Benchmarking as a means to gauge and improve academic standards in higher education within the Arab Region

Lobna Ali Al-Khalifa

National Authority for Qualifications & Quality Assurance of Education & Training (QQA)

Directorate of Higher Education Reviews (DHR), Manama, Bahrain

Keywords

Benchmarking, Quality Assurance, Arab Region

Abstract

Benchmarking is becoming a central instrument for improving the performance of higher education institutions and different approaches to higher education benchmarking have been adopted in many parts of the world. "If taken seriously and deployed properly, benchmarking can help colleges and universities position themselves for the new competitive environment" (Epper, 1999, p. 26). This paper outlines the recent changes in the higher education systems within the Arab region, triggered by the increased demands for accountability. This led to the introduction of new policies designed to make higher education institutions more accountable to the different stakeholders. There is also a strong emphasis on benchmarking as a tool to improving the performance of higher education institutions in the Arab region. Nonetheless, benchmarking is a new concept for most higher education institutions in this region, which can learn from the experience of other nations by examining the different tools used in benchmarking. The paper examines the different interpretations of benchmarking, referring to some applications in higher education. These applications have some common features, whichinclude deciding on the scope of the study; identifying best practice organizations; deciding on and capturing best practices; reporting and disseminating features that can be transferred. Based on the review of different definitions and applications, this paper concludes that benchmarking is a continuous systemic process of learning, comparing and implementing best practices to improve performance.

1. Introduction

Benchmarking is becoming a central instrument for improving the performance of higher education institutions. According to Epper (1999) "if taken seriously and deployed properly, benchmarking can help colleges and universities position themselves for the new competitive environment that is at once mature and filled with potentials" (p. 26). Bender (2002) also argues that "benchmarking can be enormously useful to influence and shape institutional decisions. Through analyzing the best practices of peer institutions, then adapting and developing programs for their own campuses, higher education leaders can improve the quality of programs and services that they provide" (p. 118).

Different approaches to higher education benchmarking have been adopted in many parts of the world in order to address governmental and public concerns for standards and cost-effectiveness activities in higher education. Since the 1980s, the United Kingdom has undertaken substantial performance measurement and benchmarking activities. The US higher education used benchmarking as a means to foster new networks of communication between institutions in order to provide a structure for external evaluation and to overcome resistances to change in the early 1990s (Alstete, 1995). The benchmarking of disciplinary learning outcomes is an integral part of the Bologna Process which aims to create comparable and compatible quality assurance and academic degree standards across Europe (Adelman, 2009). The Bologna Declaration was signed in 1999 by twenty-nine European countries as a response to new

challenges in higher education and aimed to enhance the international competitiveness of European higher education institutions (Nazarko, Kuzmicz, Szubzda-Prutis and Urban, 2009).

In the Arab region, higher education institutions have recently witnessed increasing regulation and accountability regarding academic standards. Benchmarking is a new concept for most higher education institutions in this region that can learn from the experience of other nations by examining the different tools used in benchmarking. This paper is divided into three parts. The first part highlights the recent changes in the higher education systems within the Arab region and the emphasis on benchmarking as a tool to gauge and improve academic standards. The second and the third parts look into the different interpretations of benchmarking, highlighting some applications in higher education.

2. Benchmarking and quality assurance in higher education within the Arab region.

The increased demands for accountability in higher education led to the introduction of new policies designed to make higher education institutions accountable to some higher authority. The United Nations Educational Scientific and Cultural Organization (UNESCO) held conferences and offered training to encourage the establishment of quality assurance frameworks and agencies in the Arab region (UNESCO, 2004). In 2007 only five of the twenty two Arab speaking countries have semi-autonomous bodies for quality assurance: Egypt, Jordan, Palestine, Saudi Arabia, and United Arab Emirates. By 2013, there were 11 quality assurance authorities and 5 quality assurance entities associate members of the Arab Network for Quality Assurance in Higher Education (ANQAHE)from 16 Arabic speaking countries (Badrawi, 2013). Like other similar international networks, ANQAHE seeks to facilitate the exchange of best practices through benchmarking in the Arab region to identify opportunities for improvement and to accomplish change. It works in association with the International Network of Quality Assurance Agencies and the Association of Arab Universities.

