BENCHMARKING AS A TOOL FOR IMPROVEMENT OF HIGHER EDUCATION PERFORMANCE - 530696-TEMPUS-1-2012-1-BE-TEMPUS-SMGR

BENCHMARKING HANDBOOK FOR THE UNIVERSITIES OF BIH

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PREFACE

The goal of this project has been the development of a robust, well tested benchmarking manual in a common and easy to use format for Bosnia and Herzegovina universities.

This document is the outcome of a substantial developmental phase over months, with a wide range of input. Many universities are finding benchmarking useful as a significant self-improvement tool, so the decision has been taken to make it widely available. The subsequent versions, based on extensive use, will incorporate additional comparative data and improved definitions, and so enhance its usefulness, especially for inter-university use.

University benchmarking is a relatively new technique and it can be a confusing for those who are seeking to apply the approach for the first time. Benchmarking is a tool developed and popularised within industry, to reduce the variability of activities that reduce its reliability and quality. The idea is to improve those processes by eliminating irregularity and uncertainty. Benchmarking works by identifying where variability in processes is a consequence of the way that the organisation chooses to manage the task and also those which are a consequence of variation in the external environment.

What is the purpose of this Manual? Who is it for?

This handbook has three potential users. It provides senior staff with tools to ascertain performance trends in the university and to initiate continuous self-improvement activities. Secondly, it is sufficiently well developed for use by groups of universities wishing to compare performance on all or some of the areas covered. Third, some of the benchmarks can be used by universities now to ascertain their competitive position relative to others.

The purpose of this Benchmarking handbook is therefore twofold. Firstly, it seeks to set out the current state-of-the-art in university benchmarking which can be drawn on by universities as they implement this valuable tool to improve their overall performance and strategic management. Secondly, it is to encourage the development of the principles and practice of university benchmarking, to stimulate the refinement and perfection of these tools through their repeated application in higher education, to enact substantial and sustainable changes in efficiency and productivity, to create a new way of thinking or paradigm that builds efficiency and a desire for continual learning must be integrated into institutional structures.
1. INTRODUCTION

The world of higher education is changed rapidly, bringing new challenges for universities and colleges and seeking of them to adapt to this new world. This creates a great uncertainty for higher education institutions in seeking to respond to these changes, uncertainty about the new environment, about the choices available, about appropriate strategies and about the effectiveness of the responses which managers ultimately choose. University benchmarking is an attempt to deal with this uncertainty, and give policy makers and Higher Education (HE) managers a toolkit to help ensure that their strategic decision-making process is as rational as possible.

At the European level, the open method of coordination between EU members’ states sets quantitative and qualitative benchmarks as a means of comparing best practices. Benchmarks are used extensively to set targets for achievements, for example with the list of 16 indicators linked to eight EU policies to benchmark progress of the Lisbon Strategy in terms of education and training.

At their meeting in Berlin in 2003, ministers of education of Bologna signatory countries invited ENQA, the European Network of Quality Agencies to develop “an agreed set of standard procedures and guidelines on quality assurance.” The European standards and guidelines for quality assurance defined by ENQA (2007) provide directions for higher education institutions to improve their policies and procedures related to internal quality assurance. Benchmarking exercises on quality assurance can take these standards and guidelines a step further.

Some implicit forms of benchmarking have already been used in higher education with various forms of peer review and site visits encompassing some aspects of benchmarking. What is new today are the use of explicit benchmarking and the formalisation of processes. The growth of benchmarking in Higher Education reflects the search for continuous quality improvement and more effective ways of improving performance in an increasingly diversified higher education sector.

We would like to thank all our partners in the project team for their valuable contributions to our research into benchmarking in higher education which has led to this handbook. We do hope that this handbook will be a valuable tool for leaders, decision-makers and staff in B&H higher education in their constant endeavours to improve university performance.

The purpose of the handbook is to provide practical guidelines and a step by step approach both for those who are new to benchmarking in higher education, and those who already have experience with benchmarking and wish to develop further their benchmarking activities.
2. BENCHMARKING IN HIGHER EDUCATION

University benchmarking is a concept adopted from industry, where it has been used in manufacturing and services with great success for over two decades. University benchmarking, however, is currently at an early stage in its development, and there are many misconceptions about its purpose, value, potential and limitations for being a guide to improve university strategic management.

Tools are also being developed that measure or benchmark the progress and success of these efforts (Keeton & Mayo-Wells 1994). Between the improvement strategies and techniques such as Total Quality Management (TQM), Continuous Quality Improvement (CQI), and Business Process Reengineering (BPR), benchmarking has emerged as a useful, easily understood, and effective tool for staying competitive.

Improving university performance became an undisputable issue in the increasingly open and competitive environment in which even public higher education institutions have to find their place in Europe today. But the need was not automatically accompanied by an answer to the question of how to do it. Benchmarking is a positive process towards the answer. We will return to definitions later, but for the purposes of a working understanding of what we mean by benchmarking at the outset: Benchmarking is an internal organisational process which aims to improve the organisation’s performance by learning about possible improvements of its primary and/or support processes by looking at these processes in other, better-performing organisations.

In Europe, the use of benchmarking as a tool for improving performance both in the private and public sectors has also been supported by the European commission for more than ten years. The underlying aim is to improve Europe’s competitiveness by working at three levels, i.e. improving the general context in which organisations cooperate, improving the internal environment and working with sectorial benchmarking approaches focusing on the competitive challenges in specific sectors of industry. Several benchmarking initiatives were started in the late 1990s for instance with a benchmarking group on competitiveness, a European Benchmarking Forum and a High level group on Benchmarking.

2.1. What is Benchmarking?

Definitions of benchmarking vary widely, from the practical ‘a self-improvement tool for organizations which allows them to compare themselves with others,
to identify their comparative strengths and weaknesses and learn how to improve. Benchmarking is a way of finding and adopting best practices, to the participative ‘the open and collaborative evaluation of services, structures and processes with the aim of emulating best available practice, through to the global and ambitious “benchmarking is the process of continuously comparing and measuring an organization with business leaders anywhere in the world to gain information, which will help the organization take action to improve its performance” (American Productivity and Quality Center 1993).

