Best Practice of Benchmarking of World’s Top Universities: Lessons for Higher Educational Institutions of Uzbekistan

Shamshieva Nargiza Nosirkhodjaevna
Tashkent State University of Economics, Tashkent, Uzbekistan

Abstract: The significance of the higher education can be seen in terms of assisting the economy with skillful specialists who are considered to be the key force for the development of the country. Higher education is considered to be crucial in modern market-based economies. Particularly, the higher education enables the development and maintenance of the knowledge acquired by the youth. Higher education contributes to the development of the human capital, which can later act as crucial aspect of growth. This paper takes a broad perspective on the importance of higher education, precisely to the structure of Master’s degree programs, in many developed countries of the world including USA, UK and Germany. The paper uses the benchmarking method in order to analyze and apply practices of higher education systems in Uzbekistan. It is important to note that current state of higher education institutions in Uzbekistan reflects the practice of former Soviet Union institutions and needs to adopt strategies that are followed by world’s top universities. The main purpose of this paper is to critically examine the practices and evaluating the higher education system of these countries. The outcomes of the analysis are used to offer a framework for the development of higher education systems precisely in the context of masters programs, in Uzbekistan.

Keywords: Benchmarking, Master’s degree, Higher education system, Research capability

1. Introduction

Paying close attention to the world’s top ten university rankings, we can find that mainly the USA and the UK universities dominate the world rankings of the best universities. Generally, most of the similar rankings are formulated based on different characteristics including a number of international students, research and development capability, employment rate of graduates, the expertise of faculty, satisfaction of students, staff, etc. However, it is obvious that universities of the United Kingdom, the United States of America and European cities including Germany are considered to offer the best quality of master’s education in the world.

Universities are considered as main suppliers of the knowledgeable workforce for the labor market. Therefore, since the demand for getting higher education is increasing due to the tough competition in the labour market, the senior management of the higher education should also identify the main objectives of the universities (Leathwood et al, 2000; Francis, 2002; Sadlak, 1978). Nowadays, there is a great demand to build and diversify the popularity of so-called “world class” universities (Jackson, 2001). The increasing importance and expansion of world-class universities can be explained in terms of their contribution to economic and social growth of the economy. This is the main reason for many countries to join the global race to establish world-class universities. In this case, it is important to define what is world Class University (Nasrallah, 2014). World-class universities are reported to attract the attention of top academicians and students and offer them the excellent teaching and learning environment with the availability of necessary facilities. As it was mentioned above, universities are mainly ranked according to their teaching excellence and research publications in both national and international level (Kettunen, 2010).
Table 1: The Universities that are ranked among top 50 universities all over the world

| University                                      | Number of full-time students | Number of International students | The ratio of female to male students |
|-------------------------------------------------|------------------------------|----------------------------------|-------------------------------------|
| California Institute of Technology, United States| 2,181                        | 27%                              | 31 : 69                             |
| University of Oxford, United Kingdom             | 19,718                       | 35%                              | 46 : 54                             |
| Stanford University, United States               | 15,658                       | 22%                              | 42 : 58                             |
| University of Cambridge, United Kingdom          | 18,605                       | 35%                              | 45 : 55                             |
| Massachusetts Institute of Technology, United States| 11,192                      | 34%                              | 37 : 63                             |
| Harvard University, United States                | 19,890                       | 25%                              | n/a                                 |
| Princeton University, United States              | 7,925                        | 23%                              | 45 : 55                             |
| Imperial College London, United Kingdom          | 15,236                       | 52%                              | 37 : 63                             |
| LMU Munich, Germany                              | 36,180                       | 14%                              | 61 : 39                             |
| Heidelberg University, Germany                  | 29,527                       | 17%                              | 55 : 45                             |

Source: The Times Higher Education World University Rankings (2016)