This emphasis on benchmarking, which involves systematically making comparisons between and among institutions, has become an accepted accountability measure by Arab countries in the Gulf region in particular. One of the standards of the Commission for Academic Accreditation the United Arab Emirates states that:

The institution demonstrates its commitment to continuous quality assurance and enhancement by systematically evaluating the effectiveness of all aspects of its operations and academic programs. The institution evaluates its academic programs and courses and its academic, student, and administrative services on the basis of evidence, and by benchmarking its performance against the best practices of other local and international institutions. The institution uses the results of its evaluations in planning, budgeting, establishing its priorities, and improving its academic programs and services. (Commission for Academic Accreditation, 2011, p.8)

The Commission for Academic accreditation was established in 1999 as the government-run institutional licensure and degree accreditation organization for private universities and their academic programmes. Similarly, the Saudi National Commission for Academic Accreditation & Assessment (NCAAA) was established by the Higher Council of Education in Saudi Arabia in 2004 with responsibility to create standards and accredit institutions and programs in post-secondary education. One of its standards states that:

Teaching and other staff involved in the program must regularly evaluate their own performance and be committed to improving both their own performance and the quality of the program as a whole. Regular evaluations of quality must be undertaken within each course based on valid evidence and appropriate benchmarks, and plans for improvement made and implemented. Quality must be

assessed by reference to evidence and include consideration of specific performance indicators and challenging external benchmarks. Central importance must be attached to student learning outcomes with each course contributing to the achievement of overall program objectives. ((National Commission for Academic Accreditation & Assessment, 2013, p. 13)

One of the main aims of Bahrain's Directorate of Higher Education Reviews (DHR) is to ensure that the academic standards of each university programme/degree and its component parts are set and maintained at the appropriate level and that student performance is judged against these standards. To achieve this goal, higher education institutions in Bahrain are expected to use internal and external reference points (benchmarking) to ensure that their academic standards are equivalent to other similar programmes at the regional and the international levels(Directorate of Higher Education Review, 2014, p.10). DHR is one unit of Bahrain National Authority for Qualifications and Quality Assurance of Education & Training (QQA) which was established in 2008 by Royal Decree as an independent national authority attached to the Cabinet of Ministers, to ensure that the quality of education and training in Bahrain meets international standards and good practice

The Gulf region in particular benefited from the British Council programme entitled "Excellence in Higher Education" which aimed to support the development of quality assurance and management systems in this region. This programme drew on the UK experience in providing in depth training in the tools of quality management (Morgan, 2009). The UK Quality Assurance Agency for Higher Education (QAA) was also involved in the United Nations Development Programme which was launched in January 2002 to access the performance of Arab universities through detailed internal and external reviews of computer science programmes (2002-2003), business administration programmes (2003-2004) and education programmes (2006) in a group of Arab universities (UNDP/RBAS: 2005).

However, El Maghraby (2011) identifies two major threats and obstacles to implementing QA systems in the Arab region. First, quality assurance bodies are newly established and the government has a strong structural, financial and methodological influence over them, which pose a threat to their independence. Another threat to the implementation of the QA system in the Arab region is the lack of professional quality assurance expertise within the regionand the fact that some important concepts such as total quality management, key performance indicators and benchmarking are not fully understood in many higher education institutions, which raise concerns of haphazard implementation.

3. Definitions and types of benchmarking

Benchmarking is often describedas a systematic and continuous process (Camp (1994), Zairi (1994), Cook (1995) and Murphy (1995)). It aims to identify, measure, compare, adopt and implement best practices. Epper (1999), for example, describes benchmarking as "a systematic way of learning from others and changing what you do" (p. 26). According to her, benchmarking starts with a self-examination and understanding of the different functions and internal procedures of an institution in order to be able to look for the best practices in other institutions and finally, adapting them to improve performance as shown in Figure (1). Nazarko et al (2009) identify learning as the most indispensable and important pillar of benchmarking which they define as a continuum process that encompass both the identification of best practices and their adaptation. They also stress the importance of the creative adaptation of the best practices without copying and the continuity of the process.

Figure 1: Benchmarking Process



Developed by the author based on Epper (1999)

More recently, Levy and Ronco(2012) definebenchmarking as "a collection of approaches and techniques that can be conceptualized as a classification scheme or a continuum of self-evaluation activities" (p.8). They also distinguish between two types of benchmarking: internal benchmarking and external benchmarking. The former is internally focused and can be carried out by the institution only if there were similar operations, functions, or activities that are performed within the same institution. It is applicable in big institutions with complex organizational structures, since there is a possibility to compare different departments with each other. External benchmarking seeks best practices outside the institution. Levy and Ronco (2012) also distinguish between generic benchmarking, competitive benchmarking and functional benchmarking. In generic benchmarking, the institution seeks new and innovative practices across multiple industries. In competitive benchmarking, the institution compares its products, services, and process with those of direct competitors; in comparison, functional benchmarking inspects similar roles in institutions that are not direct competitors.