The benchmarking concept is also defined in the following ways: „The process of measuring and comparing the performances of a business with similar processes extent within the main organizations in order to obtain information which will help the organization to identify and implement improvements“ or „the continuous process of measuring products, services and business methods belonging to your own company, in comparison to the ones of the most powerful competitors and of those companies which are known as being industry leaders“.

Gerald Balm defines benchmarking in the following way: ‘The continuous action of comparing a process, a product or a service with a similar activity, known as being the best in that field, with the purpose of establishing ambitious but real improvement objectives and actions so as to become and keep the number one position among the best within a reasonable period of time.

Xerox, the first company that ever used this method, called it ‘a continuous search process for new ideas, methods and practices, for processes and for adjustment of these practices; or the adaptation of some good ideas and their real life application in order to become the first among the best.

Benchmarking is often defined as a diagnostic instrument, a self-improvement tool, a collaborative learning exercise and an on-going evaluation and systematic approach of continuously measuring work processes (UNESCO-CEPES, 2007 and HEFCE, 2003). Benchmarking as we understand it is undertaken to increase quality for institutional development and contexts. Starting from the working definition proposed at the beginning of this chapter and taking into account the review made above, we can describe benchmarking as the voluntary process of self-evaluation and self-improvement through the systematic and collaborative comparison of practice and performance with similar organisations.

2.1.1. The do’s and don’ts benchmarking

In the face of potential confusion, a number of sources have found it easier to describe what processes characterize typical benchmarking rather than trying to define it. Thus it is generally recognized that benchmarking is a means of making comparisons of performance, usually with a view to establishing ‘good’
or more ambitiously ‘best’ practice methods, and as such it is also used to diagnose in performance and to identify strength areas.

In addition to concentrating on what benchmarking is, another way of identifying what constitutes it is to identify what it is not. Thus, the Innovation Network, a US based higher education management consultancy group, makes the point that ideally benchmarking is not just ‘comparative analysis’ of how an institution matches up to others in terms of measures like student staff ratios, or graduation rates, because this “doesn’t drive change” and “does not specifically focus on the practices which create superior performance”. It is not ‘process reengineering’ (where internal processes are examined and improved, without looking at other organizations’ practice). It is not just a survey, where data is presented in aggregated or average terms; benchmarking studies, by contrast, draw attention to successful scenarios of practices for the process or function. Nor is it a “three-hour ‘show and tell’ session” with another institution, because “no improvement mechanism has been developed...nor have any measurements of success typically been put in place” (Innovation Network, 1994).

Other distinctions between what benchmarking is and is not were drawn by Spendolini (1992) in an important work for the American Management Association, when benchmarking was identified as: a continuous process and not a one off event; a process that provides valuable information rather than simple answers; a process of learning from others rather than mere copying of ideas or practice; a time consuming and labour intensive process rather than being quick and easy; and viable tool for improving virtually any business activity rather than a buzzword or fad.

In addition to identifying what benchmarking is not, it can be differentiated between similar concepts like rankings, accreditation and management indicators. Rankings generate transparency among universities to offer orientations to students, professors and similar stakeholder of universities. The accreditation of study programmes has the sense to ensure a minimum standard, e. g. outcome orientation in modules or to foster employability. Management indicators have the intention, to steer and to control of states and university bodies. These are more reporting instruments. In comparison to these concepts, benchmarking means a comparative process aiming at describing, evaluating and improvement services, work processes or organizational structures of universities.

The process oriented benchmarking within higher education seeks to answer some of the following questions: how well is the university or college doing compared to others? How much good, and in what areas, does the university we want to be? Across the university as a whole which part of it is doing best, and how do they do it? How can universities introduce into their own practice what is done well in others? How does an institution improve
its performance while retaining its unique features? And more competitively in the longer term how an institution might become better than the best in the context of its own mission? For many in universities such questions will be provocative, ‘and a challenge to the traditionally inward looking decision making systems of higher education

2.2. Why benchmarking?

There is an increasing consensus that university benchmarking is an important instrument in helping to make higher education fit for the 21st century, and to maximise the contribution which universities and colleges make to their host societies and economies. The commission’s view is that more funds need to be invested in higher education to increase the competitiveness and quality of life of Europe, and reform is necessary to ensure that those funds are spent as efficiently and effectively as possible as well as to attract the necessary private investment into the sector to complement public expenditure.

Reform also encompasses changes to university governance structure, providing them with the necessary autonomy and strategic management to respond to the contemporary challenges, alongside funding, ensuring that public funding encourages higher education to more closely service public policy goals, and increasing opportunities for universities to attract a more diverse mix of funding to support investment in a competitive knowledge economy.

This large-scale change process creates an extremely dynamic and volatile environment, with policy-makers and universities seeking to reform the structures, laws and administration through which higher education is developed, as well as innovating within institutions to create the best possible outcomes in higher education.

Benchmarking has emerged as another complementary approach to contribute to making sense of how European universities are progressing towards being autonomous and competitive institutions which use public funds effectively and efficiently and optimise their wider societal contributions economically, socially, politically and culturally.

The growth of benchmarking in Higher education reflects the search for continuous quality improvement and for a more effective way of improving performance in a highly diversified higher education sector in order to ensure that public funding is used effectively to support it. As such, it is strongly encouraged by policy-makers. Benchmarking also serves the needs of individual institutions to learn in order to improve, to change and to manage operations in a more professional way. Ambitious institutions choose benchmarking as a tool for improvement of their international position. A condition for improving processes is to know them; this requires detailed knowledge about
the organisation's own performance and performance of other organisations. Benchmarking involves, therefore, a self-evaluation including systematic collection of data and information with a view to making relevant comparisons of strengths and weaknesses of aspects of performance, usually with others in the sector. Benchmarking identifies gaps in performance, seeks new approaches for improvements, monitors progress, reviews benefits and assures adoption of good practices.

