

Benchmarking towards excellence in higher education

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Abstract

Purpose – The purpose of this paper is to investigate the extent to which higher education institutions can benefit from the implementation of benchmarking practices. Thus, the aim of this research is to point out the structure and applications of quality improvement, by providing evidence for understanding the implementation of benchmarking as a competing tool for excellence in higher education institutions.

Design/methodology/approach – The methodology followed in this paper is based on a mixed method approach, including both qualitative and quantitative analysis. Research is based on 20 case studies of universities committed to excellence around the world. Data collection was accomplished by a well designed questionnaire.

Findings – The findings of this research indicate that benchmarking can improve academic excellence by means of comparison and assessment. The study finds that process performance measurements can bring considerable outcomes of enhancement, improvement and transformation in higher education systems.

Practical implications – This research on benchmarking in higher education institutions provides exemplar standpoints and practices for the pursuit of excellence in educational organizations, in order to gain additional knowledge and paradigm on quality improvement that can lead to excellence. Considering the population of rankings worldwide, the main idea is linked to benchmarking and the acceptance of being compared to others in the sector.

Originality/value – The value of this paper lies in the identification and presentation of several ideas and tools which can successfully be applied to higher education institutions in order to achieve excellence by using benchmarking practices.

Keywords: Benchmarking, Quality improvement, Business excellence, Higher education

1. Introduction

The concept of quality in higher education has been drawing the attention of all the interested parties in this particular sector during the last few decades. Since quality

improvement has been one of the most important features of higher education institutions, it is of equal importance to understand the role of benchmarking as a means to continually improving and staying competitive. Universities around the world embrace the concept of benchmarking and develop transformational methods and practices to improve their organizations.

The profound changes in the higher education context emphasize the necessity of a quality culture realized in the terms of Continuous Quality Improvement (CQI) philosophy (Selesho, 2014), as Total Quality Management sounds too business-oriented and elements taken from the business sector are used to illustrate key concepts in higher education (Hogg & Hogg, 1995). Higher education institutions strive to improve academic excellence, through country and institution specific processes (Mishra, 2007). In the European Union, promoting excellence is essential for creating and establishing a knowledge-based society and economy, and for accomplishing the goals of economic growth and job creation (Joosten, 2015). In *The Concept of Excellence in Higher Education*, within the context of ENQA, Brusoni et al. (2014) suggest that excellence can be: (a) a description of current provision and also a goal or aspiration for institutions, academics and students; (b) describing something that is exceptional, meritocratic, outstanding and exceeding normal expectations; and, (c) a relative and an absolute concept. They also emphasize that “the concept has no meaning if all are excellent and there is no way of distinguishing the performance of individual institutions and departments” (Brusoni et al., 2014).

One of the most important topics rises above the issue of academic quality in terms of leadership, academic faculty and human resources in general and has to be regulated in order for excellence to be achieved in higher education institutions. The fact is that “there are different human resources models and ways of leadership, for better or for worse” and that “leadership is a highly contingent phenomenon” (Kekäle, 2015). Quality assurance processes are actually models of quality assessment, which models provide institutions with possibilities of putting the theory of quality into practice. Mueller (2015) states that “models give us something to work with when we are determining how to apply research into applied insight, and they provide guidance with respect to using theory effectively in our practical lives”.

Academic excellence reveals the linkage of quality assurance to benchmarking, while changes in the academic scene call for substantial transformations due to business and industry demands. Benchmarking is established as one of the most

successful processes of assessment and improvement. It can be viewed as a methodology of study or improvement and as an opportunity to learn best practices, identify, establish and achieve exceptional standards, as long as top management is committed to it and views the process of comparing and competing as an ongoing one. Moreover, benchmarking is highly related to what is called ‘good performance’ which is determined by levels of expertise including basic, standard, good and excellent performance (Blackstock et al., 2012).

The conduction of literature review and empirical research was made to examine the reliability of benchmarking as a successful tool for quality in higher education and to acquire better realization of its applicability by tertiary institutions that already practice it. In other words, this paper examines the various viewpoints on the matter of assessment and searches for the particular benchmarking types and tools that lead to successful outcomes.

This study builds on 3 main questions, which have guided the effort since the inception phase of the project:

- What is the level of benchmarking used by academic institutions for the enhancement and improvement of quality?
- What are the major outcomes of benchmarking in higher education institutions and what are the bottlenecks in achieving them?
- How can benchmarking achieve excellence in higher education institutions?

2. Literature Review

The concept of quality has been defined differently in different contexts, and it is a much used and least understood term (Mishra, 2007). Trying to express the broad meaning of the term, Juran identifies quality as ‘fitness for use or purpose’, Crosby as ‘conformance to standards’, and Deming as ‘a predictable degree of uniformity and dependability at low cost and suited to market’ (Ali & Shastri, 2010). Assuming that students are both the customers and the ‘product’ in this newfangled industry, higher education institutions are challenged to cope with the non-standard human factor (Venkatraman, 2007) and there lies the intricacy. Thus, quality in higher education can be defined as “a multi-dimensional, multi-level, and dynamic concept that relates to the contextual settings of an educational model, to the institutional mission and

objectives, as well as to specific standards within a given system, institution, programme, or discipline” (Vlăsceanu et al., 2004).