Taking into consideration the subject of benchmarking, Nazarko et al (2009) distinguish between following types of benchmarking: product, process, strategic and organizational. Product benchmarking involves comparing different products, while process benchmarking compares the procedures and processes of different institutions. Strategic benchmarking on the one hand is used to compare actions taken at a strategic level to maintain the competitive edge of an institution. Organizational benchmarking on the other hand is most commonly used in restructuring processes in the developing phase of an institution. Nazarkoand et al (1999) also distinguish between direct and indirect aims of benchmarking. The former includes: identification of better processes, comparisons with others, identification of strengths and weaknesses with reference to the ideal model, learning from others and the improvement of practices. Indirect aims of benchmarking comprise the development of management skills, overcoming reluctance to ideas from outside the institution, an increase in stakeholders' satisfaction and gaining the advantage over competitors.

In higher education, most benchmarking can be characterized "as metric or performance benchmarking, which compares selected indicators or metrics among similar institutions to evaluate relative performances" (Levy and Ronco, 2012, p.9). This type, as the two authors pointed out, is restricted to those characteristics that can be quantified and is limited to

superficial manifestations of business practices. Few higher education institutions use process benchmarking which involves a comprehensive comparison of specific business practices with the intention of identifying those aspects of best practice that can lead to improved performance. Although this type of benchmarking is often time consuming and expensive, these institutions have capitalized fully on its potential as Bender (2002) pointed out. Diagnostic benchmarking have also found its way into higher education via the continuous improvement processes expected by different accreditation bodies. This type of benchmarking serves a continuous checklist where practices and performance that need to be changed are identified and in order to devise improvement plans.

Finally, several authors distinguish between formal and informal benchmarking. Formal benchmarking often refers to collaborative benchmarking projects carried out by higher education institutes. Benchmarking can also be carried out without the participation of other institutions, for example through the using online benchmarking tools offered by companies specialized in benchmarking. On-line databases/websites, and publications that share benchmarking information provide quick and easy ways to learn of best practices and benchmarks. Informal benchmarking can also take place through networking with other people at conferences or associations of rectors, chancellors and finance officers of higher education institutes. These meetings provide a framework for collaboration and discussions. Examples of these conferences and associations are the Conference of Rectors of Academic Schools in Poland (CRASP), and the National Association of Colleges and University Business Officers (NACUBO) in the USA. Internet forums also provide quick and easy ways to learn about best practices.

Mann and Kohl (2010) defines informal benchmarking as "an unstructured approach to learn from the experience of other organizations; therefore not following a defined process" (p.22). Samuel et al (2014) argue that while informal benchmarking is one of the most common business improvement tools used in many organizations, it is not as effective as it is popular. This is due to its perception as short-term project while formal benchmarking is often carried out as longer drawn out and fuller project.

4. Benchmarking initiatives

The following section identifies some benchmarking initiatives that have been carried out in different regions. Deciding on the scope of the study, identifying best practice organizations, deciding on and capturing best practices, reporting and disseminating features that can be transferred—these are some of common features in the following benchmarking initiatives. Most benchmarking projects have benefited from examining different benchmarking tools and initiatives.

4. 1. Consortium benchmarking in the USA

This initiative was undertaken in 1996 by the Houston-based American Productivity & Quality Center (APQC), which cooperated with the State Higher Education Executive Offices (SHEEO), the National Center for Higher Education Management Systems and others to facilitate higher education benchmarking studies (Epper, 1999). APQCconsortium method involved groups of institutions (the sponsors) that were willing to work together to identify best practices. These groups varied from 10 to 50 higher education institutions that usually included large and small public and private institutions as well as few corporate participants. All group members were directly involved in shaping and carrying out the study that they agreed to sponsor. With the help of APQC facilitators, the members of each group started the benchmarking process by setting the scope and defining the boundaries of the study. Once the topics for benchmarking are selected and narrowed to concrete areas that can be handled by the

sponsors of the study, the consortium generated a set of criteria for identifying best practice organizations. This was followed by a screening survey that was sent to nominated and secondary searched institutions based on the selected criteria.