There are a number of reasons why we benchmark:
- Universities must change to stay ahead of competitors, and benchmarking is a system for managing that change.
- It promotes quantum leaps in performance.
- A minimum amount of time is required to accomplish change.
- It helps to establish effective goals and measures productivity.
- It encourages striving for excellence, breakthrough thinking, and innovation.
- It emphasizes sensitivity to changing stakeholders (internal and external) needs.
- It creates a better understanding of competitors and the dynamics of the HEI.
- It provides a sense of urgency for business process improvement.
- It ensures that the best practices are included in work processes.

Figure 1. Below illustrates that benchmarking benefits of a University by providing the process knowledge necessary to effect significant changes.

*Continuous Improvement*

![Diagram](image.png)

*Fig.1. Benchmarking stimulates change in process improvement*
2.3. Benefits from benchmarking

The expected benefits of benchmarking include:

- Improving processes that are critical to our business, such as enhanced customer satisfaction, cost reductions, and enhanced employee satisfaction.
- Establishing goals.
- Gaining professional development and personal enthusiasm from seeing "the best" in action.
- Identifying additional opportunities for improvement beyond the scope of the benchmarking project.
- Establishing professional contacts.
- Challenging "the way it's always been done."
- Becoming more competitive.
- Shortening the process improvement cycle itself (accelerated learning).

Table 1 This table provides an excellent overview of the many benefits of benchmarking.

<table>
<thead>
<tr>
<th>Without Benchmarking</th>
<th>With Benchmarking</th>
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</thead>
<tbody>
<tr>
<td>Defining Customer Requirements</td>
<td>Based on history/&quot;gut feel&quot; Acting on perception</td>
</tr>
<tr>
<td>Establishing Effective Goals</td>
<td>Lack external focus Reactive Lagging development</td>
</tr>
<tr>
<td>Developing True Measures of Performance</td>
<td>Pursuing projects Strengths and weaknesses not understood</td>
</tr>
<tr>
<td>Becoming Competitive</td>
<td>Internally focused Evolutionary change Low commitment</td>
</tr>
<tr>
<td>University processes</td>
<td>Not invented here Few solutions Continuous improvement</td>
</tr>
</tbody>
</table>

2.4. Benchmarking and Quality movement

Benchmarking has emerged in the world of universities together with some other innovations, in particular the "quality movement". The organised attention for quality and benchmarking share an interest in the organisation's
performance. It may be useful to give a quick tour regarding quality, associated terms and other concepts that one may encounter in the neighborhood of benchmarking. It should be realised, though, that there is not a single set of definitions that is „correct“: many authors have different opinions.

The conception of quality used, it is important to be aware that quality always concerns the quality of one of the many „products“ or „services“ that a higher education institution delivers (e.g. undergraduate teaching in business, Ph.D. training in chemistry, or an applied research project in geophysics) and that the „customer“ has to be kept in mind (students, society, peers).

A very general synonym for making a judgment on quality is evaluation though this usually has the connotation of a systematic approach. Evaluation or assessment can take place within the institution (through regular monitoring or through once-in-a-period self-evaluation) or come from external agents. Internal or external quality assessments, plus the processes and structures within the higher education institution to maintain quality as it is, are referred to as quality control. An assessment (usually by external agents) of the processes and structures to maintain or enhance quality is often called a quality audit (with emphasis on the internal quality work rather than the actual „measurement“ of product quality).

Quality control augmented with systematic, continual efforts at enhancement or improvement of quality is known as quality management. This is a task for the leadership structure of a higher education institution.

The function of quality management to give trust of quality to outside ‘stakeholders’ or ‘customers’ is what is often understood under quality assurance. The focus, in this use of terms, is on the inside-to-outside flow of information.

Note that in the previous set of terms there was nothing denoting a process to find out what is an acceptable or competitive level of quality, apart from what is given from the ‘outside’ in the form of standards or ‘(subject) benchmarks’. Often externally defined standards/benchmarks are either too vague or too basic for a higher education institution to stimulate its own quality improvement; this is where benchmarking comes in the quality ‘movement’ started in the private sector.

Benchmarking approaches have been gradually adopted by many businesses in the context of the quality assurance and quality enhancement movements, facing the need to ensure productivity and effectiveness in the face of increasing competition.

First, in benchmarking the focus is on the process of inter-organisational learning. It requires, just like quality assurance, an aim to improve performance of the institution. Also, it requires methods to know about the current state of the institution, i.e. some form of evaluation or measurement. Yet benchmarking sees the measurement as a tool to know where improvements are needed, not as an end in itself, and gives more attention to the processes of learning about ways towards achieving improvement than most quality assurance methods do. Admittedly,
benchmarking process also gives attention to improving the institution’s processes, but rather from the radical ‘blank slate’ point of view while in benchmarking the question is rather: how can we learn from others how to get to where they are from here, where we are—it is incremental rather than revolutionary. Establishing or measuring externally visible performance (through key performance indicators or ‘KPI’) is only the beginning of benchmarking; the real issue of a benchmarking process is how to achieve high performance, which needs information of a much more detailed type than KPIs can give, from deep within the organisation. The aim is to find out about good practice rather than (only) good performance.

To enable learning about good practices from deep within another organisation, benchmarking can only thrive in an atmosphere of cooperation instead of (or perhaps next to) inter-organisational competition. It demands from both the learning organisation and the model organisation to open up and share ‘trade secrets’. In this respect benchmarking seems more easily applicable to public sector than to market-driven organisations.

### 2.5. Types of Benchmarking

The major types of benchmarking are internal, external-competitive, external-collaborative and best in class. Alstete (1996) identifies five types: internal, external competitive, external collaborative, external trans-industry (best-in-class), and implicit benchmarking. Jackson and Helen (2000) classified benchmarking types according to referencing processes:

(i) Implicit or explicit benchmarking,
(ii) Independent or collaborative benchmarking
(iii) Internal or external focused benchmarking,
(iv) Vertical or horizontal benchmarking which is focused on the whole process,
(v) Quantitative and qualitative approach benchmarking,
(vi) Input-process-output focused benchmarking.