According to 1999’s Bologna Declaration, the enhancement of quality and the establishment of a common framework for European higher education institutions are basic objectives for quality assurance. The European Association for Quality Assurance in Higher Education (ENQA), which constitutes of public authorities, associations of higher education institutions and quality assurance agencies, is complied with the Bologna Process impetus for quality assurance reforms under the European Standards and Guidelines for Quality Assurance in Higher Education (ESG) (Unit, 2005; Vukasovic, 2014). ENQA promotes co-operation in the field of quality assurance, and disseminates information and expertise among its members and towards stakeholders in the European Higher Education Area (EHEA) to foster the European dimension of quality assurance (Kettunen, 2012). The International Association of Universities (IAU) is a worldwide organization with Member Institutions in over 130 countries, which cooperates with a vast network of international, regional and national bodies and provides a wide variety of enhancing services to the international higher education community at large (IAU, 2007).

The rapidly changing forces that call for quality improvement and the ongoing upheaval in the higher education sector requires institutions recommence their strategic planning and implement effective practices for quality. In all respects, quality is relative to “whether one educational context has more or less quality than another, not whether it meets an absolute threshold standard so that it can be seen to be of adequate quality, nor whether it reaches a high threshold and can be viewed as outstanding and of exceptional quality, nor whether a context is perfect, with no defects” (Gibbs, 2010). According to many experts, there are considerable barriers in the applicability of the concept of Total Quality Management (TQM) in higher education institutions, though this philosophy has been transferred from industry to higher education due to rapidly changing forces that call for quality improvement in the higher education sector.

Quality in the business of education is in need of change in the educational processes, as it is becoming important in the world of competitive environment (Venkatraman, 2007). Many researchers have compared industry to education and have pointed out conceptual and substantial obstacles in the implementation of TQM in tertiary institutions. Newby (1999) claims that barriers fall into three broad

categories: (a) the nature of the management culture in some institutions, regarding the inability to respond creatively to the pace of change which eventually leads to institutional atrophy and decline; (b) the traditional culture of higher education, as the barriers to introducing total quality approaches are more likely to lie in the prevailing culture of higher education and the tendency for organizations to ‘regress’ to the long standing and traditional; and, (c) the heritage of past quality initiatives, meaning that total quality introduces nothing new and that the responsibility for developing and delivering a curriculum is always devolved to course teams.

Across the world, academic excellence is a much discussed topic among higher education organizations. According to various authors, excellence, like quality, is a rather vague term. In the European Union, promoting excellence is essential for creating and establishing a knowledge-based society and economy, and for accomplishing the goals of economic growth and job creation (Joosten, 2014). Adding up to the concept of excellence, academic research is another essential element that impacts on the continuous improvement and establishment of excellence in higher education institutions. In the UK, the Research Assessment Exercises (RAE), established by the UK University Grants Committee in 1985, constitutes an essential means for rationalising the stratification of universities and the concentration of research resources, and of maximising research output (Henkel, 1999). Arthur and Cox (2014) suggest the Research Excellence Framework (REF), which is in effect “a renewed version of judging research, notwithstanding the introduction of impact to the assessment criteria”.

A multitude of educational institutions have acquired internal mechanisms for quality assurance and implement self-evaluation procedures for quality enhancement. However, a large number of them around the globe turn to quality assurance agencies to receive external assessment. In this case, the agencies determine the particular quality procedures to be practiced and prepare the guidelines and practicalities of any site visit (Ossiannilsson, 2012). Quality assurance agencies play an operative and effective role in the Bologna Process, specializing in quality assurance and accreditation (Unit, 2005). Except for the changing needs of the higher education environment, understanding the criteria and sticking to the best practices calls for the implementation of the following widespread framework of the way quality can be assured (Harman, 1998):

- Self-evaluation;

- Peer review by a panel of experts, usually including at least some external panel members in one or more site visits;
- Analysis of statistical information and/or use of performance indicators or the best practices benchmarking;
- Surveys of students, graduates, employers, professional bodies;
- Testing the knowledge, skills, and competencies of students.

All processes require the use of specific tools and mechanisms, so that appropriateness for purpose is accomplished. Benchmarking is established as one of the most successful processes of assessment and improvement. Blackstock et al. (2012) define benchmarking as “the process of self-evaluation and self-improvement through the systematic and collaborative comparison of practice and performance with similar organizations in order to identify strengths and weaknesses, to learn to adapt and to set new targets to improve performance”. In the UNESCO-CEPES Glossary for Basic Terms and Definitions, benchmarking is identified as “a standardized method for collecting and reporting critical operational data in a way that enables relevant comparisons among the performances of different organizations or programmes, usually with a view to establishing good practice, diagnosing problems in performance, and identifying areas of strength” (Vlăsceanu et al., 2004). According to the contributing authors, benchmarking can also be defined as: (a) a diagnostic instrument; (b) a self-improvement tool (a quality assurance tool) allowing organizations and programmes to compare themselves with others regarding some aspects of performance, with a view to finding ways to improve current performance; (c) an open and collaborative evaluation of services and processes with the aim of learning from good practices; (d) a method of teaching an institution how to improve; and, (e) an on-going, systematically oriented process of continuously comparing and measuring the work processes of one organization with those of others by bringing an external focus on internal activities (Vlăsceanu et al., 2004)

Vlăsceanu et al. (2004) refer to the historical development of benchmarking in the higher education sector. They identify the United States as the first country to introduce benchmarking processes in the early 1990’s and, also, establish NACUBO (National Association of Colleges and University Business Officers) Benchmarking Project for a long period of time. They also mention that benchmarking came to the forefront as a quality assurance tool in the UK, after the 1997 Dearing Committee

Report which included: (a) The History 2000 Project, led by Paul Hyland (School of Historical and Cultural Studies, Bath College of Higher Education); (b) The RMCS (Royal Military College of Science) Programme at Cranfield University (example of *benchmarking in libraries*); (c) The Higher Education Funding Council for Higher Education (HEFCHE) Value for Money Studies (VfM), launched in 1993; and, (d) The Commonwealth University International Benchmarking Club, launched in 1996, by CHEMS (Commonwealth Higher Education Management Service), as an example of international benchmarking (Vlăsceanu et al., 2004).

