japan is really unsuccessful in the internationalization of faculties in its universities.

**Key Words:** Internationalization of faculties in the top Asian universities, QS World University Rankings, International Faculties, Politics and International Relations, Competitions among the Top Asian Universities for international students.

### Introduction

*'Asian higher education is undergoing a rapid transformation. Singapore, Hong Kong, China and Korea are at the forefront of the assault on the global academic elite.'*

Ben Sowter, Head of QS Intelligence Unit (as cited in Yan Zang, 2013)

Though American and British universities have been dominating a wide range of world university rankings<sup>1</sup>, it is often assumed that Asian universities will replace American and British counterparts in the near future. However, Sowter at the same time indicates that Singapore, Hong Kong, China and Korea will dominate the global university rankings rather than 'all' Asian countries. His indication can be confirmed in QS Asian University Rankings 2013<sup>2</sup>. The top five universities in the Rankings are the Hong Kong University of Science and Technology (HKUST), Hong Kong University (HKU), the National University of Singapore (NUS), Seoul National University (SNU) and Peking University. Thus, all of the top five universities are either Singaporean, Hong Kong's, Chinese or South Korean.

Further, by comparing the QS Asian University Rankings 2013 with the Rankings in 2011<sup>3</sup>, it is clear that the top Japanese universities have failed to improve their rankings (Sagara, 2014). In the comparison, 2 Singaporean universities,

<sup>1</sup> For instance, in QS World University Rankings 2013, seven American universities and four British universities dominate the top 10.

<sup>2</sup> <http://www.topuniversities.com/university-rankings/asian-university-rankings/2013>

<sup>3</sup> <http://www.topuniversities.com/university-rankings/asian-university-rankings/2011>

9 South Korean universities, 4 Chinese universities, 3 Hon Kong's universities and 1 Japanese university have improved their rankings. Next, 2 Hong Kong's universities and 1 Chinese university have not changed their rankings. Then, 1 Hong Kong's university, 12 Japanese universities and 3 Chinese universities have failed to keep their rankings. Thus, all of the Singaporean and South Korean universities have jumped up. Though HKUST and HKU have not changed their rankings, they have been in the 1st and 2nd places in both rankings. Regarding Chinese universities, though a few universities such as Peking (up from 13th to 5th) and Beijing Normal University (up from 64th to 46th), have jumped up greatly, remarkable positive/negative differences cannot be observed for other Chinese universities.

Compared with the top universities in China, Hong Kong, Singapore and South Korea, the results of Japanese universities are rather disappointing. While one Japanese university has improved its rankings, the other 12 Japanese universities have failed to maintain their rankings. In addition, the worst five universities that have dropped most in the comparison includes four Japanese universities including the University of Tsukuba (down 11 places), Tohoku University and Keio University (down 8 places), and Osaka University (down 7 places). Consequently while Japanese universities are now less well-represented in Asia's university rankings, Singapore, Hong Kong and South Korea are dominating the rankings.

The reasons for declines of Japanese universities in the rankings are easy to discover (Ince, 2012). According to Ince, Japanese universities have been unable to improve their rankings because of their poor results in the international indicators, including international faculties, international students and inbound/outbound exchange students. Regarding international faculties, according to the 2012 QS Asian University Rankings, though HKUST and NUS, the top universities in Hong Kong and Singapore in the rankings, get ranked 1st and 2nd respectively in the international faculty index, the University of Tokyo, Japan's top university in the rankings, fails to be in the top 50 universities in this measurement. Indeed, while 4.5% of Tokyo's faculties are not from inside Japan, 50% of HKUST's faculties are from outside Hong Kong (Ince, 2012). Similarly in terms of the international student index, while HKUST and NUS are ranked 1st and 2nd, Tokyo gets the 45th place in this measurement. Additionally, though 91.7% of Tokyo's students come from inside Japan, 63.1% of HKUST's students are from inside Hong Kong (Ince, 2012).