Consortium for Excellence in Higher Education (2003) identifies seven main approaches to benchmarking:

- **Strategic benchmarking**, which used where organizations seek to improve their overall performance by focusing in on specific strategies or processes;
- **Performance or Competitive Benchmarking**, a process whereby organizations use performance measures to compare themselves against similar organizations;
- **Process Benchmarking**, which focuses on specific processes or operations, in higher education examples might be enquiry management, enrolment or timetabling;
Functional and Generic Benchmarking, which involves partnerships of organizations drawn from different sectors that wish to improve some specific activity or process;

External Benchmarking, which is enable the comparison of the organizations functions and key processes against good practice organizations;

Internal Good Practice Benchmarking, which establishes of good practice organization wide through the comparison of internal activities or operations;

International Benchmarking, it can be undertaken internationally as well as nationally.

The common sense approach to benchmarking draws appropriately from a mix of all these approaches and organizational learning is best done when it is carried out within a spirit or partnership and collaboration that enable both parties to learn from each other. The relationships between these different types of benchmarking are shown in Figure 2.

Jackson and Lund (2000) convinced, that internal benchmarking is a process used in decentralized organizations where performance in similar processes is compared between operating units. In universities this can mean comparisons between different academic departments or schools or between different administrative or service units (Jackson and Lund 2000). Southard and Parante (2007) described more clearer the significances and processes of internal benchmarking.

Concerning universities and in addition to the previously concepts, it can be differentiated between four types of benchmarking. The ‘in-house benchmarking’ means benchmarking within one university, for instance, several faculties of a
certain university compare their matriculation processes. In a ‘sector benchmarking’ certain areas of different universities will compare their processes or structures. For instance, all economic faculties define best practice for their module management in study programmes. In a ‘benchmarking association’ compare several universities a specific benchmarking objetc. For instance, f. e. three universities explore best practice processes for budget distribution. Furthermore, it is conceivable, that exist a ‘interbranch benchmarking’ between universities and companies.

The practical flowchart which they developed in Figure 3, is helpful to determine whether an organization’s proposed case study or implemented finding best practices appropriate for internal or external benchmarking. It leads the user through a set of questions. At the end of the set of questions, contained within the diamond-shaped decision boxes, the choice as to whether one should pursue internal or external benchmarking will be clear. Southard and Parante (2007) convinced the framework for steps in internal benchmarking:

1. Identify and isolate a particular process or point in a process,
2. Assemble a benchmarking team,
3. Determine what tools are most appropriate for analyzing the process,
4. Identify a similar internal process for comparison,
5. Evaluate the two processes,
6. Evaluate the transferability of those aspects,
7. Transfer the aspects and monitor the results.

![Figure 2: Benchmarking process flowchart](image-url)
2.6. Application of Benchmarking in Universities

Several authors advocated that benchmarking is more suitable in higher education than business sector, due to its collegial environment, which encourages easily to collaborate and cooperate (Bender and Schuh, 2000; Alstete, 1995; Schofield, 1998). At the same time, the people in universities claim a autonomy and liberty in his actions. Thus, for benchmarking in Higher Education it is important to foster a climate of confidence and honesty.

The earliest benchmarking processes and methodologies were applied and adapted to higher education in North America from 1990. The benchmarking methodologies followed to transfer in European and Australian higher education recently after 1990. In Europe some centers are currently famous in using and successfully doing the benchmarking programs such as: European Center for Strategic Management of Universities (www.esmu.be) in Belgium, Centre for Higher Education Development (CHE www.che.de) in Germany, Universidade de Aveiro (www.ua.pt) in Portugal.

Another recent benchmarking project conducted by ESMU (European Center for Strategic Management of Universities) in Belgium. ESMU transfers expertise on university management practices, promotes policies for institutional change and provides services to European universities (ESMU, 2005). ESMU establishes networks, develops projects and practical tools to support universities with their strategic development (www.esmu.be).

ESMU conducts Benchmarking program named “European Benchmarking Initiative in Higher Education” which offers a unique and cost effective opportunities for participating universities to compare their key management processes with those of other universities. This helps to identify areas for change and assists in setting targets for improvement. The topics were in internationalization, strategic partnership, governance and structures, and designing new Masters and Doctorates. The main target of the project is to accelerate the reformations in line with the Bologna Processes, and encourage European Higher education institutions to become strong players in the European economy.

EFQM (European Foundation for Quality Management) Excellence Model is being applied in higher education in Europe. The EFQM Excellence Model is a framework for organizational management systems, promoted by the European Foundation for Quality Management (EFQM) and designed for helping organizations in their drive towards being more competitive. Regardless of sector, size, structure or maturity, to be successful, organizations need to establish an appropriate management system. The EFQM Excellence Model is a practical tool to help organizations do this by measuring where they are on the path to excellence; helping them understand the gaps; and then stimulating solutions.
3. APPROACH TO BENCHMARKING

University benchmarking is not a mechanical or mechanistic process. Benchmarking is a valuable technique which can be used as part of a strategic improvement process. The key determinant of the success of a benchmarking process is therefore not the quality of the benchmarking activity. Rather, it is the commitment of the institution to strategic improvement, and in particular, to using the benchmarking to identify areas for strategic improvement.

Benchmarking contributes to a learning process which helps to give confidence to university managers that they have correctly identified their strengths and weaknesses, to help them understand potential improvements, and to understand whether those improvements have effectively been delivered. Good benchmarking needs to be premised on strong learning environments, at three levels, within the individual institutions, within the benchmarking groups, and by involving experts in the development of the group.