The logic of benchmarking is sound and easy to follow as stability cannot bring improvement. Various authors suggest that continuous improvement and excellence can be achieved by higher education institutions that are empowered to take deliberate steps by using the benchmarking tool for optimization of their processes and programmes. One basic step is to choose a benchmark and the type of benchmarking that is going to be practiced. Typifying the concept of benchmarking in four broad categories, various literature recognize *internal*, *competitive*, *functional* and *generic* as the most common types. Jackson and Lund (2000) categorize benchmarking types with regard to processes that are implicit or explicit, independent or collaborative, internal or external, vertical or horizontal, quantitative and qualitative approach, and input-output focused.

Achtemeier and Simpson (2005) recognize: (a) *process benchmarking*, which is about identifying the problem area within one's institution, identifying another institution with impeccable performance in the same area, and sending a team of experts of the area to learn from the exemplar institution their success formula that brings outstanding results; (b) *metric benchmarking*, which means comparing data of selected performance indicators among several institutions (Smith et al., 1999); and, (c) *goals and milestones*, which represent another way to understand benchmarking by identifying internal targets to establish a process, without any external point of reference for measurement (Zairi, 1996). Yarrow and Prabu (1999) add up to the variety of benchmarking types by recognizing *diagnostic benchmarking*, which is more akin to the examination of an institution's well-being in that it helps to identify the practices that need change and the nature and extend of performance improvements to be followed. The Consortium for Excellence in Higher Education (2003) identifies *international benchmarking* along with *strategic*, *performance* or *competitive*, *process*, *functional* and *generic*, *external*, and *internal good practice*

benchmarking. *International benchmarking* can be determined nationally and internationally and includes “a mix of all these approaches and organizational learning that is best done when it is carried out within a spirit of partnership and collaboration that enable both parties to learn from each other” (Lutfullayev, 2007).

However, those who compete for excellence must make sure that they meet the criteria of powerful and progressive strategic management and governance, high standards of academic achievement, a strong track record with students destinations, an exceptional student experience, positive stakeholder satisfaction, high levels of student satisfaction, commitment to research and academic development, support for socio-economic and cultural development, recognition of the social benefit of education, commitment to internationalisation, promotion of equity and academic freedom (Brusoni et al., 2014). Considering the popularity of rankings worldwide, the main idea is linked to benchmarking and the acceptance of being compared to others in the sector. Ranking contributes to the improvement of institutions and programmes as universities are alerted to get better and better through processes of assessment and evaluation in order to elevate in the global ranking and gain reputation in the international scene. All universities that aspire to become renowned and attract more customers should be conscious of rankings and thus, establish benchmarking processes.

3. Research methodology

This research study explores quality in higher education as enhancement and improvement, and focuses on the use of benchmarking as a self-improvement tool. The aim of this research paper is to point out the structure and applications of quality assurance, by providing evidence for understanding the implementation of benchmarking as a competing tool for quality in higher education institutions.

The gathering of data aims to provide: (a) findings on the dissemination of benchmarking; and (b) exemplar attitudes towards the particular types of benchmarking and the verified methods and tools for practicing it. This paper brings together the evidence collected through wide literature review, on a theoretical basis, and extensive research on tertiary institutions around the world, on an empirical basis, and provides an analysis structured along the theme of benchmarking with significance and implications for the pursuit of excellence in higher education institutions.

Thus, a mixed method approach was used, including both qualitative and quantitative analysis. Data collection was accomplished by a well-designed questionnaire. Given the openness of some questions, quantitative analysis was achieved by codification of the answers in numerical data attributed in a statistical way, by the use of relevant approaches and techniques (charts, graphs etc). The measuring instruments of the survey were questionnaires and a minimum number of collateral papers regarding approaches to quality, supplementary to the completion of questionnaires. The contributing universities were used as case studies in order to conduct inferences regarding selected processes of benchmarking in higher education institutions. The individual cases of 20 universities were accrued to attribute an overall picture of academic excellence in higher education by means of benchmarking practices.

The sample of this research consists of 20 universities (Appendix A), involving the participation of Presidents, Vice Presidents, Chancellors, Vice Chancellors, Provosts, Deans, Heads of Departments, Chief Officers, Quality Managers and Policy Advisors. Out of an excessively high effort to communicate about 300 universities through the administration and completion of questionnaires, 200 participations were collected. However, only 20 universities were selected, whose answered questionnaires marked their quality features and their commitment to excellence.