Concerning its inbound exchange student index, HKUST and SNU again achieves the 1st place and 2nd place, though Tokyo is outside the top 50 universities. Finally, regarding the outbound exchange student index, though HKUST and SNU are not the 1st and 2nd, HKUST's score is 99.9 (5th) and NUS's score is 99.5 (10th). In this measurement, on the contrary, Tokyo is outside the top 100 universities. Ince (2012), as a result, regards Tokyo as a place 'where international students do not want to go, and whose students rather stay at home.'

As shown above, Japanese universities have failed in the current rankings because they have not been 'internationalized'. However, among the several measurement categories, the international index seems less useful to measure the internationalization of faculties. In the rankings, universities with more foreign faculties can achieve better results. However, suppose that there are A university and B university in a country: all of A's faculties are from outside the country but with PhDs from A University, while all of B's faculties come from inside the country with PhDs from B University. Some may insist that faculties of A University are more internationalized because of nationalities of faculties. However, it can be fair to say that the degrees of internationalization of faculties in both universities do not differ as their education and PhD-granting institutes are the same. Hence, in order to measure the 'quantity' of internationalization of faculties in a university, the examination of the proportion of faculties in a university whose PhDs are granted by overseas institutes, rather than focusing on nationalities of faculties, should be crucial. If a university has high proportion, it can then be assumed that faculties of the university are internationalized in terms of quantity.

The quantity of internationalization of faculties in a university can be easily increased because there are

approximately 200 countries and more than 20,000 universities<sup>4</sup> in the world. However, the prestigious American and British institutes have currently dominated the world's top 10 universities based on QS World University Rankings 2013. Further, according to the rankings, the global top 50 universities are comprised by universities of only 13 countries. Thus, it is important to examine the 'quality' of internationalisation of faculties in a university as well as the quantity to measure the meaningful internationalization of faculties. The quality of internationalization of faculties in a university can be evaluated by measuring the proportion of faculties with PhDs from the world's best universities. The 'high-quality' internationalization of faculties in a university can then be defined as keeping high the proportion of faculties with PhDs from the world's top institutes, no matter what countries their PhD-granting institutes are, domestic or overseas (Sagara, 2014; see also Salmi, 2009). Finally, this study focuses on the internationalization of faculties in politics and international studies. This subject's focus is necessary because the world's top universities are different in subjects. For instance, according to QS World University Ranking by Subject 2013, while the top five universities in Engineering (Civil & Structural) <sup>5</sup>are Imperial College London, the University of California-Berkeley, the University of Tokyo, Delft University of Technology, and Massachusetts Institute of Technology (MIT), those in Communication & Media Studies<sup>6</sup> are the University of California-Berkeley, the University of Texas at Austin, Columbia University, the National University of Singapore and the University of Wisconsin-Madison.

The paper then examines both the proportion of faculties who hold overseas PhDs in universities of China, Hong Kong, Japan, Singapore and South Korea and that of faculties with PhDs from the world's best institutes in their universities, in the field of politics and international studies. The examination of the quantity and quality of internationalization of faculties in each country are also carried out to understand the national characteristics in the internationalization of faculties. After examining them, this study finds that faculties in Hong Kong, Singapore and South Korea are highly internationalized in terms of both quantity and quality, though those in China and Japan are poorly internationalized in both senses. This study then concludes that internationalization of faculties in Japanese universities is less advanced than Hong Kong, Singapore and South Korea in terms of both nationalities and countries of PhD-granting institutes.

## Methodology

Regarding the quantity and quality of internationalization of faculties in each university, this study investigated the quantity and quality of internationalization of faculties of Chinese, Hong Kong's, Japanese, Singaporean and South Korean universities that got ranked in the top 100 Asian universities based on the QS Asian University Ranking 2011. The total number of them was 44: including 10 Chinese universities, 6 Hong Kong's universities, 16 Japanese universities, 3 Singaporean universities and 9 South Korean universities. Searching for the PhD-granting institutions of faculties, conducted from June to July in 2011, solely depended on the websites of the 44 universities. Then, the study excluded 17 universities because they did not have English pages, courses for politics and international studies, information on the PhD-granting institutions of faculties or even accessible web pages. This research consequently evaluated 27 universities. In order to measure the proportion of faculties with overseas PhDs in the top universities of these countries, the number of faculties who hold overseas PhDs was divided by the total number of PhD faculties, in each university.

