A Relationship Study of University Graduates′ Employment Rate with Students′ Satisfaction and QS World University Rankings: What Does University Graduates′ Employment Rate Tell Us About the Quality of Korean Higher Education Institutions?

Han, Shin–Il

(Sungkyunkwan University, South Korea)

Abstract

The purpose of this study was to examine whether the University Graduates′ Employment Rate (UGER) can be used as an important key indicator regarding the quality of universities in Korea. Two major output factors of higher education—students′ satisfaction and university rankings—were examined in relation to the UGER. For this study, 16 Korean universities were selected, and comparative data were drawn from ″Higher Education in Korea″ of the Korean Council for University Education, the Korea Productivity Center, and the QS World University Rankings. Spearman′s rank order correlation was used for statistical analysis because all the subjects of this study were ranked. Results of the study revealed that the UGER was positively correlated with the QS World University Rankings,a negative UGERratings. Based on the results, lingering areas of inquiry were identified regarding ways to impprove quality in higher education institutions.

The University Graduates′ Employment Rate (UGER) has been a topic of concern since the Korean government began using it as one of the key indicators when allocating funds for universities. As evidence, ″The Program of Reinforcement of Educational Capacity in University,″ which has been one of the major government-initiated financing projects of Korean universities since 2008, has employed UGER as an important factor when selecting eligible universities. According to Kang (2012), UGER has accounted for 20% to 25% of the total eligibility scores for years. Since 2011, another important government-driven university financing initiative, ″Substandard Private University Designation,″ has also applied UGER as one of the primary indicators through which to identify nonviable private universities. Through this initiative, private universities designated as nonviable were limited in the amount of government subsidies they could receive. Severe sanctions were imposed on universities deemed nonviable, such as restriction of student loans or even complete shutdown of the designated institutions. At the beginning of the program, UGER accounted for 20% of the overall scores, but since 2013, it has been reduced to 15%, still one of most influential indicators (Kang, 2012).

The current emphasis on employment of university graduates is not confined to Korea. The issue of the employability of university graduates is a major policy concern in almost all countries, and as more university graduates face the prospect of unemployment, universities are expected to take measures that will enhance the employability of their graduates (Menon, Pashourtidou, Polycarpou, & Pashades, 2012). As such, UGER has become an essential

indicator of the viability of higher education institutions (Kang, 2012). A university′s graduates′ obtaining gainful employment or continuing their education is considered to be one of the most important outcomes (Wright & Head, 1990).

Nevertheless, Korea′s heavy reliance on the UGER is still a matter of concern to observers. The question most often asked is ″why is the UGER emphasized that much compared to other indicators?″ When examining QS World University Rankings, the question can be understood more easily. QS World University Rankings also includes UGER among its criteria for university evaluation. QS′s evaluation system asks employers to identify the universities they perceive as producing the best graduates, and the employer reputation indicator is completed based on the feedback from employers (QS top university, 2014). However, in calculating overall scores for the rankings, the employer reputation indicator composes only10% of the overall score.

As such, Korea′s excessively high emphasis on UGER when distributing financial support has resulted in ongoing complaints from Korean universities. In particular, the groups of universities designated as nonviable institutions have repeatedly appealed the government′s sanctions. They complain about the application of graduates′ employment rates, which does not take into account the unique conditions of each university. To make matters worse, by using UGER as one of the key indicators for university evaluation, more doubts and complaints have surrounded higher education societies, and questions have been raised regarding the basic mission and function of ″university″ (Hwang, Ryu, & Kim, 2013).

In response to those complaints and questions, the purpose of this study was to examine whether the UGER can be justified as such an important indicator of the quality of a university. In this study, qualities of universities were measured in terms of two output indicators of university: students′ satisfaction and university rankings (Wright & Head, 1990). Quality in a university environment is related to students′ satisfaction (Martinez & Toledo, 2013), and the QS World University Ranking is one measuring tool for identifying the quality of universities based on their own indicators (Ding, Jalbert, & Landry, 2007).

Students′ satisfaction with their university is here represented as an output indicator (Moosmayer & Siems, 2012). The meaning of students′ satisfaction with university is similar to the concept of school satisfaction, which Huebner, Ash, and Laughlin (2001) defined as a cognitive−affective evaluation of the overall satisfaction with one′s school experience (Wang, Chen, & Chen, 2012). On current university campuses, where marketing practice is playing a greater role than in the past, students are considered to be customers, and many universities have begun adopting a more commercial paradigm (Bedggood & Donovan, 2012; Lutz & Field, 1998; Sohail & Saeed, 2003). This means that universities see students as the most important factor in the institution′s survival, and ensuring students′ satisfaction with their university experience is given priority over other considerations by university administrators. For that reason, the indicator of students′ satisfaction has been selected as one of the most important factors representing university outputs. The degree of students′ satisfaction with the university will show the degree of robustness of the university. Finally, if it is found that there is positive relationship between students′ satisfaction and UGER, the UGER will be validated as a reliable indicator of university quality. Johnston (1991) mentioned that employment outcomes may be one of the important pathways to ensuring graduate satisfaction.