The final selection process was characterize as being democratic and transparent with each member voting for one of the respondent institution based on the results of the survey collected data. After the voting, benchmarking participants visited the selected best practice institutions and conducted structured interviews. Questions are usually prepared in advance and sent to the visited institutions to guide the discussion, save time and enhance the meeting process. At the end of the study, participants prepared a final report to show case the lessons learned from the site visit, identifying best practices their institutions' stakeholders to start thinking about how to make use of the information.

4. 2. Benchmarking eLearning in the UK

A prominent example of a nationwide benchmarking initiative is the project that was carried out by the Higher Education Academy in corporation with the Joint Information Systems Committee to build eLearning capacity and embed good practice into mainstream provision. It began in November 2005, and by July 2008, seventy-seven higher education institutions had taken part. The scope of the project expanded to embraced issues of quality enhancement and continuous improvement in learning, teaching and assessment areas. The project provided a framework for participants to discuss and reflect on eLearning processes, provision and practices. The Higher Education Academy employed five methodologies for benchmarking eLearning that were developed by prominent scholars and higher education institutes such as the Massachusetts Institute of Technology.

The project succeeded in embedding institutionally the concept of a continuous cycle of reviews and improvement and in building communications between institutions as well as at the intra-institutional by forging relations between previously different departments. It also achieved significant progress in raising senior management awareness of eLearning and the changing nature of the learning and teaching process (Nazarko et al, 2009).

4. 3. Benchmarking Standards for Sessional Teaching in Australia

The Australian project entitled Benchmarking Leadership and Advancement of Standards for Sessional Teaching (BLASST) aimed to establish national standards to enhance the quality of sessional teaching, sustain good sessional teaching practices and support sessional staff (Luzia et al, 2013). The project used a draft sessional-staff standards framework that was developed and piloted at one University and was further piloted at three project-partner Universities. This was achieved through four and a half hour workshops that asked participants to benchmark the policies and practices of their institution against the sessional staff standards at four levels: institutional, faculty, department and individual. In each workshop, participants represented a wide range of roles across all four levels including sessional academics, course coordinators, administrative staff, and members of the university executive.

In some cases, pre-workshop surveys were conducted in order to raise participants' awareness of the broad issues around sessional staff in higher education and to help them to determine the extent to which policies and practices within their own institution aligned with the BLASST framework's key principles. Each university's benchmarking workshop was jointly organized by members of the project team and incorporated an introduction to benchmarking using the Sessional Staff Standard Framework, a think aloud exercise and group workshops. At the end of each workshop, participants developed an action plan and time frames. They also provided written feedback of the BLASST framework as they worked through it and additional

feedback on the framework and the workshop in an online post-workshop survey. Luzia et al (2013) discusses the outcomes from these workshops as case studies to illustrate some of the potential uses for benchmarking with the BLASST framework. They argue the intrinsic and ongoing reference to standards benefit the institution and its partners. They also add that the BLASST framework may be undertaken as a strategy that enable sector benchmarking with partner institutions and internal benchmarking by assessing the current standards of practice within one institution.

4. 4. The European benchmarking platform

Benchmarking platforms may provide suggestions and guidelines useful for newcomers to the scene of higher education benchmarking. The European Centre for Strategic Management of Universities (ESMU) carried out this initiative to support European higher education institutions and policy makers to archive the goals of the Bologna Process. ESMU in cooperation with the Centre for Higher Education Development (CHE), the UNESCO European Centre for Higher Education and the University of Aveiro aimed to create a European platform for benchmarking in higher education as a major instrument for collaborative learning to increase institutional performance and to promote the attractiveness of European higher education institutions. In the first phase, eighteen existing co-operative benchmarking initiatives from different countries in Europe, Australia, Canada and the USA were scrutinized for a better understanding of the principles and the mechanisms of benchmarking in higher education. To avoid assumptions based on pure desk research, questionnaires and structured interviews were used to obtain a deeper knowledge of each initiative as well as the downsides, the advantages and the challenges inherent to each. The results of these studies were incorporated into the second phase which includes the establishment of four benchmarking groups of ten higher education institutes. Benchmarking groups were focused on key EU priorities: governance, university-enterprise cooperation, curriculum reforms and lifelong learning.