While the measurement of the quantity of internationalization of faculties is simple and straight-forward, that of the quality of internationalization of faculties may be relatively complicated. In order to measure the quality, this research at

<sup>4</sup> <http://www.webometrics.info/en/node/54>

<sup>5</sup><http://www.topuniversities.com/university-rankings/university-subject-rankings/2013/engineering-civil-and-structural>

<sup>6</sup><http://www.topuniversities.com/university-rankings/university-subject-rankings/2013/communication-and-media-studies>

first allocated points (1-50) to the top 50 universities based on the QS World University Rankings by Subject 2011 Politics and International Studies<sup>7</sup>: Harvard, top in the rankings, was allocated 50 points, Oxford (2nd) was 49 points, Cambridge (3rd) was 48 points, London School of Economics (LSE) (4th) was 47 points, University of California, Berkeley (5th) was 46 points and so on. Then, a faculty can earn points where he/she holds a PhD from one of the top 50 universities in politics and international studies. 50 points are for instance given to a faculty with a PhD from Harvard. A faculty who does not possess a PhD from one of the world's top 50 universities scores zero. Then, by adding points achieved by all faculties in a university, the study obtained the total number of points in a university. Next, the total number of points was divided by the number of PhD faculties in a university and the average points per faculty were gained. The average points per faculty are used in this research to measure the quality of internationalization of faculties. However, it can be criticized that a university with the smaller number of faculties can be inadequately too much evaluated in this way: for instance, if a university has only one faculty but he/she holds a PhD from Harvard, then its average points per faculty become 50. As this does not seem appropriate, universities which have more than 10 PhD faculties, namely 18 of the 27 universities, are assessed.

Regarding the quantity and quality of internationalization of faculties in each country are concerned, this study similarly examined both the national proportion of faculties with PhDs from foreign countries (the total number of faculties with overseas PhDs from the assessed universities in a country divided by the total number of all PhD faculties in the assessed universities in the country) and the national average points per faculty in each country (the total number of points earned by all PhD faculties in the assessed universities in a country divided by the total number of all PhD faculties in the assessed universities in the country).

## Results

### *The proportion of faculties with foreign PhDs in each university*

Regarding the quantity of internationalization of faculties, the proportion of faculties with overseas PhDs in the Hong Kong's, Singaporean and South Korean universities is high. Indeed, the proportion among them ranges from 80% to 100%. Seoul National University (SNU) (South Korea, KR), the National University of Singapore (NUS) (Singapore, SG), and Hong Kong Baptist University (HKBU) (Hong Kong, HK) make all of their faculties overseas PhD holders. Further, almost 90% of Korea University (KR) (92%) and Hanyang University (KR) (90%) hold PhDs from other countries. Yonsei University (KR), Chinese University of Hong Kong (CUHK) (HK), and City University of Hong Kong (HK) have the same proportion of faculties with overseas PhDs (87%). Hong Kong University (HKU) (HK) and Sogang University (KR) are the bottom two universities among the Hong Kong's, Singaporean and South Korean universities, but the proportion of faculties with overseas PhDs in these two universities is not low as HKU and Sogang achieve 83% and 80% respectively.

In contrast, the proportion of faculties who hold overseas PhDs is low in China and Japan, ranging from 10% to 50%. In terms of the Japanese universities, the proportion of faculties with overseas PhDs in Waseda University is 50%, that in Doshisha University is 32%, that in Ritsumeikan University is 19% and that in Kyoto University is 10%. Regarding the Chinese universities, the proportion of faculties who hold PhDs from outside China in Tsinghua University is 50%, that in Peking University is 30%, that in Nankai University is 22% and that in Xi'an Jiaotong University is 17%. Thus, while the top ten universities are all Hong Kong's, Singaporean or South Korean institutes, the bottom eight universities are comprised by the Chinese and Japanese universities.