While students′ satisfaction rating was the primary output indicator for university insiders, the QS World Rankings of the universities in this study represented an *external* output indicator, that is, an indicator from voices outside of the university (Wang et al., 2012). Almost all universities worldwide regard university rankings as important because they profoundly influence any university′s reputation. It is well known that the higher a university is ranked, the

brighter are the students who apply for admission and the more highly qualified are the scholars who want to work at the university (Ding et al., 2007). Likewise, graduates from highly ranked universities can expect better employment at higher salaries (Abbot, 2009). Therefore, knowing the relationship between UGER and university rankings is important for understanding university qualities.

As a conclusion, the results of this study illuminate the relationship among three specific factors—UGER, students′ satisfaction, and university rankings—and have implications for the way the Korean government should approach higher education policy in the future.

Data and Methodology

The purpose of this study was to examine the relationship of UGER to students′ satisfaction with their university experience and university rankings. For this purpose, the universities sampled in this study needed to provide information regarding UGER, students′ satisfaction with their experience, and the institutions′ QS World Rankings. Sixteen Korean universities satisfied these requirements.

Data

For information regarding UGER, data from "Higher Education in Korea" of the Korean Council for University Education was used; for world university rankings, QS World University Rankings were used; and for customers′ satisfaction, the National Customer Satisfaction Index (NCSI) was used (see Table 1).

Table 1

Description of 16 Korean Universities Used in This Study
*Only university ranking ranges were reported instead of overall scores.

Universities	UGER	Overall Scores of NCSI	Overall Scores of QS World University Rankings
Seoul National University	94.5	74	84.1
Yonsei University	87.2	64	65.1
Korea University	92.6	67	60.5
Sungkyunkwan University	86.3	77	57.4
Hanyang University	78.4	71	45.3
Kyung Hee University	63.1	73	44.5
Ewha Womans University	69.6	64	35.6
Sogang University	83.8	73	32.7
Hankuk University of Foreign Studies	67.4	58	31.3
Pusan National University	66.6	61	30.2

Chung-Ang University*	61.7	69	501-550
Chonbuk National University*	62.5	70	551-600
Inha University*	75.0	68	551-600
Kyungpook National University*	61.7	68	551-600
Dongguk University*	69.2	72	601-650
Chonnam National University*	57.4	69	651-700

UGER data are released by "Higher Education in Korea," which provides annual reports of all of Korean universities by the Korean Council for University Education. The Korean Council for University Education is the representative association of Korean four-year universities, which emphasizes increasing autonomy and innovation, strengthening accountability, and improving education in universities (Korean Council for University Education, 2014). The annual reports are available to the public online, and they include enrollment rates, employment rates, procurement of full-time faculty, incoming student recruitment rates, publication in international journals by full-time faculty, and other relevant factors. The data of recent graduate employment rates for this study was calculated by the ratio of the number of recent college graduates who found employment to the number who did not. Here, employment means the status of "hired" or "registered in institutions for further studies." The higher the percentage of employment, the higher the rank of a university.

According to Eurico (2013), customer satisfaction indices were introduced in the 1990s for evaluating business performance in different industries, and higher education institutions might also benefit from adopting similar metrics in attempting to assess students' satisfaction. The NCSI of Korea is an index of customer satisfaction levels as reported by customers who have experience using applicable products and services that are produced both in and outside of Korea and that are sold to end users in Korea (NCSI, 2014). NCSI is published by the Korea Productivity Center, which annually announces the results of customers' satisfaction in various industries, including educational institutions. For calculating satisfaction scores of universities, a survey was conducted by NCSI of 278 undergraduate students of each university through one-on-one interviews, and the survey results were converted to index ranges from a minimum of 0 to a maximum of 100. The survey variables were composed of customer expectation level, perceived product quality level, perceived service quality level, level of perceived value, customer satisfaction, customer complaint, and customer loyalty. For this study, the 2013 index was used.

QS World University Rankings is annually released by Quacquarelli Symonds, which is one of the primary global on- and off-line education networks for all academic institutions and businesses. QS World University Rankings annually choose the top 800 universities out of over 3,000 universities around the world and compare those 800 institutions in terms of research, teaching, employability, and international outlook (QS top university, 2014). For these rankings, six factors are used: (a) academic reputation based on a global survey of academics (40%), (b) employer reputation based on a global survey of graduate employers (10%), (c) faculty/student ratio for proving commitment to teaching (20%), (d) citation per faculty for research impact (20%), (e) international student ratio reflecting the diversity of the student community (5%), and (f) international staff ratio measuring the diversity of the academic faculty (5%). The overall scores are ranged from the minimum of 0 to a maximum of 100. For this study, the 2013 QS World University Rankings report was used.