Therefore, it is a common practice for a number of universities to compete by benchmarking different indicators of top universities. It is clear that rankings of the universities are considered as the main performance indicators of the university. The measurement of university performance is considered to be of critical importance in order to formulate the existing university rankings. Sharing good practices and learning from the best practices of foreign universities is known as benchmarking (Love et al. 1995). Benchmarking is regarded as the critical element of ongoing learning. Precisely, in the case of higher education, benchmarking involves looking for the practices of best universities that will assist them toward their goal of superior performance. Research conducted by Bates (2000) found that in the context of higher education several areas should be benchmarked in order to ensure superior performance of the universities. The results of the study show that “knowledge creation”, “operational excellence” and “stakeholder satisfaction” are considered as the main areas of improvement in the context of higher education institutions. In the context of knowledge creation, higher education institution is considered to focus on the improvement of the research capabilities of the universities (Amaral, 2009). Operational excellence is related to different factors such as curriculum development, new program development, student performance assessment. The administrative process includes performance of faculty member and usage of management information systems by the university (Jackson, 2001). The results of the university show that knowledge creation is considered as the critical performance indicator while operational excellence and stakeholder satisfaction were given less priority as the main performance indicator.

The government of Uzbekistan pays significant attention to the development of infrastructure of the higher education. The higher education in Uzbekistan consists of 4 years of study in Bachelor degree and 2 years of study in the master’s degree depending on the specialization of the program. However, the higher education of the students is considered to be completed once they obtain masters degree as well.

Therefore, the current paper aims to analyze the practices of Several branches of international universities have been established by the government in order to enable the youth to get foreign education in the home country which is more
convenient and affordable. However, in order to reach the level of world Class University, it is important to benchmark the practices of different developed countries education system precisely, in the context of master’s programs. The following sections will describe the higher education system of developed countries which are considered as a home for top-ranked universities in the world. This research has been carried out to learn lessons the performance indicators to find their application in the context of higher education institutions in Uzbekistan.

2. Literature Review on the Best Performing Higher Education Systems

2.1 German Higher Education System

Recently the number of international students studying for master’s degree in Germany has increased significantly. More than 12% of students studying for master’s in German universities are coming from abroad, and there are several reasons, which can be used to explain their choice of Germany as their top study destinations (Drechsler, 1991). These reasons include a diversity of study programs, tuition-free universities, top class degree recognised all over the world and affordable living expenses.

The higher education including masters program is offered in three types of institutions in Germany. They include:

- **Universitäten (Universities)** which include different types of specialized institutions and offer a wide range of academic specializations. According to German traditions, universities are mainly focused on conducting research and majority of the university programs are research oriented (El-Khawas, 1990).

- **Fachhochschulen (University of Applied Sciences)** mainly focus on technical disciplines, engineering, business, design and related areas. The main purpose of university of applied sciences includes the practical application of theoretical knowledge. Therefore, most of the course requirements require students to conduct fieldwork and interns in real companies which enables the students to maintain their acquired knowledge (El-Khawas, 1990).

- **Kunst- und Musikhochschulen (Universities of Art/Music)** provide artistic careers and fine arts careers. Precisely, the students will acquire knowledge and necessary experience in directing, production, writing in theatre and filmmaking. Moreover, they also provide knowledge in design areas, architecture, media and communication (El-Khawas, 1990).

Higher education systems in Germany are either state or state-recognized. Therefore, all the types of institutions are subject to German Higher Education system legislation.

According to De Rudder (1994), Master’s degree programmes offered in Germany usually last between 1 to 2 years. Master studies can be differentiated by the programmes and can be either “research-oriented” or “practice-oriented”. Students who are willing to finish masters successfully are required to submit the thesis. Masters programmes are offered in many disciplines including Master of Arts (M.A), Master of Science (M.S), Master of Engineering (M. Eng), Master of Laws (LLM), Master of Fine Arts (M.F.A), Master of Music (M.Mus), Master of Education (M, Edu).

The grading scheme of Master’s programs in German universities consist of five levels including "Sehr Gut" (1) = Very Good; "Gut" (2) = Good; "Befriedigend" (3) = Satisfactory; "Ausreichend" (4) = Sufficient; "Nichtausreichend" (5) = Non-Sufficient/Fail. The minimum passing grade for master’s is "Ausreichend" (4) (De Rudder, 1994).

2.2 Higher education system in the United States of America

The USA is known to offer excellent institutes, master’s programs and the US universities are ranked among the top programs all over the world. Moreover, students studying in the USA for master’s degree are exposed to a cultural diversity of different nationalities since most of the universities try to offer more places for international students in order to diversify their campus (McClure, 2007). Furthermore, the government provides support for international students in order to enhance international student’s learning experience in the USA. For example, US Government is adopting several laws in order to increase employment opportunities of the international student after their graduation (Weisskopf, 2001).