<sup>7</sup> <http://www.topuniversities.com/university-rankings/university-subject-rankings/2013/politics>

Table 1. The Proportion of Faculties with Overseas PhDs

Ranking	University	Country	Proportion
1	SNU	KR	100%
1	NUS	SG	100%
1	HKBU	HK	100%
4	Korea	KR	92%
5	Hanyang	KR	90%
6	Yonsei	KR	87%
6	CUHK	HK	87%
6	City U	HK	87%
9	HKU	HK	83%
10	Sogang	KR	80%
11	Waseda	JP	50%
11	Tsinghua	CN	50%
13	Doshisha	JP	32%
14	Peking	CN	30%
15	Nankai	CN	22%
16	Ritsumeikan	JP	19%
17	Xi'an Jiaotong	CN	17%
18	Kyoto	JP	10%

#### ***Average points per faculty in each university***

In terms of university's average points per faculty, SNU achieves the highest points (26.5). There are 14 PhD faculties with 29% of them from the world top 10 universities and 36% from the top 11-20. Korea then follows SNU with the average points of 24.91. The university has 12 PhD faculties, including 25% from the top 10, 33% from the top 11-20, and 17% from the top 41-50. Sogang obtains the third highest points of 24.9. Sogang has 10 PhD faculties: 50% from the top 10 and 10% from the top 31-40. NUS achieves the fourth highest points (23.64). The university has 14 PhD faculties, with 43% from the top 10, 7% from the top 11-20, 7% from the top 21-30 and 14% from the top 41-50. HKU is the fifth best with the average points of 20.94. HKU has 18 PhD faculties, and 33% of them hold PhDs from the top 10, 6% from the top 11-20, 17% from the top 21-30 and 6% from the top 41-50.

The sixth is CUHK with the average points of 17.6. There are 15 PhD faculties in the university with 7% from the top 10 and 40% from the top 11-20. Waseda achieves the seventh highest points of 16.79. Among its 24 PhD faculties, 17% of them hold PhDs from the top 10 and 25% from the top 11-20. Hanyang has the eighth highest points of 16.6. The university has 10 PhD faculties: 30% from the top 10 and 10% from the top 31-40. Yonsei comes ninth with the average points of 16.18. There are 16 PhD faculties: 19% from the top 10, 13% from the top 11-20, 13% from the top 31-40 and 19% from the top 41-50. City achieves the tenth highest points of 12.91. The university holds 48 PhD faculties with 19% from the top 10, 2% from the top 11-20, 6% from the top 21-30, 8% from the top 31-40, and 6% from the top 41-50. Thus, although the top ten universities are again mostly dominated by the Hong Kong's, Singaporean and South Korean universities, one Japanese university can be in the top nine universities in this measurement.

Regarding the bottom eight universities, there are three Japanese universities, four Chinese universities and one Hong Kong's university. The bottom universities are thus again dominated by Japanese and Chinese universities. However, compared with the ranking in the proportion of faculties with overseas PhDs, its results for the Japanese universities are relatively better: Ritsukeikan moves up from 16th to 15th, Kyoto from 18th to 12th as well as Waseda from equal 11th to 7th.

Table 2. Average Points per Faculty (APF) and PhD-granting Institutions' Ranking

Ranking	University	Country	APF	Top 1-10	Top 11-20	Top 21-30	Top 31-40	Top 41-50
1	SNU	KR	30.59	54%	14%	5%	0%	5%
2	Korea	KR	29.89	45%	26%	5%	5%	0%
3	Sogang	KR	24.91	35%	13%	13%	9%	0%
4	NUS	SG	22.29	39%	18%	7%	14%	0%
5	HKU	HK	21.69	31%	12%	8%	12%	0%
6	CUHK	HK	18.94	24%	9%	18%	0%	9%
7	Waseda	JP	18.8	26%	10%	10%	3%	3%
8	Hanyang	KR	18.2	19%	8%	21%	4%	4%
9	Yonsei	KR	17.39	30%	9%	0%	17%	4%
10	City U	HK	16.03	15%	15%	8%	12%	4%
11	HKBU	HK	12.78	11%	11%	0%	14%	11%
12	Kyoto	JP	12.34	9%	4%	26%	0%	0%
13	Doshisha	JP	11.66	4%	2%	2%	49%	4%
14	Peking	CN	7.7	4%	4%	4%	17%	13%
15	Ritsumeikan	JP	7.68	4%	2%	13%	9%	11%
16	Tsinghua	CN	7.64	13%	3%	3%	0%	0%
17	Xi'an Jiaotong	CN	7.34	4%	0%	23%	0%	0%
18	Nankai	CN	6.37	9%	0%	9%	3%	0%