4. Research results

This exploratory study aims to point out the structure and applications of quality improvement, by providing evidence for understanding the implementation of benchmarking as a competing tool for quality in higher education institutions. Various authors have underpinned that a culture of quality entails strategic management that involves a number of planning processes for the improvement of quality that leads to excellence. Academic excellence reveals the linkage of quality assurance to benchmarking, while changes in the academic scene call for substantial transformations due to business and industry demands. The conduction of empirical research was made to examine the reliability of benchmarking as a successful tool for quality in higher education and to acquire better realization of its applicability by tertiary institutions that already practice it. In other words, this study examines the various viewpoints on the matter of assessment and searches for the particular benchmarking types and tools that lead to successful outcomes.

4.1 An indicator of quality: The frequency of setting strategic objectives

Getting into the analysis, setting strategic objectives is one of the most profound indications of universities being conscious of quality. However, the frequency of setting strategic objectives depends on the particular goals set by senior management and on whether these goals are achieved in a given period of time. The amount of the universities that were surveyed provided their insight on the particular topic as illustrated in figure 1.

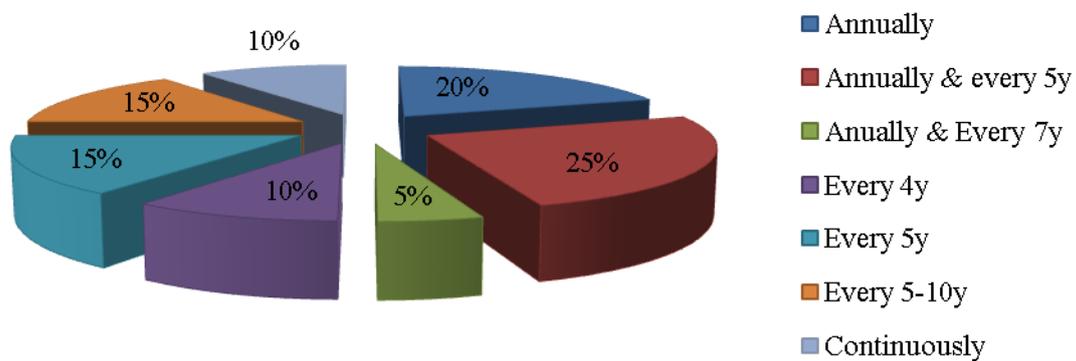


Figure 1: Objectives Set by HEIs

4.2 Performance measurements: Ways of measuring customer satisfaction

This survey sought participant views on how various institutions around the world take into account the gratification of their students, as an action of evaluating and reviewing their institutions. Keeping students satisfied with the provided teaching, learning and support services is crucial for an institution's sustainability and development, as all participants reported to use the following metrics:

- use of survey instruments to measure compliance with various Service Level Agreements (SLAs), customer satisfaction, and error rates;
- parent and staff surveys, along with student and graduate evaluation surveys;
- establishment of internal and external assessments;
- alumni surveys of high importance in the process of evaluating the provision of educational services;
- annual surveys of student customers and award fees;
- graduate surveys conducted 6 months – 2 years – 5 years after graduation to gain retrospective opinions;

- student surveys conducted each semester for course and instructor evaluations;
- completion of an internal survey by students at the end of their second year, prior to the completion of the external National Student Survey by students in their final year;
- conduction of the National Student Survey, the Times Higher Student Experience Survey, the iGraduate Survey, and other internally commissioned surveys;
- centrally organized student course evaluations (LVB) conducted at regular intervals by the Office for Academic Program Development;
- university wide service scan;
- involvement of external members in the University Board and in the University Collegiate Body;
- conduction of a wide range of institutional, national and international satisfaction surveys;
- construction and distribution of student satisfaction questionnaires;
- annual management review;
- course evaluations, graduate and alumni surveys for teaching and executive education;
- use of specific KPIs for management evaluation;
- annual survey for staff and services satisfaction.

4.3 Performance measurements: Ways of evaluating educational programmes

With assessment being centralised to the concept of benchmarking this action research tried to describe in simplistic terms, the ways that universities monitor evaluation of their educational programmes. All of the 20 participants contributed to the raised issue of assessment by stating the particular processes that they implement to manage this handful task. In particular, they have reported:

- conduction of peer reviews of educational programmes by external accreditation organizations;
- internal surveys conducted by the Institutional Research Group;
- being under the new accreditation guidelines of the accrediting association body (MSCHE);

- compliance with standards through the submission of documents in prior to a self-study process;
- student feedback and construction of questionnaires for customers and surveys for students and alumni;
- national education rankings and accreditation;
- Elsevier, Keuzegids, CHOI benchmarks;
- reoccurring external evaluations and external accreditation processes;
- annual surveys voluntarily completed by each student for each class and individual questionnaires voluntarily completed by each student for each class;
- annual evaluation in management review and quinquennial review of schools;
- regional accreditation and national agency's evaluation;
- individual accreditation requirements for many programmes of study;
- outcomes based evaluation;
- annual review of each educational programme in the light of various data on performance and the comments of external examiners;
- a whole day allocated to consideration of various matters, as part of the review;
- use of information from graduate and student surveys, and other internally commissioned surveys combined with comments from external examiners' reports;
- centrally organized student course evaluations (LVB) conducted at regular intervals by the Office for Academic Program Development;
- yearly report about the process of quality assurance and educational results written by each faculty;
- annual meeting with the Rector of the university for the discussion of the report;
- various processes of evaluation and course evaluations;
- evaluation by external members in the University Board and in the University Collegiate Body;
- evaluation and review of all courses and programmes via an institutional process;
- institutional process for the evaluation of courses and programmes also evaluated, along with other academic processes as part of external quality assurance processes;

- evaluation under the requirements of the national quality agency (TEQSA) and the Academic Senate’s and Council’s guidance and supervision;
- programme goal measurement for the assurance of learning;
- independent external accreditation process for each teaching programme;
- annual use of the Deming Cycle internally and internal institutional reviews.