Moreover, flexible study programs and advanced academic environment are considered as main reasons which attract the attention of international students (Sims,1969).

According to Education USA (2016), there are five types of degrees which exist in America. They include two-year colleges (also known as community colleges) and a small number of four-year colleges which provide associate degrees for their graduates. The association degree is usually granted after finishing the study of 60 credits.

There are two main ways through which associate degrees can be useful. Firstly, students can continue their careers by being involved in vocational training or they will have a chance to study for bachelor’s degree. In the USA, bachelor’s
degree is considered as the most important type of degree which is necessary for students to get their dream jobs or to further pursue their master’s degree. There are three main type of graduate degrees exist in graduate level in the USA education system (Hobgood, 1964):

- The master’s degree is regarded as the most common type of graduate degree which is pursued in the United States. According to the recent studies provide by the US Bureau of higher education system, 75% of students are enrolled into master programs in different fields. The most common areas of specialization is considered as business and management, education, medicine and information systems. The masters programmes offered in the US may have either theoretical or practical focus. In order to get master’s degree, students may be required to pass either exam or to undertake a final thesis. The master's degree aims to prepare the students to advanced level of career and to doctoral level as well.
- Another type of most common type of degrees in the USA can be considered as the professional degree.
- The doctoral degree is regarded as the highest academic degree in the USA and it indicates that holders of doctoral level can conduct independent scientific research on their own. The Ph.D, or doctor of philosophy, is regarded as the most common type of doctoral degree which is awarded for students who successfully finished their doctoral degrees. Besides, Ph.D, doctor of education also known as (Ed.D) is also common in USA.

One of the unique sides offered for students in the USA is that students can choose and design their master’s program curriculum on their own. It indicates that students can choose the subjects that they want to study themselves based on their areas of interest. Since it gives the freedom for students to choose what they want to study, it also implies that students will feel greater responsibility regarding their own choices. In this regard, the university offers advisors, who can help and give the right advice to students while choosing specific subjects which they want to study (Hobgood, 1964).

The students studying in the U.S universities are given certain credits after completing the study of the master’s subjects. The number of credits offered for the students is directly related to the number of hours that course lasts. For instance, if one specific course lasts for one hour three times a week, it implies that after completing this course, students obtain 3 credits. If there are some additional lab works assigned to this course, the students will receive 4 credits after completing the course (Educationusagov, 2016). The grades achieved at the end of each course show how well the students performed during the whole course. The grades can range from A to F; A indicates the best grade while F represents that student has failed the course. At the end of the course, the grades received by students are combined together in order to compute GPA (Grade Point Average) (Educationuk.org, 2016).

### 2.3 Higher Education in the UK

In England, Wales and Northern Ireland, higher education is regarded as institutions which are independent, self-governing bodies which are responsible for their own teaching, research and scholarship. The higher education is Royal Charter, and most of these institutions established in these countries are partly funded by the government. Different types of institutions including universities and university colleges provide higher education. Besides that, a number of publicly designed and autonomous institutions also provide higher education. All of these institutions have decision power which students to admit and which staff member to appoint as it is in the case of universities. Moreover, all institutions are subject to follow the same regulatory quality assurance and funding (Educationuk.org, 2016).

Framework for Higher Education Qualification in England, Wales and Northern Ireland awards qualification at both undergraduate and graduate level. Undergraduate level studies are regarded as first cycle studies while postgraduate refers to the second cycle of studies. Since each institution has the right to teach their independently developed curriculum, the issue of quality and its assurance becomes the priority. Therefore, different quality assurance approaches and structures are applied in the context of UK higher education systems. The quality of institutions is ensured by the help of external examiners such as relevant professional, statutory and regulatory bodies. These bodies are responsible for conducting peer-reviewed audits and subject-based review based on the need (Educationuk.org, 2016).