### ***The national proportion of faculties with foreign PhDs***

As far as the national proportion of faculties who hold overseas PhDs is concerned, the proportion of the faculties who hold PhDs from foreign countries in the Hong Kong's, Singaporean and South Korean universities hold PhDs is 95% or above. Because the difference between Hong Kong, top in this measurement, and South Korea, the third, is only 2%, it can be fair to say that the faculties in these three countries are similarly highly internationalized by quantity. On the contrary, less than 50% of the faculties in China and Japan hold PhDs from outside their countries. Comparing China and Japan, the faculties in the Chinese universities are relatively better internationalized in terms of quantity (46%). Japan has the worst results as 63% of its faculties have domestic PhDs.

Table 3. The National Proportion of Faculties with Overseas PhDs, Average Points per Faculty (APF) and PhD-granting Institutions' Ranking

Country	Overseas PhD	APF	Top 1-10	Top 11-20	Top 21-30	Top 31-40	Top 41-50
HK	97%	20	21%	8%	11%	7%	6%
KR	96%	24.2	34%	16%	5%	11%	5%
SG	95%	23.2	28%	20%	9%	7%	1%
CN	46%	6.9	4%	3%	3%	16%	5%
JP	37%	9.7	9%	4%	16%	3%	1%

### ***The national average points per faculty***

South Korea, Hong Kong and Singapore again have high national average points per faculty. Compared with the national proportion of faculties with foreign PhDs, however, the difference between South Korea, and Singapore (Singapore), and Hong Kong (20) is bigger. South Korea has the highest national average points per faculty (24.2) with 34% of its faculties from the top 10, 16% from the top 11-20, 5% from the top 21-30, 11% from the top 31-40 and 5% from the top 41-50. Singapore comes second with the national average points of 23.2 with 28% from the top 10, 20% from the top 11-20, 9% from the top 21-30, and 7% from the top 41-50. Thus, South Korea and Singapore differ only by one point. Hong Kong achieves the third highest average points of 20 with 21% from top 10, 8% from the top 11-20, 11% from the top 21-30, 7% from the top 31-40 and 6% from the top 41-50. As in the national proportion of faculties with foreign PhDs, the results for both China and Japan are disappointing because there is a huge difference between the top three countries and the bottom two countries

Japan is the fourth with the national average points of 9.7 with 9% from the top 10, 4% from the top 11-20, 16%

from the top 21-30, 3% from the top 31-40 and 1% from the top 41-50. China has the lowest national average points per faculty (6.9) with 4% from the top 10, 3% from the top 11-20, 3% from the top 21-30, 16% from the top 31-40 and 5% from the top 41-50.

## Discussion

The previous section displayed the proportion of faculties with foreign PhDs and the average points per faculty in each university and each country. Then, this section discusses in detail the results in order to understand the quantity and quality of internationalization of the faculties in the top universities in China, Hong Kong, Japan, Singapore and South Korea.