Methods

For the analysis of data, first, the sampled universities were ranked respectively by the three variables: UGER, overall NSCI scores, and overall scores of QS World University Rankings. In case any two universities achieving

identical rank, they were assigned a common rank that is the arithmetic mean of the two universities. For example, if two universities were both ranked third, a rank of 3.5 was given to both of the universities. Second, nonparametric correlations using Spearman′s rank order correlation were used for finding the relationship between rank-ordered variables. Spearman′s rank order correlation is known as one of the best statistical methods for rank-ordered data (Lee, 1988). In this study, Spearman′s rank order correlation was used instead of Pearson′s correlation because the indicator variables of this study were known to the public in a ranked way rather than in just a numerical way. Third, based on the analysis of regression, statistical implication was made.

Results and Discussion

Based on the numerical values of Table 1, 16 universities were ranked respectively by UGER, NCSI, and QS World University Rankings (Figure 1). As seen on Figure 1, almost 70% of the universities (11 of 16) have the same or similar rankings at the variables of UGER and overall scores of QS World University Rankings, whereas all but two universities (Seoul National University and Hanyang University) showed pronounced differences in ranks between UGER and overall scores of NSCI. It implies that UGER may be more favorably associated with QS World University Rankings, which is one external output indicator, rather than students′ satisfaction of the university shown in report of NCSI, which is an internal output indicator.
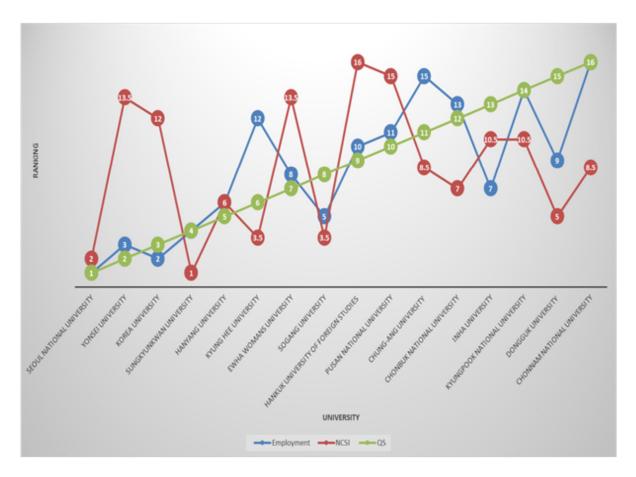

Figure 1. University rankings by University Graduates′ Employment Rate (UGER), overall scores of NSCI, and overall scores of QS World University Rankings

Spearman′s rank order correlations were conducted in order to see whether there was any relationship between indicators of UGER, overall scores of NSCI, and overall scores of QS World University Rankings. As seen at the Table 2, a significant positive relationship between the rank of UGER and the rank of QS World University Rankings was found ($p < .01$). This means that the graduates′ employment rate were strongly and positively connected to the output indicator of university rankings but not to the internal feedback, such as students′ satisfaction. As shown in Table 2, even though no statistical significance was revealed between university graduates′ employment rate and overall scores of NSCI, the relationship of those two indicators was negative. It reveals that the rank of UGER might be slightly in opposition to the rank of students′ satisfaction.

Table 2

Spearman′s Rank Order Correlation

**Correlation is significant at the .01 level (2-tailed).

	UGER	Overall Scores of NCSI	Overall Scores of QS World University Rankings
UGER	1.000	-.186	.794**
Overall Scores of NCSI		1.000	-.155
Overall Scores of QS World University Rankings			1.000

Conclusion

The purpose of this study was to examine whether the UGER can be justified as one of the important key indicators validating quality of university, considering that almost all financial supports and regulations of Korean universities have been tied to the UGER for the last 10 years. For this purpose, two major output factors of higher education—students′ satisfaction and university rankings—were examined. As revealed from the study results, UGER, which is heavily emphasized by the Korean government′s financing policy for higher education institutions, was strongly correlated with the QS World University Rankings in a positive way. On the other hand, it was found that there was a negative relationship between the UGER and students′ satisfaction with their university experience.

The result suggests that the strong drive for employment in the universities is more related to outcomes of QS World University Rankings than that of students′ satisfaction. QS World University Rankings is an *external* output, influenced and evaluated primarily by people to the public of the university, while students′ satisfaction is an *internal* output, influenced and evaluated by people inside of the university, that is, the student group. Encouragement of employment of university graduates seems to be more related to the external improvement of quality in higher education institutions than to the internal and substantial advancement of quality in university. The results of this study imply that the employment policy of universities may be intended to help students and raise students′ satisfaction, but the truth is their satisfaction is not a top priority.