At the level of the institution, there are a number of features which strengthen the learning environment and the capacity of the institution to benefit from benchmarking. Higher education globally is going through a process of reform, which creates a set of strategic challenges for institutions: the themes and topics addressed by the benchmarking must therefore fit with the most imminent strategic challenges facing the institutions. There needs also to be a rational decision to benchmark, tied to understanding and improving the position of the institution in a particular thematic area. There must be managerial commitment to the learning and improvement processes, and in particular, a willingness to be challenged by comparing one’s own institution against the best. Finally, there needs to be patience, because the learning process as a whole takes time to successfully achieve and embed within a complex institutional environment.

Whether carried out as a national exercise for the whole sector, or at the institutional level (within or between several higher education institutions), benchmarking must always lie in the identification of strengths and weaknesses and a better understanding of one’s institution, with a view to set targets and benchmarks for improvement. Benchmarking requires a key focus on continuous improvement through a comparative approach and the search for best practices, to be more than a mere comparison of statistical data. A benchmarking exercise must always be conceived as a dynamic exercise during which relevant indicators and benchmarks are defined against which institutional performance can be measured in comparison with the competition. It aims to identify good practices, which will lead to the implementation of changes.
Within higher education institutions, successful benchmarking exercises are grounded on a strong institutional willingness to increase organisational performance, to become a ‘learning organisation,’ to review processes on an on-going basis, to search for new practices and to implement new models of operation. Whether carried out at a unit level (benchmarking a department or a faculty) or at the level of the whole institution, a benchmarking exercise will only produce valuable results if placed in the context of transformation and progress. Key will be to define where efforts should be placed to maximize results and by constantly setting new targets for institutional improvement.

Benchmarking requires commitment to change, investment in financial and human resources and involvement of senior leadership and staff at the appropriate levels in the institution (i.e. depending on the processes benchmarked) in order to produce efficient results in terms of data collection and the implementation of findings. Financial resource needs will be more limited for benchmarking exercises conducted purely inside the institution than when using an external consultant or a moderator, but will always be necessary at some level.

Benchmarking is not a quick fix to tackle organisational underperformance. Although it can be used to produce a snapshot (as a tool to obtain one-off information on a specific issue), it is most valuable as a continuous, long-term approach embedded in institutional strategic development, to sustain the effort of continuously improving institutional performance.

Benchmarking requires a rigorous and professional approach from designing the exercise to the clear identification of processes, data collection and the implementation of results. It requires planning, senior management commitment and ownership. The choice of benchmarking partners is a key to the effectiveness of the benchmarking exercise

### 3.1. Benchmarking as a strategic activity

Viewed from the perspective of an institution, a benchmarking process is a curious hybrid. On the one hand, it represents an institutional commitment by senior managers to high-level strategic thinking and performance improvement. On the other hand, in practical terms, university benchmarking in an institution is likely to take the form of a small team, office or individual running a project gathering and interpreting data and periodically reporting back to the senior managers notionally in charge of the process.

A successful benchmarking exercise is able to hold these two elements together seamlessly, with a benchmarking project team progressing the exercise forward seamlessly and working at the appropriate moments intensively with institutional managers to secure their involvement in the project and to garner the benefits for the participating institution.

----------------------------------------------- 19 -----------------------------------------------
Given the complexity of universities, their external environments, the strategic challenges they face and their own profiles and orientations, making inter-institutional comparisons can be a fraught process. From the basis of the second phase we noted a tendency within university benchmarking to focus on the high-level strategic dimensions of this process, and to downplay the importance of an ongoing dialogue between managers and the benchmarking team about how to translate the principles of benchmarking into the messy practical context of the particular HEI.

However, effective university benchmarking needs to involve senior managers in the translation of high-level principals into interpretations of the particular university or college.

Benchmarking throws up ambiguities and tensions for universities as they try to work out what matters. Universities may worry that defining desired outcomes and goals may generate negative publicity or profile for themselves, and so universities may use mealy-mouthed formulations which hide their real intent. This can undermine universities learning about what they are really doing, and how effectively their internal task performances are contributing to hitting their overall institutional mission.

Benchmarking can only succeed where senior managers are prepared to think honestly about these ambiguities and tensions and benchmark the real institution rather than the institution they would like to be able to portray in the media.

### 3.2. Benchmarking model

Numerous models of benchmarking are discussed in the workshops during the project. However, the approaches are fundamentally similar and can be adapted for specific circumstances, fitting the University’s quality model or policy. The BiH approach to continuous improvement, the QA model, is cyclic with four phases: **Plan; Do; Review; and Improve**. Alongside the QualityA model, the nine-step method of success factors for higher education benchmarking has specific questions as guidance (see Table 2).

A twelve-step benchmarking process has four phases: planning; analysis; integration; and action.

- **Planning** has five steps: determine what to benchmark, identify key performance indicators, identify benchmarking partners, determine data collection method, and collect data;
- **Analysis** has two steps: understand performance gaps, and predict future performance levels;
- **Integration** has two steps: communicate findings and gain acceptance, then establish functional goals and implementation plans; and,
- **Action** has three steps: implement and monitor progress, measure results against stakeholder wants and needs, and then recalibrate benchmarks.

![Fong et al's benchmarking process model](image)

*Figure 3: Fong et al's benchmarking process model*

During the project developed a list of success factors for higher education benchmarking:
- Determine which areas to benchmark;
- Determine types and level of benchmarking;
- Prepare benchmarking documents and templates including the purpose, performance indicators, performance measures and performance data;
- Design benchmarking process;
- Implement benchmarking process;
- Review results;
- Communicate results and recommendations; and,
- Implement improvement strategies,
Table 2: Success Factors for Higher Education Benchmarking