4.4 Performance measurements: Assessing institutional processes

Moving on with the analysis of data, the participants were asked to declare how often they evaluate their institutional processes for improving quality in their institutions. When it comes to assessment, the frequency that it takes place is indicative of the academic culture and the academic standards for sustainable development. Figure 2 provides the survey with the relevant frequency, as institutional processes may be evaluated either continuously or periodically.

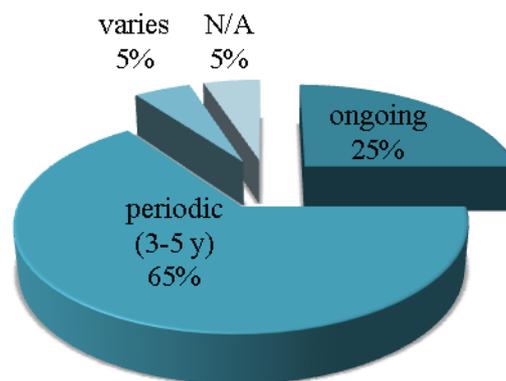


Figure 2: *Frequency of Evaluation of Institutional Processes*

4.5 Performance measurements: The frequency of academic staff evaluation

Sticking to assessment, the academic staff cannot be excluded from this process. Quality management in higher education involves the commitment of all institutional members that should give the best out of themselves. It is important that the evaluation of the academic staff of universities takes place on a regular basis to avoid undesirable inputs and outputs. This survey provides valuable data on this particular issue, as from all participants, 17 out of 20 reported to evaluate their academic staff annually and 3 universities stated evaluation in phases of recruiting and promotion.

Moreover, the survey examined whether the assessment results are taken into account in order for any of the feedback and procedures to change. Interestingly, all of the participating institutions were found positive and agreed.

4.6 Implementing benchmarking: Types of benchmarking used by HEIs

The aim was the gathering of data that report the use of the most common types of benchmarking by higher education institutions internationally. A simplistic statistical analysis of data was conducted as all of the participants responded positively and identified the particular types that they practice. The survey was provided with valuable data that led to the determination of the primary benchmarking type that is used by higher education institutions. The results are displayed in figure 3, as follows.

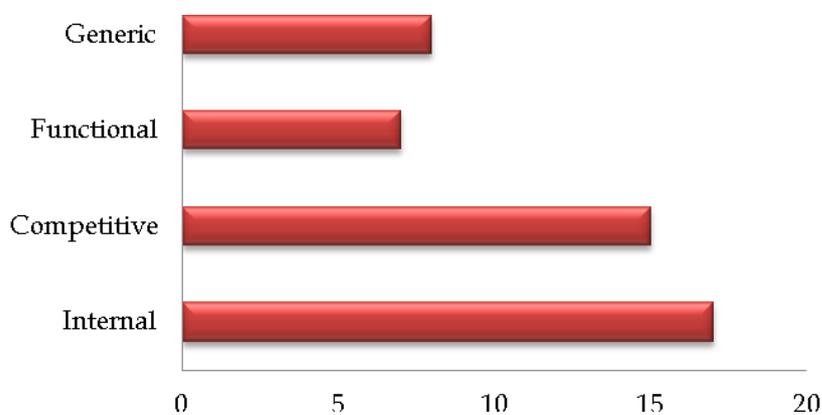


Figure 3: *Types of Benchmarking Used by HEIs*

4.7 Implementing benchmarking: Selection of benchmarking tools by HEIs

The formation and pursuance of benchmarking involves the use of some practical and functional tools in order for institutions to be able to diagnose, improve, collaborate, continuously compare and measure their work processes. Proceeding with the analysis of data, this project called for identification of the kind of tools that universities use in order to benchmark. In other words, participants were requested to report how they actually put the theory of benchmarking into practice. They provided the survey with valuable data, as illustrated in figure 4.