When considering all the results and discussion, there is a need to ask the Korea government whether continuous use of the UGER indicator is really valuable for students, the core customer of university. Further, we need to ask whether the use of the indicator faithfully follows the ideals and goals of the university in a fundamental way.

References

Abbot, M. & Ali, E. (2009). The impact of exchange rate variations and university reputation on the choice of destinations of international students in Australia and New Zealand. *Journal of Economic and Social Policy*, 13, 1-18.

Bedggood, R. E. & Donovan, J. D. (2012). University performance evaluations: what are we really measuring? *Studies in Higher Education*, 37(7), 825-842.

Bonaccorsi, A., Daraio, C., & Lepori, B. (2007). Indicators for the analysis of higher education systems: Some methodological reflections. In Bonaccorsi, A. & Daraio, C. (Ed), *Universities and strategic knowledge creation: Specialization and performance in Europe* (405-432). Cheltenham, UK: Edward Elgar Publishing.

Brochado, A. (2009). Comparing alternative instruments to measure service quality in higher education. *Quality Assurance in Education*, 17(2), pp.174-190.

Ding, C., Jalbert, T., & Landry, S. P. (2007). The relationship between university rankings and outcomes measurement. *College Teaching Methods & Styles Journal*, 3(2), 1-10.

Eurico, S., Valle, P. O., & Silva, J. A. (2013). Satisfaction in tourism-related higher education: The graduates′ perspective. *International Journal of Academic Research*, 5(4), 35-49.

Huebner, E. S., Ash, C., & Laughlin, J. E. (2001). Life experiences, locus of control, and school satisfaction in adolescence. *Social Indicators Research*, 55, 167-183.

Hwang, G., Ryu, H. ,& Kim, M. (2013). Study for university graduates′ employment rates for coordinating specialization policy of university. *Employment and Job Competency Development Study*, 16(1), 41-59.

Johnston, R. (1991). Graduate evaluation of British higher education courses: An exploration. *Studies in Higher Education*, 16, 209-237.

Kang, H. (2012). *A study on Reliability of Government Funding Mechanism by Ranking Universities*. Unpublished master′s thesis, Sungkyunkwan University, Seoul, Korea.

Korean Council for University Education (2014, August). *Higher Education in Korea*. Retrieved August 25, 2014, from http://www.kcue.or.kr/

Lafuente, J., Martinez, A., Papacio-Massotti, C. & Pardinas, A. F. (2012). Satisfaction with higher education of Spanish graduates in the pro-Bologna era: a mirror of employment conditions? *Journal of Further and Higher Education*, 36(4), 519-534.

Lee, J. S. (1988). *A note on correlation theory: especially, spearman′s rank correlation coefficient*. Unpublished master′s thesis, Inha University, Inchon, Korea.

Lutz, F. W. & Field, R. W. (1998). Business valuing in academia: The American university as a center for profit or inquiry? *Higher Education*, 36, 383-419.

Martin, A. J., Milne-Home, J., Barrett, J., Spalding, E., & Jones, G. (2000). Graduate Satisfaction with University and Perceived Employment Preparation. *Journal of Education and Work*, 13(2), 199-213.

Martinez, T. L. & Toledo, L. D. (2013). What do graduates think? An analysis of intention to repeat the same studies and university. *Journal of Marketing for Higher Education*, 23(1), 62-89.

Menon, M. E., Pashourtidou N., Polycarpou, A., & Pashades, P. (2012). Students′ expectations about earnings and

employment and the experience of recent university graduates: Evidence from Cyprus. *International Journal of Educational Development*, 32, 805-813.

Moosmayer, D. C. & Siems, F. U. (2012). Values education and student satisfaction: German business students′ perceptions of universities′ value influences. *Journal of Marketing for Higher Education*, 22(2), 257-272.

National Customer Satisfaction Index. (2014, August). *Introduction to the NCSI*. Retrieved August 12, 2014 from http://www.ncsi.or.kr/ncsi/eng/ncsi.main_new.asp?siteid=1

QS top university. (2014, October). *Methodology*. Retrieved September 15, 2014 from http://www.topuniversities.com/university-rankings-articles/world-university-rankings/qs-world-university-rankings-methodology

Sohail, M. S. & Saeed, M. (2003). Private higher education in Malaysia: Students′ satisfaction levels and strategic implications. *Journal of Higher Education Policy Management*, 25(2), 173-181.

Wang, C. C., Chen, C. C., & Chen, C. F. (2012). Investigation on the influence of the brand image of higher educational institutions on satisfaction and customer lifetime value. *Educational Studies*, 38(5), 593-608.

Wright, B. & Head, P. W. (1990). Tribally controlled community colleges: A student outcomes Assessment of Associate Degree Recipients. *Community College Review*, 18(3), 28-33.