The most common qualification for entry to higher education is the General Certificate of Education at ‘Advanced’ (A) level. Other appropriate NQF level 3 qualifications and the kite-marked Access to HE Diploma may also provide entry to HE. Level 3 qualifications in the CQFW, including the Welsh Baccalaureate, also provide entry, as do Scottish Highers, Advanced Highers or qualifications at the same levels of the Scottish Credit and Qualifications Framework.

Part-time and mature students may enter HE with these qualifications or alternatives with evidenced equivalent prior formal and/or experiential learning. Institutions will admit students whom they believe to have the potential to complete
their programmes successfully. It is important to note that for most of the industrialized countries of the world there is no clear distinction between education and training. (Perlman, 1988). Since there is a move from manufacturing base to production base in the service sector, the concept of training does not just involve communication or interpersonal skills, but also purely technical skills that are not acquired generally in workplaces but starting from educational institutions (Greenaway, 2003). Therefore, it can be stated that training programmes have become a significant part of higher education curriculum in the UK. The government of the UK has paid considerable attention to the development of education and training in the UK as it is considered as the main accelerator of productivity and growth of the economy (Mayhew et al., 2004).

3. Methodology

Benchmarking is considered to be crucial for Higher Education systems as a method of searching for best practices and methods in the higher education system of the other developed countries and to imitate them and learn them in order to apply them in the context of higher educations in Uzbekistan. For this reason, universities of developed countries including UK, German and USA and especially their respective masters’ degrees are analyzed and best practices of the analyzed universities are used to make possible recommendations to be applied in the local context.

4. Reforms and current state of higher education in Uzbekistan

The number of students studying in full-time mode has increased significantly in Uzbekistan. The number of Higher education institutions under affiliation of the Ministry of Higher Education expanded from 43 in 1989 to 78 in 2015, and the number of full-time students studying in institutes and universities increased from around 180 thousand to around 250 thousand during this time. Higher education system of Uzbekistan can be divided in different categories including generic universities, specialised universities, institutes and branches of foreign universities. According to Ruziev K (2015) Generic universities are considered as the largest university in terms of both students number and the number of study programmes offered. Most generic universities have been established on the basis of former regional training institutions. Specialized universities are more likely to offer study options in more focused areas and are likely to be in smaller size compared to generic universities. All regional branches are the universities and institutes which operate in different regions of Uzbekistan in accordance with their Tashkent-based headquarters. Academies are leading scientific-methodological institutions that have higher status than universities and institutes. They provide postgraduate and training courses for professional development. Foreign university branches are independent and conduct their own entrance examination. Moreover, they have complete freedom in terms of designing curriculum and teaching.

Table 2: Universities in Uzbekistan

| Category and number                        | Example                                                                 |
|--------------------------------------------|-------------------------------------------------------------------------|
| Generic 11                                 | the National University, the Samarkand State University, the Fergana State University, etc |
| Specialized 10                             | the Tashkent State University of Economics, the University of the World Economy and Diplomacy, the Tashkent State Technical University, etc |
| Academies 2                                | All regional branches of domestic HEIs belong to Tashkent-based HEIs and are established in regional capital cities |
| Regional branches of domestic universities 13 | Academy of Medicine, Academy of Finance and Banking                     |
| Branches of international universities 7   | The Russian Economics University (Russia), Westminster International University in Tashkent (London), Management Development Institute of Singapore (Singapore), The Turin Polytechnic University (Italy), Inha University (South Korea) |

Source: Ruziev, K., and Rustamov, D., (2015)

From the hierarchy, we can see that Cabinet of Ministers is regarded as the top governance body for Higher Education. All state standards, funding methods and number of students to be enrolled are determined by the senior management of
Cabinet of Ministers. The conduct of entrance exams and accreditations as well as ranking is governed by State Test Centre. Ministry of Higher Secondary and Specialized Education is responsible for supervising and providing methodological guidance for institutions.