<table>
<thead>
<tr>
<th>1. Determine which areas to benchmark</th>
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<tbody>
<tr>
<td>I. Is this area aligned to strategic goals in priority areas?</td>
</tr>
<tr>
<td>II. Will a major project in this area deliver significant benefits relative to the costs?</td>
</tr>
<tr>
<td>III. Are there drivers in this area which will sustain energy for the process, and ensure that benchmarking is given priority?</td>
</tr>
<tr>
<td>IV. Is benchmarking in this area supported at the executive level and on the ground?</td>
</tr>
<tr>
<td>V. Are there adequate human, financial and other resources to support benchmarking in this area?</td>
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<tr>
<td><strong>YES</strong>- Continue</td>
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<thead>
<tr>
<th>2. Determine types and level of benchmarking</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Is there broad agreement on the types of benchmarking, e.g. data-sharing, strategy-sharing, evidence-based self-review?</td>
</tr>
<tr>
<td>II. Is there broad agreement on the level of benchmarking (e.g. policy level, discipline level, course level, unit level)?</td>
</tr>
<tr>
<td>III. Is there agreement on the model that should be the basis for benchmarking? If no existing model can be used or adapted, are there sufficient resources to develop and test a suitable new model?</td>
</tr>
<tr>
<td>IV. Is there agreement on what is and what is not to be in scope?</td>
</tr>
<tr>
<td>V. Is the scope realistic and achievable by the participants within the anticipated timeframe?</td>
</tr>
<tr>
<td><strong>YES</strong>- Continue</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Prepare benchmarking documents and templates including the purpose, scope of project, performance indicators, performance measures and performance data</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Have the indicators and measures been clearly documented and thoroughly reviewed by each university for alignment to local structures, processes and terminology?</td>
</tr>
<tr>
<td>II. Are the indicators and measures aligned to accepted standards and good practice across the sector?</td>
</tr>
<tr>
<td>III. Have participants who will be carrying out the benchmarking, e.g. Faculty and/or professional leaders, had the opportunity to provide feedback to ensure clarity and fit?</td>
</tr>
<tr>
<td><strong>YES</strong> -Continue</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Design benchmarking process</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Is there a benchmarking reference/steering group?</td>
</tr>
<tr>
<td>II. Have Faculty and/or professional leaders had the opportunity to comment and contribute to the design of the process?</td>
</tr>
<tr>
<td>III. Does the benchmarking process encourage:</td>
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<td></td>
</tr>
</tbody>
</table>
### IV. Does the choice of process align with organisational culture - for example, does it mirror other forms of scholarly collaboration (e.g. round-tables, academic committees, surveys, comments on papers)?

**YES - Continue**  
**NO - Further development needed**

### V. Does the process minimise demands on staff time?

**YES - Continue**  
**NO - Further development needed**

#### 5. Implement benchmarking process

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>Is there an action plan?</td>
</tr>
</tbody>
</table>
| II. | Have Faculty and/or professional leaders been briefed on their responsibilities?  
Is there appropriate project management? |
| III. | Are there clear expectations for deliverables and deadlines? |
| IV. | Is there a checking process (quality assurance)? |

**YES - Continue**  
**NO - Further development needed**

### 6. Review results

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>Have Faculty and/or professional leaders had the opportunity to contribute to the review process? Does the review process encourage engagement, reflection and sharing, both within and across institutions?</td>
</tr>
<tr>
<td>II.</td>
<td>Is the review process designed to produce a clear evaluation, including ratings, identification of good practice and identification of areas for improvement?</td>
</tr>
<tr>
<td>III.</td>
<td>Is the review process carried out at multiple levels, e.g. faculty level, institutional level, across institutions?</td>
</tr>
</tbody>
</table>

**YES - Continue**  
**NO - Further development needed**

### 7. Communicate results and recommendations

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>Do reports clearly identify good practice, standard practice and recommendations for improvement for each university?</td>
</tr>
<tr>
<td>II.</td>
<td>Within each university, is there a consultation process to obtain agreement on recommendations, e.g. through management and committee structures?</td>
</tr>
<tr>
<td>III.</td>
<td>Were participants acknowledged and thanked?</td>
</tr>
<tr>
<td>IV.</td>
<td>Is there a process for sharing the benchmarking methodology and lessons learned with other areas of the university?</td>
</tr>
</tbody>
</table>

**YES - Continue**  
**NO - Further development needed**

### 8. Implement improvement strategies

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>I.</td>
<td>Are there clearly assigned responsibilities for implementing the recommended improvements?</td>
</tr>
<tr>
<td>II.</td>
<td>Have future collaborations between the universities been agreed, where this would assist improvements?</td>
</tr>
<tr>
<td>III.</td>
<td>Is there a process for monitoring and reporting on the implementation of recommended improvements and their effectiveness?</td>
</tr>
</tbody>
</table>

**YES - Continue**  
**NO - Further development needed**

---

23
On the basis of that experience, and the lessons learned from the benchmarking process, we have refined the benchmarking model on the basis of how we would approach were we to do it again, rather than claiming that what we present here is a model of how the benchmarking process in the second phase actually proceeded. This is set out in table 3 below.

Table 3 An overview of the stages and steps of a typical university benchmarking process

<table>
<thead>
<tr>
<th>Defining priorities, targets, criteria, indicators and benchmarks</th>
<th>Dana gathering and reporting</th>
<th>Developing an Action Plan to introduce change</th>
<th>Monitoring &amp; follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Deciding priority areas</td>
<td>· Gathering &amp; validating the data</td>
<td>· Diagnosis of institutional strengths and weaknesses</td>
<td>· Implement the action plan</td>
</tr>
<tr>
<td>· Brainstorming the priority area processes</td>
<td>· Scoring the institution against the benchmark</td>
<td>· Developing an action plan</td>
<td>· Reporting back</td>
</tr>
<tr>
<td>· Developing the list of potential indicators</td>
<td></td>
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<td></td>
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<tr>
<td>· Agreeing the 'long list' of potential indicators</td>
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<td></td>
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<tr>
<td>· Developing expertise levels &amp; scoring</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>· Creating the 'balanced scorecard'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>· Finalising the indicator set with senior managers</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

3.2.1. Structure of the benchmarks

Each benchmark has the following format:

- Scoping statement
- Good Practice Statement
- Performance Indicators
- Performance Measures - on a 5 point scale
**Scoping statement**
This describes what is considered in this benchmark, and sometimes what is out of scope. An example (Figure 4) illustrates the purpose of the scoping statement, providing a detailed explanation of what is addressed and what is not. This reduces the potential for ambiguity and confusion.