### *The quantity and quality of internationalization of faculties in each university*

As far as the quantity of internationalization of faculties is concerned, SNU, NUS, HKBU, Korea and Hanyang are highly internationalized because the proportion of faculties with overseas PhDs in these universities is 90% or above. Further, all of the faculties in SNU, NUS and HKBU amazingly hold PhDs from outside their countries. On the contrary, the results for the Chinese and Japanese universities are less remarkable because the proportion of the faculties with domestic PhDs in them is 50% or above. Further, less than 20% of the faculties in Ritsumeikan, Xi'an Jiaotong and Kyoto hold overseas PhDs. Because there is a huge difference by 30% between Sogang with the lowest proportion among the universities of the top three countries and Waseda with the highest proportion among those of the bottom two countries, it can be fair to say that the quantity of internationalization of faculties substantially differs between the universities of the top three countries and those of the bottom two countries.

Concerning the quality of internationalization is concerned, according to the average points per faculty, SNU has the highest quality of internationalization of faculties and Korea follows close behind SNU. Their average points are 30.59 and 29.89: 54% of the PhD faculties in SNU and 45% in Korea hold PhDs from the top 10; 68% in SNU and 71% in Korea from the top 20; further, 78% in SNU and 82% in Korea from the top 50. Sogang, NUS and HKU are also substantially internationalized in term of quality, as all of them have more than twenty average points. Indeed, the holders of PhDs from the top 50 universities dominates the faculties in these universities: 35% of its faculties in Sogang, 39% in NUS and 31% in HKU possess PhDs from the top 10; 48% in Sogang, 57% in NUS and 43% in HKU are the holders of PhDs from the top 20; 70% in Sogang, 78% in NUS and 63% in HKU hold PhDs from the top 50. Compared with the proportion of the faculties with foreign PhDs, Sogang jumps up most remarkably from 10th to 3rd and HKU also improves its rankings from 9th to 5th in this measurement. In contrast, HKBU falls from 1st to 11th and it thus has the high quantity but relatively low quality of internationalization of the faculties.

Though the top universities in Hong Kong, Singapore and South Korea make great achievements, the top Chinese and Japanese universities have poor results in terms of the quality of the internationalization of faculties. Indeed, the bottom seven universities are all Chinese and Japanese. Waseda University, however, improves its rankings in this measurement beating two Hong Kong's universities and two South Korean universities (from equal 11th to 7th). Although Kyoto University most remarkably jumps up from 18th to 12th, it cannot still beat any universities of the top three countries.

There are some differences between the quantity of internationalization and the quality of internationalization of faculties, but they are indeed very similar. This fact can be statistically confirmed. In order to measure the strength of the association between two variables (the quantity of internationalization of faculties, X, and the quality of internationalization of faculties, Y), the Spearman's rank correlation coefficient can be used. This statistical technique can evaluate how well the relationship between two variables can be described by an arbitrary monotonic function, and it is unnecessary to make any assumptions about the frequency distribution of the variables. (Hauke & Kossowski, 2011).

The technique can be applied when the variables are not normally distributed and interval or the sample size is small. The Spearman rank correlation coefficient is calculated according to the following equitation when ties are involved:

$$r_s = \frac{T_x + T_y - \sum_{i=1}^n d_i^2}{2\sqrt{T_x T_y}} \quad (1)$$

where n is the number of data pairs and  $d_i$  is the difference between ranks for each  $x_i$  and  $y_i$  and

$$T_x = \frac{(n^3 - n) - \sum_{i=1}^{n_x} (t_i^3 - t_i)}{12} \quad (2)$$

and

$$T_y = \frac{(n^3 - n) - \sum_{j=1}^{n_y} (t_j^3 - t_j)}{12} \quad (3)$$

where  $n_x$  and  $n_y$  are the numbers of tied groups and  $t_i$  and  $t_j$  are the numbers of tied data in the  $i$ th and  $j$ th group.

After computing the Spearman's rank correlation coefficient based on the formula above, we can have:  $r_s = 0.72577$ . In order to test if the calculated value is significant at the 95% probability level, it is necessary to compare that value with the critical value: critical p ( $n=18$ ,  $\alpha=0.05$ )=0.474. As the calculated value exceeds the critical value, it can be concluded that there is a rank order relationship between the quantity and the quality of internationalization of faculties in universities. Further, considering the calculated value of 0.72577, we can expect that there is a strong relationship between them. Thus, it can be strongly expected that a university that is more highly internationalized by quantity tends to be better internationalized by quality in this case study.