![Diagram of Higher Education System in Uzbekistan](image)

**Figure 1:** Hierarchy of Higher Education system in Uzbekistan (Source: Ruziev and Rustamov (2015)).

### 4.1 Research

From the practice of the higher education systems in the developed countries we can see that research plays critical role in the development of university ranking and teaching excellence in the university (Cohen, 2007). For example, California Institute of Technology pays considerable attention for the development of the research environment and research capability within the university. This can be seen by the example of faculty profile of the academic staff members and the number of publication made by these professors in different academic disciplines ranging from English studies to Economics. Moreover, the development of the research capabilities within the university resulted in the increase of the innovations and entrepreneurship opportunities. According to the information provided in the official website of the university, National Science Foundation, National Institute of Health, NASA and other organizations make significant amount of investments due to the popularity and contribution of CALTech to the scientific research and innovations (Caltech.edu, 2016).

### 4.2 Student Mobility

Moreover, top universities of the world including Yale (USA), Manheim (Germany), Princeton University (USA), etc. have strong collaborations and partnerships with other developed countries in the context of student and academic staff mobility. This allows the university students and academic staff members to learn from the practices of their partner universities and apply them for the development of their own university (Drechsler, 1991). The possible benefits of the similar exchanges can be observed in terms of the strong collaboration among the faculty members of the universities, improvements in the development of the curriculum and collaborative research publications.
4.3 Practical training in higher education system
Based on the practices of the higher education system in Germany, most of the developing countries can benefit from the growing popularity of the masters programs in Fachhochschulen. Research conducted by Gellert (1996) studied the recent trends in German Higher Education. Expansion of Fachhochschulen can be the one of reasons for the rapid transformation of higher education in Germany. If we pay attention to the structure of Fachhochschulen, it can be described as a type of university which is mainly focused on practically-oriented training. This allows German and international students studying in Germany for masters to have a practical training and develop their practical skills being involved in hands on practical training which can be later used in their future careers. Moreover, the development and expansion of access to Fachhochschulen has also been welcomed by industry sectors and potential employers. Furthermore, expansion of Fachhochschulen resulted in a number of research studies that were required to be solved in industrial sector (El-Khawas, 1990).

5. Conclusion
Based on the above discussions, it can be stated that review of practices of top ranked foreign universities shows those different factors that contribute to the establishment of world-class universities in the Uzbekistan as well. These include student mobility, research, curriculum development, partnership with foreign universities. Although, introducing these practices to the case of higher education in Uzbekistan especially for masters programs can be difficult in the initial stage, some positive outcomes such as increased student satisfaction and experience, the increase in the number of publications of faculty members residing in higher education systems in Uzbekistan and partnership of Uzbek universities with other countries can enable the prosperity of Higher Education in future.