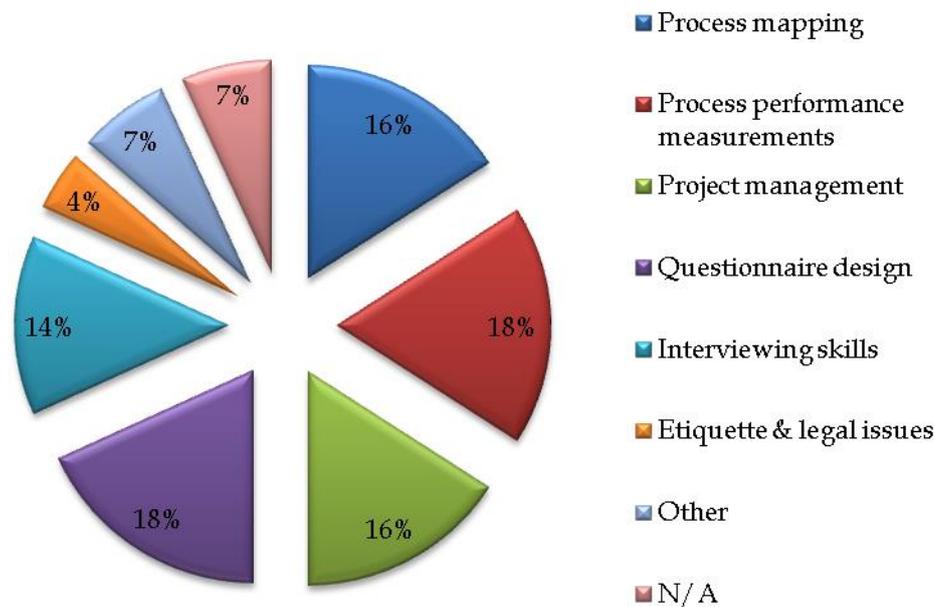


Figure 4: *Selection of Benchmarking Tools by HEIs*

4.8 Implementing benchmarking: Determining a benchmark

Deciding on the point of reference that an institution desires to be compared with is one of the basic steps for practicing benchmarking. The survey asked for the various perspectives on what the process of selecting a benchmark entails. Consequently, selection is made by searching:

- in national and international top rankings;
- geographically, similar providers and best practice performers;
- for long-term indicators to compare trends/developments to choose topic specific benchmarks for particular objectives and initiatives;
- for benchmark institutions that reflect a particular subject mix, comparable local context and level of aspiration/comparability in terms of performance;
- for competitors with similar structure and ambition;
- for comparators by reputation, contacts, and set criteria;
- in U-Multirank, Times Higher Education, Shanghai Ranking, QS World Ranking, and Leiden Ranking;

- for institutions that are in line with publicly available data on a national level, and reflect the institution's progress on its own goals;
- in groups of research competitiveness, and in the top 25 and top 50 of various rankings;
- for best practices from universities that face similar issues;
- for comparison with the Russell Group, which represents 24 leading UK universities committed to excellence in research, teaching and learning, and unrivalled links with business and the public sector;
- among public peers or institutions that are just using processes or programs of interest;
- for accountable institutes/entities, by basing on a number of criteria set by the Evaluation Office's regulations on evaluations;
- for available data on the academic quality of potential benchmarks.

Added to the above data, 2 out of 20 respondents reported that the searching process totally bases on discussion with faculties and participatory bodies and consultation with the deans. Another 2 participating institutions gave fuzzy answers, like "We mostly choose universities which we like to benchmark" and "Depends on what results we are looking for and on what level the benchmark is going to be performed". Of all the participants, 2 preferred to refrain and not answer.

4.9 Implementing benchmarking: Analysis of competitors

This project tries to highlight what happens in the international scene and how is the analysis of challengers actually made. In the US, 3 out of 20 surveyed universities stated that best practices are freely shared through professional organizations and listservs, or by just being able to call up an individual who holds the same employment position at an institution that has a new way of doing something that someone wants to learn more about, and perhaps adopt the same methodology. Additionally, available information on competitors is used for assessment via a particular association that exchanges data among universities, and performance data on competitors are also available via the AAUP, the US News, the World Report, and vis-à-vis competitors.

Yet another US university referred to metrics that are commonly used, such as student satisfaction, school counselor recommendations, undergraduate and graduate selectivity and yield, research intensity, scientific impact, publications, and books.

Another respondent pointed out the examination of external data benchmarks, surveys of key stakeholders, and interviews of primary resources as parts of the US external environment analysis. Finally, another 2 US participants reported that the openness of educational institutions allows for sharing the best practices at visits or conferences and that peer review and comparisons take place continuously at all academic and research levels.

In the UK, 2 of the participating universities underlined the process of benchmarking as a basic tool for the analysis of the external operating environment. The same participants pointed out a national comparator group (the Russell Group), which includes the UK's 24 leading research-intensive universities, as a key factor in the process of analysis. Yet, another UK respondent stated that their university uses benchmarking groups to track progress in their own performance on a time-series basis as against comparable competitors and to set required performance levels.

In Australia, 1 of the surveyed universities reported the conduction of regular assessment of competitors' performance through the use of process and outcome data, where available. As reported by 2 respondents in Sweden, benchmarking is established and implemented as a fundamental process in the analysis of competitors, but not a systematic one. In the Netherlands, 3 contributing universities stated that: (i) they use evaluations carried out by the Accreditation Organisation of the Netherlands and Flanders (NVAO); (ii) the comparison is made through national and international rankings; and (iii) the data on competitors are mainly used for the sake of feasibility – if university X can achieve a certain benchmark, they have equal opportunities to do so. Lastly, 2 participating universities in Finland reported that: (i) for their last strategy project they interviewed about 40 national and international professionals; and, (ii) they address experts who are making environmental analyses.

Since the question asked implies an open market situation, 1 of the Swiss universities had to emphasize its public identity and the fact that student mobility in Switzerland is comparably low, due to the fact that all universities are considered to be of very high standard. Moreover, the ten universities and two technical institutes of higher education differ quite a lot in their educational mandate, their size and their cultural background. In this way, they only partly compete or have to compete against each other with their educational services. However, another Swiss university reported to be a member of a benchmarking initiative and to exchange various figures and key performance indicators on a regular basis with some of its competitors.