### ***The quantity and quality of internationalization of faculties in each country***

In this section, the quantity and quality of internationalization of faculties in each country are examined. Following the conclusion above, it can be easily supposed that the faculties in Hong Kong, Singapore and South Korea are highly internationalized in both senses because all of the most internationalized universities above are all those of Hong Kong, Singapore and South Korea.

Regarding the quantity of internationalization, 97% of the faculties in the top universities in Hong Kong, 96% in South Korea and 95% in Singapore hold overseas PhDs. Nearly 95% of the faculties in these three countries thus possess PhDs from foreign countries. In contrast, 46% in China and 37% in Japan hold overseas PhDs, meaning that more than a half of the faculties in both countries hold domestic PhDs.

The quality of internationalization of the faculties in Hong Kong, Singapore and South Korea is also high. The faculties in Singapore and South Korea are especially high because the average points per faculty in both countries are respectively 24.2 and 23.2, while those in Hong Kong are 20. Further, 34% of the faculties in South Korea, 28% in Singapore and 21% in Hong Kong hold PhDs from the world's top 10 universities; 50% in South Korea, 48% in Singapore and 29% in Hong Kong from the top 20; and 71% in South Korea, 65% in Singapore and 53% in Hong Kong from the top 50. On the contrary, the quality of internationalization of the faculties in Japan and China is much lower than that of the top three countries, because the average points per faculty of Japan and China are respectively 9.7 and 6.9. Further, though more than a half of the faculties in Singapore, South Korea and Hong Kong hold PhDs from the top 50 universities, less than 35% in Japan and China are the holders of PhDs from the top 50 universities. The quantity and quality of internationalization of the faculties in Hong Kong, Singapore and South Korea are therefore quite remarkable, while those in Japan and China are not impressive.

### **Conclusions**

This paper examined the quantity and quality of internationalization of faculties in the top universities in China, Hong Kong, Japan, Singapore and South Korea by focusing on the PhD-granting institutions of the faculties rather than

the nationalities of them. Then, this study discovered that both the quantity and quality of internationalization of faculties in Hong Kong, Singapore and South Korea are remarkably high, though those in China and Japan are low. Thus, this study concludes that Chinese and Japanese universities fail to be internationalized in terms of not only nationalities but countries of PhD-granting institutions. Further, Chinese and Japanese universities are inferior to Hong Kong's, Singaporean and South Korean counterparts in the quality of internationalization of faculties.

China's results in this study can be understandable when the wealth of its citizens is taken into consideration. Though China's Gross Domestic Product (GDP) exceeds that of Japan, its GDP per capita (6,071.47, US\$) is much lower than that of Japan (46,706.72, US\$). It may be thus possible that internationalization of faculties in Chinese universities will be more advanced when China's economy grows more as it will enable Chinese students to hold PhDs from the world's best institutes and financially allows Chinese universities to employ faculties who possess PhDs from the global best universities, though it is possible that other problems rather than financial matters may hamper Chinese universities to internationalize their faculties (see Altbach, 2004).

On the other hand, it may be difficult to expect that faculties in Japanese universities will be more substantially internationalized in the near future because Japan has been already one of the richest countries in the world in terms of both GDP and GDP per capita. Thus, Japan's failure in internationalization of faculties may not be strongly related to its financial matters. It can be rather due to other aspects of the Japanese society such as employment customs, university education systems and the 'belief' which Japanese people tend to have that Japanese universities are superior to their counterparts in the rest of the world, even the top American and British institutes (Ince, 2012; Sagara, 2014; Schwalz, 2013).

Japanese universities can choose to refuse the internationalization of faculties because Japanese students in the top universities tend to consider internationalization of universities as unimportant (Ince, 2012). They can continue to exist in Japan only for Japanese students. In that case, Japanese universities need to give up triumphs in the global university rankings and surrender in the global competition for international students. They can also take a choice to internationalize their faculties to win in both competitions. Japanese universities now must make a difficult decision on whether they take the first choice or the second one.

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