References
• Amaral, A., Maassen, P., Musselin, C., & Neave, G. (Eds.). (2009). European integration and the governance of higher education and research(pp. 281-299). Dordrecht: Springer, CrossRef
• Bates, A. W. (2000). Managing Technological Change: Strategies for College and University Leaders. The Jossey-Bass Higher and Adult Education Series. Jossey-Bass Publishers, 350 Sansome St., San Francisco, CA 94104.
• Broomfield, C. (1993). The Importance of Mature, Part-Time Students to Higher Education in the U.K. Higher Education, 25(2), 189-205, CrossRef
• Brunner, J. J., & Tillett, A. (2007). Higher Education in Central Asia; the challenges of modernization—an overview. Washington, DC: World Bank
• Caltech.edu (2016). Sponsored Research [online] Available from<https://www.caltech.edu/content/sponsored-research> [Accessed December 29, 2016]
• Clark, B. R. (1997). The modern integration of research activities with teaching and learning. Journal of higher education, 241-255, CrossRef
• Cohen, A. M. (2007). The shaping of American higher education: Emergence and growth of the contemporary system. John Wiley & Sons.
• De Rudder, H. (1994). The Quality Issue in German Higher Education Policy. European Journal of Education, 29(2), 201-219, CrossRef
• DRECHSLER, W. (1991). Reuniting German Higher Education and Research. World Affairs, 154(1), 5-8.
• Educationuk.org (2016). Higher education in UK. [online] Available from:<http://www.educationuk.org/global/sub/higher-education/> [Accessed December 29, 2016]
• EducationUSA.gov (2016) Higher education system in the USA. [online] Available from<https://educationusa.state.gov/foreign-institutions-and-governments/understanding-us-higher-education> [Accessed December 28, 2016]
• El-Khawas, E. (1990). Uniting German Higher Education: Issues Old and New. Change, 22(6), 39-45.
• Fowler, A., & Gilfillan, M. (2003). A framework for stakeholder integration in higher education information systems projects. Technology Analysis & Strategic Management, 15(4), 468-489, CrossRef
• Francis, G., & Holloway, J. (2002). Beyond Comparisons-The Role for the Operational Researcher in Benchmarking. The Journal of the Operational Research Society, 53(3), 283-291, CrossRef
• Garten, E. (1983). Lively and Lucid Discussions of Three Recurring Themes in U.S. Higher Education. The Phi Delta Kappan, 64(6), 442-442.
• Gellert, C. (1996). Recent Trends in German Higher Education. *European Journal of Education, 31*(3), 311-319.
• Greenaway, D., & Haynes, M. (2003). Funding Higher Education in the UK: The Role of Fees and Loans. *The Economic Journal, 113*(485), F150-F166, CrossRef
• Hobgood, B. (1964). Theatre in U.S. Higher Education: Emerging Patterns and Problems. *Educational Theatre Journal, 16*(2), 142-159
• Jan Sadlak. (1978). Efficiency in Higher Education: Concepts and Problems. Higher Education, 7(2), 213-220, CrossRef
• JuhàKettunen, (2010) "Cross - evaluation of degree programmes in higher education", Quality Assurance in Education, Vol. 18 Iss: 1, pp.34 – 46
• Lane, F. (1978). Government in Higher Education. Proceedings of the Academy of Political Science, 33(2), 136-145, CrossRef
• Leathwood, C., & Phillips, D. (2000). Developing Curriculum Evaluation Research in Higher Education: Process, Politics and Practicalities. Higher Education, 40(3), 313-330, CrossRef
• Love, P. G., & Love, A. G. (1995). Enhancing Student Learning: Intellectual, Social, and Emotional Integration. ASHE-ERIC Higher Education Report No. 4. ERIC Clearinghouse on Higher Education, One Dupont Circle, NW, Suite 630, Washington, DC 20036-1183.
• Maassen, P., & Musselin, C. (2009). European integration and the Europeanisation of higher education. In European integration and the governance of higher education and research (pp. 3-14). Springer Netherlands, CrossRef
• Mayhew, K., Deer, C., & Mehak Dua. (2004). The Move to Mass Higher Education in the UK: Many Questions and Some Answers. *Oxford Review of Education, 30*(1), 65-82, CrossRef
• McClure, C. (2007). *The Library Quarterly: Information, Community, Policy, 77*(1), 89-92.
• Ministry of Higher and Secondary Specialized Education of the Republic of Uzbekistan (2013), Statistical Collection: Main Activities of the Higher Education Institutions 2012-13. Tashkent: MHSSE.
• Muhammad Asif, (2015) "Determining improvement needs in higher education benchmarking", Benchmarking: An International Journal, Vol. 22 Iss: 1, pp.56 – 74, CrossRef
• New Journals. (2009). *Journal of Economic Literature, 47*(1), 295-297.
• Norman Jackson, (2001) "Benchmarking in UK HE: an overview", Quality Assurance in Education, Vol. 9 Iss: 4, pp.218 – 235, CrossRef
• Rendón, L. I., Jalomo, R. E., & Nora, A. (2000). Theoretical considerations in the study of minority student retention in higher education. Reworking the student departure puzzle, 1, 127-156.
• Rita Nasrallah, (2014) "Learning outcomes’ role in higher education teaching", Education, Business and Society: Contemporary Middle Eastern Issues, Vol. 7 Iss: 4, pp.257 – 276, CrossRef
• Ruziev, K., and Rustamov, D., (2015)Higher education in Uzbekistan: reforms and the changing landscape since independence.Economics Working Paper Series 1604
• Sims, A. (1969). International Education. *The Journal of Higher Education, 40*(3)
• Weisskopf, T. (2001). Consequences of Affirmative Action in US Higher Education: A Review of Recent Empirical Studies. *Economic and Political Weekly, 36*(51), 4719-4734
• Zenia Barnard , Derek Van der Merwe , (2016) "Innovative management for organizational sustainability in higher education", International Journal of Sustainability in Higher Education, Vol. 17 Iss: 2, pp.208 – 227, CrossRef