| Benchmark: Information technology infrastructure to support learning and teaching |
| Scoping Statement: Information technology (IT) infrastructure describes a range of information and communication technologies that are used to support learning and teaching. This can include the use of: productivity software; learning management systems; library systems; the World Wide Web; mobile technologies. It also includes hardware (computers, telecommunications and ancillary equipment) and networks, both internal (LANS and WANS) and external which are used for the purposes of learning and teaching. These technologies support learning on and off campus. Decisions about the selection of IT infrastructure for learning should refer to directional/ policy statement(s) about the learning and teaching environment of an institution (for example distance education, or blended approaches). Once a technology is selected it is important that an institution has robust and accepted processes for trialling and rolling out a new technology, that involves all key stakeholders. |

*Figure 4. Scoping statement*

**Good Practice Statement**
This statement indicates what practice would look like if it is being done well, noting that this level of practice is achievable. An example from benchmark 3 is provided in Figure 5.

| Good practice statement |
| ‘Technical infrastructure is aligned with institutional learning goals and the technologies are resourced, support staff is trained and the infrastructure is implemented, maintained, administered and supported efficiently and effectively.‘ |

*Figure 5. Good practice statement*

**Performance indicators**
These identify the key performance areas that would indicate realisation of the good practice statement.
**Performance indicators**

1. Evaluation processes are in place to generate data to support decision making.
2. Evaluation processes are comprehensive.
3. Responsibilities and processes for maintenance and administration are effective and efficient.
4. Responsibilities and processes for support and training are effective and efficient.
5. Project management processes are in place, responsibilities defined and processes applied.
6. Resources are allocated for maintenance and upgrades of existing equipment.
7. Implementation is well planned.
8. Implementation is resourced.
9. Professional development occurs for staff managing infrastructure (including new and emerging technologies).

*Figure 6. Performance indicators for benchmark on on fig.4.*

**Performance measures**

Statements, or a matrix in the case of an indicator with more than one component, represent progress toward good practice (as represented by an indicator). A five point scale will be used and these are used for self-assessment and comparison purposes. Examples of the two types of measure are provided in Figure 7. Level 5 represents best practice and is achievable. A summary scale should be completed and a rationale provided for placement on the scale, with evidence supporting that placement. Evidence might comprise planning documents, report etc.
(Level 5 indicates good practice)
Performance Indicator 1 - “All of the organisation’s obligations to learning and teaching technologies are clearly stated in its strategies, policies and practice.”

<table>
<thead>
<tr>
<th>Level</th>
<th>Obligations Covered</th>
<th>Clarity</th>
<th>Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>none</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>2</td>
<td>limited</td>
<td>minimal</td>
<td>limited</td>
</tr>
<tr>
<td>3</td>
<td>moderate</td>
<td>partial</td>
<td>moderate</td>
</tr>
<tr>
<td>4</td>
<td>extensive</td>
<td>substantial</td>
<td>substantial</td>
</tr>
<tr>
<td>5</td>
<td>full</td>
<td>complete</td>
<td>full</td>
</tr>
</tbody>
</table>

HOW DO YOU RATE? 1 2 3 4 5

Performance Indicator 4 - ‘Educational and technical expertise is available to develop and support quality programs and resources which address staff needs, including those with special needs.’
(Level 5 indicates good practice)
1. No expertise
2. Limited expertise
3. Moderate expertise
4. Considerable expertise
5. Comprehensive expertise

HOW DO YOU RATE? 1 2 3 4 5

Template for defining of benchmarking indicators is shown in fig. 4.

<table>
<thead>
<tr>
<th>Benchmark No:</th>
<th>No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td></td>
</tr>
<tr>
<td>Scoping statement</td>
<td></td>
</tr>
<tr>
<td>Good Practice Statement</td>
<td></td>
</tr>
<tr>
<td>Source of data</td>
<td></td>
</tr>
<tr>
<td>Performance Indicators</td>
<td></td>
</tr>
<tr>
<td>Performance measures</td>
<td></td>
</tr>
<tr>
<td>Levels</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

How do you rate:
3.2.2. Step by step guidelines

Confirming the process
Before commencing the benchmarking process it is important to be clear about objectives and outcomes sought. It is also important to agree on the process and responsibilities; for example, will participants in the benchmarking process also be responsible for implementation and disseminating outcomes or will these responsibilities be divided?

Choosing the benchmarking team
The first, and obvious step, is to establish a benchmarking team or group within the individual organisation. This will need to be a small group who are familiar with each other and have responsibility for at least some of the areas to be benchmarked. Members of the team will need to be able to relate the exercise to the broader objectives of the unit/department and to those of the parent institution, document and analyse processes, identify key performance or performance indicators, assess current performance against them, include others in their area as appropriate, liaise and communicate about the benchmarking exercise to ensure ownership of the process and its outcomes and implement outcomes. Because of the importance of senior management commitment, a sponsor from management is also advised.

Members of the team will need to be able to do the following.
- Relate the area of benchmarking to the broader objectives of the parent institution;
- Understand specific services or processes being benchmarked;
- Document and analyse processes;
- Assess current performance against indicators;
- Liaise and communicate about the process; and
- Ensure ownership of the process.

Follow upon
Staff with responsibility for the benchmark area will need to implement outcomes of the process. These might be stakeholders consulted as part of the exercise but they might not be on the institutional benchmarking team. Reports on the process will also need to be developed and disseminated.

Common pitfalls
From the literature on benchmarking the following issues might prejudice the benchmarking exercise.
- The benchmarking group might not be the most appropriate for the purpose of the process. It is important to share information with the
group at a very early stage, about objectives and institutional profiles, to ensure an appropriate group has been established.