4. 5. Benchmarking surveys

Surveys can be used to collect comparable data, seeking quality improvement. This approach was used by the American Assembly of Collegiate of Schools of Business (AACSB) in cooperation with a private firm called Educational Benchmarking in 1996. Surveys were sent to 101 MBA programmes to collect data about admission, student profile, staff recruitment, budgeting and many other concerns. Results of the surveys were detailed and clearly presented to the participating higher education institutions. Participants were able to identify the similarities and differences among them. They did not know which of various scores or measures came from which participant. Payne and Whitfield (1999) argue that this approach is more effective and less expensive in smaller partnership that is limited to few comparable higher education institutions dealing with specific common concerns. Seybert, Weed and Bers (2012) also note that there is a large range of surveys sampling student and faculty perceptions of a variety of items within US higher education such as National Survey of Student Engagement (NSSE) that provide benchmarking opportunities.

The American experience is different from the UK and most parts of the world that have recently introduce new reforms in their higher education system. In the American system, the institution overall evaluation is carried out by regional accreditation boards that were established by universities and colleges since 1914. Discipline-specific accreditation is carried out by professional organizations like the AACSB. These organizations joined the QA process since the early twentieth century in the USA.

4. 6. University Governance Screening Card

Notwithstanding the strong emphasis on benchmarking as a means for accountability and quality enhancement in the Arab region, the only major benchmarking project at the regional level was conducted in 2011. Several higher education ministers and policymakers expressed their interests in benchmarking university governance at a seminar held at the Center for Mediterranean Integration (CMI) in Marseille in 2009. This was in recognition of the role of university governance in improving the quality of education. The World Bank Regional Program on Higher Education based in the CMI initiated the process of developing a University Governance Screening Card to assess the extent to which universities in the Arab region are following governance practices that are aligned with their missions, goals and international trends and to monitor their progress overtime.

The Screening Card incorporated lessons learned from other benchmarking tools, such as the Australian Universities Benchmarking tools, the European University Autonomy Score Card, the U.K. Good Practice Code developed by the Committee of University Chairmen (CUC), and the Governance Guidelines reviewed by OECD. The Screening Card included five dimensions of governance: (1) Overall Context, Mission, and Goals; (2) Management Orientation; (3) Autonomy; (4) Accountability; and (5) Participation. For each dimension, several indicators were identified, and a detailed questionnaire was developed from which governance indicators could be scored on a scale of 1 to 5 to determine how closely the institution behaved relative to the global trend represented by the dimension. The Screening Card was tested in 41 universities in four countries as a first step toward developing a more comprehensive tool for monitoring university performance. The project helped to identify strengths, weaknesses, and areas of reform at the institution, country, and regional level (Jaramillo et al., (2012).

This initiative mainly aimed to introduce a benchmarking culture in the Arab region where the lack of national statistics constitutes one of the main obstacles to benchmarking at the regional level. It helped to identify different governance trends and differences between public and private universities governance models. While some countries followed a more centralized Francophone government controlled model, others have more autonomous Anglophone government-steered model. The absence of a national strategy and a clear definition of the purpose of the higher education system was observed in most countries, where policies are seldom guided by an assessment of needs and stakeholders' feedbacks. This led to the establishment of different higher institutions with similar missions that do not serve different needs.

5. Conclusion

Benchmarking requires a significant investment of time, money and effort to be done correctly. With increasing regulation and accountability regarding academic standards in the Arab region, benchmarking and its many related activities and strategies will become more central and commonplace in the higher education systems within this region. Yet there is a risk of haphazard implementation due to the lack of professional quality assurance expertise within the region and the fact that the concept of benchmarking is not fully understood. A review of the different definitions and applications in higher education reveal that benchmarking can be instrumental in improving academic practices.

The paper identifies several common features in the reviewed benchmarking initiatives that include defining of the scope of the study, identifying best practice organizations, deciding on and capturing best practices, and reporting and disseminating features that can be transferred. There is also a general agreement that benchmarking is systematic continuous learning process that can be built on different applications and experiences. It is also worth to

note that benchmarking projects often draw on lessons learned from the different benchmarking tools and initiatives. Newcomers to the scene of higher education benchmarking and policy makers in the Arab region can benefit from initiatives like the European benchmarking platforms that can provide them with suggestions and guidelines. Surveys can also be used to collect comparable data that provide benchmarking opportunities at the regional level and to compensate for the lack of statistics and information.