4.10 Implementing benchmarking: Benchmarking payoffs

Additionally, this action of research sought for a sound judgment on the results attained by the use of benchmarking. Respondents were encouraged to report the main advantages that they have observed by practicing benchmarking in their institutions. Consequently, the employment of benchmarking has led to:

- competitive advantage, but seldom to reduced costs;
- reorganization of the support of the organization and a reduction of the overhead of national universities considered of superiority;
- improvement of quality in both research and education;
- high decrease on administrative costs;
- reduction in total costs of student attendance;
- grant application costing in the support for research and also to the sharing of certain costs with other local universities;
- increased success in recruiting and improvement of enrolment management;
- better service and consistency in getting a question answered or resolving a service issue;
- a much higher level of competence than the financial resources imply (retained equity, or endowment), much higher efficiencies than those of other local institutions;
- increased improvement and more satisfying evaluations from departments taking part in benchmarking projects;
- specific indicators in the field of research and use of these information during re-accreditation processes;
- determination of position among peer institutions, as data is used to ensure that they stay competitive in attracting, retaining and graduating students;
- staff reduction by about 30%, when redesigning the internal financial function by implementing external benchmarking, and reduction of space by using UK benchmarks on the amount of space used by university functions;
- reduction in costs by benchmarking of Professional Services (project) and competitive advantage by benchmarking in terms of quality of research and education.

However, 3 out of 20 respondents provided the survey with no answer, while another 2 reported no special advantages, and 1 single participant reported a lack of awareness for the time being.

5. Conclusions

The analysis of findings, as illustrated in Figure 1, indicated a *five-year period* as the most reviewed by higher education institutions, in order for long-term goals to be rendered into short-term practices for teams and individuals. Additionally, half of the respondents claimed to review their strategic plans *annually* and *permanently* to satisfy their constant need for improvement, by establishing *diagnostic benchmarking* in their strategic planning and control. Thus, there is an increased demand for higher education institutions all over the world to derive more information on the outcomes of their strategic plans by assessing them in this given period of time. The process of assessment is undoubtedly a hallmark on the effectiveness of quality planning that tertiary institutions establish to gain ground in the arena of continuous improvement.

Considering students as customers in the higher education industry, with a more business-like approach, no university should pass over measuring their satisfaction with teaching and learning. Eliciting, documenting and validating customer satisfaction is one of the most essential quality processes that build up an educational organization identified with quality that leads to excellence, as enforced by the international standards and the growing demand for higher education. The qualitative analysis showed whether institutions can operate as businesses that pay the much of their attention to the satisfaction of their customers with the provided educational services. The feedback suggests that improvements in teaching and learning are achieved through a wide range of conducted *surveys* completed by students and graduates, as reported by the majority of the participants. A small number outlined *outside evaluations* and *external assessment* without stating the particular tools of evaluation. However, all participants indicated the development of metrics and communication strategies to report progress and results, as well as the selection of key performance indicators for enhancement, leaving space for implications of practicing benchmarking.

Sticking to evaluation, the educational programmes cannot be excluded from this process. The discussion is upon what extent the practice of benchmarking is a basic tool for internal evaluation and continuous improvement. From the focus group study,

the findings granted evidence on the establishment of both *internal* and *external evaluation* of educational programmes through various *surveys, evaluations* and *accreditations, rankings, focus groups, and educational outcomes*. A statistical approach simplifies the results of research analysis by attributing a 62% to 38% ratio of *internal* to *external evaluation* of educational programmes. Consequently, self-evaluation is outlined for quality enhancement, which refers to making improvements within the organization, whereas external evaluation refers to external professionals determining whether aims have been accomplished. Thus, *internal benchmarking* is mostly outlined in this process of evaluation, probably due to the encumbrance of costly external evaluation, bureaucracy and the tendency of preserving university autonomy.

It is common knowledge that institutional processes may be evaluated either continuously or periodically. In the area of process evaluation, the findings derived from research analysis were attributed in a statistical manner with *permanent evaluation* possessing a 25%, *periodical evaluation* holding a 65%, and *evaluation that varies due to process content* owning a 5%. The unfolding of this analysis regards the most critical challenge in the idea of benchmarking: continuous improvement through evaluation. Interestingly, the majority of the participants seem to be totally engaged with *periodical evaluation*, rather than *permanent evaluation*. This particular finding corresponds to the various literature regarding: (i) the product of higher education as invisible and intangible in relation to the manufactured product; and, (ii) the typical obstacles to a successful TQM implementation in higher education due to the non-standard human factor.

This survey sought participant views on the issue of assessing the academic staff of educational institutions. Quality management in higher education involves the commitment of all institutional members that should give the best out of themselves. Given that 'the best' or 'the exceptional' can be totally subjective, the top management has to check and evaluate whether individual views and attitudes consort with the mission and vision of the university. According to the results derived from the survey, an aggregate of 85% of the respondents correspond to benchmarking requirements for excellence by evaluating their academic staff on an *annual basis*. Concluding the issue of evaluation, it was sound to ask the respondents if they actually apply the results of manifold evaluation. The analysis of submissions

indicates that *the results of evaluation are taken into account* for quality improvements by a 100% of the surveyed universities.

Benchmarking can be viewed as a methodology of improvement and an opportunity to learn best practices, identify, establish and achieve exceptional standards. Although the classification of benchmarking types is characterized by wideness, the participants provided this survey with valuable data that led to the determination of the primary benchmarking type that is used by higher education institutions. The analysis of research ascribed a 36% to the use of *internal benchmarking* and a subsequent 32% to the use of *competitive benchmarking*, as indicative of examining their well-being and competing for national or international recognition. Though the findings yield a slight deviation (4%) between internal and competitive benchmarking, the selection of internal benchmarking can be explained in terms of measurable progress inside the institution which usually does not include the costly participation of external professionals. Moreover, the acquisition of information on competitors requires access to performance data that are made available by national or international comparator groups and associations, which may add unnecessary bureaucracy and extra costs to the institutions.