References

- Adelman, C. (2009). The Bologna Process for U.S. Eyes: Re-learning Higher Education in the Age of Convergence. Washington, D.C.: Institute for Higher Education Policy
- Alstete, J. W. (1995). Benchmarking in Higher Education: Adapting Best Practices to Improve Quality. ASHE-ERIC Higher Education Report, 5, George Washington University
- Badrawi, N. (2013). Higher Education Leadership Forum: Clicks-Dubai. http://www.clicks.com/pdf/Nadia_Badrawi.pdf
- Bender, B. E. (2002). Benchmarking as an Administrative Tool for Institutional Leaders. In B. E. Bender and J. H. Schuh (eds.), Using Benchmarking to Inform Practice in Higher Education. San Francisco: Jossey-Bass, 113-120
- Camp, R.C. (1994). Benchmarking: The Search for the Best Practices That Lead to Superior Performance. Milwaukee: ASQC Quality Press
- Cook, S. (1995). Practical Benchmarking. London: Kogan Page
- Commission for Academic Accreditation (2011). The Standards for Licensure and Accreditation. United Arab Emitates: Commission for Academic Accreditation. Retrieved March 15, 2015, from https://www.caa.ae/caa/images/Standards2011.pdf
- Directorate of Higher Education Review (2014). Programmes within- College Reviews Handbook. Bahrain: National Authority for Qualifications & Quality Assurance3 of Education & Training. Retrieved March 30, 2015, from:
- http://www.qqa.edu.bh/En/Publications/DocLib/DHR%20(%20PCR%20)%20Handbook%20(%20English)%2025.March.2015%20(%20Print).pdf
- El-Meghraby, H. (2011). Quality Assurance in the Newly Established Universities in Saudi Arabia. www.anqahe.org/files/abu_dhabi_2011
- Epper, R. (1999). Benchmarking to Higher Education: Some Lesson from Experience. Change. November/ December, 24-31
- Jaramillo, A., Moreno, J. M., Demenet, A., Zaafrane, H., Monet, O., Trenner, S., Taha, T., Barry, J., Kwak, A. and Marchionne, S.(2012). Universities through the Looking Glass: Benchmarking University Governance to Enable Higher Education Modernization in MENA. World Bank Publications, the World Bank number 12535
- Levy G. and Ronco S. (2012). How Benchmarking and Higher Education Came Together. New Directions for Institutional Research. Published online in Wiley Online Library, DOI: 10.1002/ir.20026
- Luzia, K., Harvey, M. Parker, M. McCormack, C. and Brown, N. R. (2013). Benchmarking with the BLASST Sessional Staff Standards Framework. Journal of University Teaching & Learning Practice, 10 (3), 1-15
- Mann, R. S. and Kohl, H. (2010).GBN Survey Results: Business Improvement and Benchmarking, Global Benchmarking Network. www.globalbenchmarking.org.
- Morgan, B. (2009). Introduction. Quality in Higher Education, 15, 1, 2-3
- Murphy, P.S. (1995). Benchmarking Academic Research Output in Australia. Assessment & Evaluation in Higher Education, 20, 45-57

- National Commission for Academic Accreditation & Assessment (2013). Standards for Quality Assurance and Accreditation of Higher Education Institutions. Saudi Arabia: National Commission for Academic Accreditation & Assessment. Retrieved March 15, 2015, frommu.edu.sa/sites/default/files/NCAAA_EN_12.doc
- Nazarko, J., Kuzmicz, K.A, Szubzda-Prutis, E. and Urban, J., 2009 (2009). The General Concept of Benchmarking and its Application in Higher Education in Europe. Higher Education in Europe, 34, Nos. 3–4, 497-510
- Payne, S. and Whitfield, J. (1999). Benchmarking for Business Schools/ Colleges: Implementing an Alternative Partnership Approach. Journal of Education for Business, September/October, 5-9
- Seybert, J. A., Weed, E. J., and Bers, T. H. (2012). Benchmarking in Higher Education. In E. Secolsky and D. B. Denison (eds.), Handbook on Measurement, Assessment, and Evaluation in Higher Education. New York: Routledge
- Zairi, M. (1994). Measuring Performance for Business Results. London: Chapman & Hall
- Samuel, A., Grigg, N. and Mann, R. (2014). Insights into Informal Benchmarking. Journal of Inspiration Economy,1, 1, 67-91
- UNDP/RBAS (2005). Quality Assessment of Computer Science and Business Administration Education in Arab Universities, a regional overview report. New York: Regional Bureau of Arab States
- UNESCO (2004). UNESCO's Capacity Building Activities in Qualification Recognition, Quality Assurance, and Accreditation: Towards a Coherent Framework. Tokyo: UNESCO