Considering this survey as exemplary and paradigmatic, it is of high importance to understand how the theory of benchmarking is actually put into practice. Examining the co-occurrence between tools that are used by institutions in order to benchmark, a statistical analysis gave the lead to *process performance measurements* and *questionnaire design*, as the best practiced tools with a respective 18% quota. The next highly practiced tools are *process mapping* and *project management* with each of them possessing a 16% quota.

Institutions need to be able to relate what they want to achieve with the benchmarking exercise. What they need to consider when selecting a benchmark are: (a) the level of their benchmark partners/competitors; (b) whether they choose their benchmark internally or externally, nationally or internationally; (c) the advantages or disadvantages of the group size; (d) the level of group homogeneity; and, (e) whether the benchmark is trustful and keen to benchmark with broadly similar goals. The findings generated from the analysis of research correspond to the search areas mentioned above, and also include the search of suitable competitors in top rankings. Qualitative analysis was made in order to realize whether this process is a standardized one, its level of difficulty, and to acquire paradigm. However, only a

limited number of respondents reported what this process entails: (a) *discussion with faculties and participatory bodies*; (b) *top management meetings*; and, (c) *internally established criteria*.

However, prior to searching for the best and finally choosing a benchmark is to identify, analyze, and measure competitors with similar educational services, as underlined by the findings. An analysis of the external operating environment is an intricate process that entails covert difficulties due to the complexity of the higher education sector. Academic standards and culture of quality may differ beyond national boundaries and thus, international rankings allow for comparisons against competitors with required performance levels. A comparative analysis indicated that half of the research universities (regardless of the country that they operate) *share valuable information with competitors of similar services* and are given the opportunity to learn from each other by practicing benchmarking as a fundamental tool for improvement of their institutional and educational processes. Additionally, a small number reported the *operation of particular associations* that exchange data between higher education institutions. Universities are conscious of ranking and, thus, practice benchmarking in order to be able to collect data on their competitors from existing data sources.

The qualitative analysis also included the competitive advantages that participants have perceived by the establishment of benchmarking in their institutions. The findings derived from this action research suggest that the most significant effects induced by benchmarking practices are: (i) *reduction on administrative or total costs*; (ii) *level-up competitiveness*; (iii) *increased student and management enrolment*; and, (iv) *improvement of quality in both research and education*. Thus, the majority of the surveyed universities reported satisfaction with practicing benchmarking in their institutions.

6. Limitations of research study

The findings of this action research are highly important provided that it bases on reliable papers and high-impact educational organizations. However, this project may be identified with one particular constraint with potential impact on the findings. For all the practical purposes, the research sample is limited including an aggregate of 20 universities. Nevertheless, the degree to which this reduces the quality of our findings is a matter of debate.

Given the fact that all research suffers from limitations, whether it is performed by undergraduate and master's level dissertation students, or seasoned academics, the limited number of the research specimen is not viewed by this thesis as a weakness. The researcher collected 200 participations, but selected only 20 case studies of universities due to their quality features and their commitment to excellence. This particular attitude explains the low variances attributed by some of the findings, as the N/A element affected the induction of high percentages in some areas of the quantitative analysis and of the codified and subsequently statistically reported qualitative analysis.

The discussion of limitations is upon a project with particular length indicated by the regulatory framework of this university. Considering the action of research as richly analyzed, a wider participation would exceed the regulatory limits. However, this work can be used for future research on this field of study, including broader specimen.

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Appendix A

| University | Country | Years of Operation | Enrolment | Faculties |
|--------------------------------------|-----------------|--------------------|---|-----------|
| Georgetown University | USA | 226 | ~6,000 undergraduates ~8,000 graduates | 9 |
| Aalto University | Finland | 5 | 14,040 undergraduates 713 graduates | 6 |
| Handels University | Sweden | 61 | ~40,000 total | 8 |
| New York University | USA | 184 | ~40,000 total | 16 |
| Penn State University | USA | 160 | ~4,500 total | 250 |
| Purdue University | USA | 153 | 38,770 total | 2,072 |
| Tufts University | USA | 113 | 5,108 undergraduates 10,037 graduates | 10 |
| University of Aberdeen | UK | 520 | 16,500 total | 3 |
| Vrije University of Amsterdam | The Netherlands | 135 | 24,517 total | 11 |
| University of Eastern Finland | Finland | 5 | ~1,600 total | 4 |
| Sheffield University | UK | 110 | ~26,000 total | 5 |
| Olin College of Engineering | USA | 13 | 350 total | 1 |

| | | | | |
|---|-----------------|------|----------------------------------|-------|
| Swinburne University of Technology | Australia | 107 | 50,000 total | 3 |
| Maastricht University | The Netherlands | 39 | 16,000 total | 6 |
| University of St. Gallen | Switzerland | 117 | 8,020 (excluding the executives) | 5 |
| University of Gothenburg | Sweden | ~100 | ~37,000 total | 4,000 |
| University of Colorado Boulder | USA | 139 | 32,000 total | 2,800 |
| University of Zurich | Switzerland | 182 | 26,356 total | 7 |
| University of Amsterdam | The Netherlands | 139 | 31,186 total | 7 |
| University of Birmingham | UK | 115 | 29,000 total | 5 |