- The benchmarking process does not relate to other initiatives at the institutional level. Commitment and support can be difficult to achieve in this circumstance.
- Lack of sponsorship from senior management and a disengaged process owner.
- Institutional processes are not documented, thus making it difficult to share good practice.
- Overemphasizing measures. The five point scale (refer to figure 7 for an example) is a guide for summary purposes and should not be used without reference to the information that is provided with it in the self assessment.
- Tackling too much – heed advice about limiting exercises to two-three benchmarks
- Not accepting findings. This relates to institutional support and sponsorship for the process.
- Assuming a site visit is needed. This might not be necessary - policy and strategy documentation commonly provides the most useful information for developing strategies.
- Time and resources are overlooked.
University benchmarking is not a mechanistic process which can be routinely undertaken. Benchmarking is a process which has several values, through the comparative learning, through the way in which a benchmarking process engages with external experts to help define issues and processes, and through the way participants are able to agree what counts as good or bad performance. However, benchmarking processes typically follow a common format, which proceeds through a set of stages to deliver a set of common outputs. The number of stages varies according to the type of benchmarking exercise underway. In the PASCAL Observatory benchmarking of university regional engagement (the ‘PURE’ project), where there are predefined benchmarks and performance targets, and which is primarily an internal benchmarking exercise, the authors distinguish five stages in the benchmarking process.

- **Initiation.** A team is established to implement the benchmarking approach, briefed on the objectives, provided with copies of the [PASCAL benchmarking tool], and informed on how to complete it.
- **Preparation.** Each team member examines a copy of the benchmarking tool, and makes an initial assessment.
- **Workshop.** An event is held in which all the questions are discussed, and a single common set of answers agreed.
- **Report.** The responses are analysed and results are returned to the participating team members other regional partners, and the PURE project.
- **Dissemination.** The results of the report are discussed by the team and perhaps with other regional partners to decide how the findings will be used and disseminated within the region.

For the purposes of collaborative, trans-institutional university benchmarking, what is critically important is to turn a generic theme into a set of priorities, identify the processes underlying the priorities, decide decision-rules that allow performance to be classified for each of the processes, gather the data, analyse institutional performance and produce a plan for change. Therefore, as identified in the Practical Guide, and reiterated here, a collaborative benchmarking exercise will typically involve six main steps to ensure that it contributes most effectively to institutional performance improvement.

- Strategic decision-taking
- Choosing partners
- Defining priorities, targets, criteria, indicators and benchmarks
- Data gathering and reporting
- Developing an Action Plan (including a Business Plan) to introduce change
- Monitoring and follow-up

The six stages give an idealised process overview of what a benchmarking exercise is attempting to achieve, to hold together a group of institutions together to complete successfully a shared learning process that translates into individual performance improvement. But the six stages are substantial activities in their own right, and represent periods where institutions will be learning, negotiating with the comparator, collecting data and information, and consulting internally. Each of the stages can be subdivided into a set of steps that each have to be completed to ensure that individual institutions remain interested in the process and can see the clear benefits they derive from this participation. Each of these steps corresponds to one of the six stages of the university collaborative benchmarking process set out above and which we explain below.

4.1. Strategic decision-taking

The first stage is the decision by the institution that it wants to undertake a benchmarking exercise and the field within which it wishes to benchmark. The institution needs to have a commitment from its senior managers to support the completion of a benchmarking project, to appoint a project team with sufficient gravitas to sustain project momentum and draw selectively on senior management support, and able to fit the benchmarking exercise and its results into the developing institutional strategic agenda.

4.2. Choosing partners

The second stage is the identification of potential partners with whom to form a benchmarking group. There is a need for these partners to also have a strategic interest sufficiently close to your own for the exercise to be interesting for them, and also for them to be of a similar degree of development for there to be opportunities for exchange of best practice between the partners. There is also the need for the identification of external experts who are able to provide feedback on the subsequent stages.

4.3. Defining priorities, targets, criteria, indicators and benchmarks

The third stage is the elaboration of the field within which the benchmarking will take place, in terms of the priorities which the institutions wish to achieve and the processes which are being improved. This stage also involves
the technical construction of the benchmarking exercise in terms of defining performance indicators and evaluation criteria, and the criteria for what would represent best practice in that particular field.

4.4. Data gathering and reporting
The fourth stage involves gathering data amongst the partners, identifying relative performance levels between the partners, and for all partners identifying areas of strength and weakness. From this stage individual institutions have an awareness of where there is scope for greatest improvement, as well as an understanding of the practices and processes of comparable institutions which nevertheless perform better that themselves, and which can help shape their action plan.

4.5. Developing an action plan (including a business plan) to introduce change
The fifth stage is the development of an action plan to address the weak points identified through the benchmarking, informed by the best practice observed in the benchmarking exercise as well as the theoretical understanding of the process and the benchmark from stage 3. These action plans must be implementable and drawn up in parallel with business plans which allocate the necessary resources and impetus to ensure the strategic changes are implemented.

4.6. Monitoring and follow up
The final stage of the performance improvement process involving benchmarking comes once the improvement plan has been implemented, and evolves evaluating the success of the changes made and then whether the overall performance has been improved. This can be delivered on the one hand by setting targets for success within the action plan, or potentially by comparing past against current performance, or conceivably by the benchmarking group coming back together after an appropriate time interval to benchmark themselves and evaluate who has improved their overall performance.
### 4.7. Documentation for collaborative benchmarking

Documentation templates were developed for use at the various stages of the process:

- Template 1: Self-assessment
- Template 2: Comparative matrix
- Template 3: Partnering Action Plan (For use by Action Plan partners)
- Template 4: Partnering Response Summary

#### Template 1: Self Assessment

<table>
<thead>
<tr>
<th>Benchmark No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scoping statement:</td>
</tr>
<tr>
<td>Good practice statement:</td>
</tr>
<tr>
<td>Performance indicators:</td>
</tr>
</tbody>
</table>

#### Performance Measures:
(Level 5 indicates good practice)

1. 
2. 
3. 
4. 
5. 

How do you rate: 1___________2______________3______________4_____________5

#### Template 2: Benchmarking Comparative Matrix

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>1.1</th>
<th>1.2</th>
<th>1.3</th>
<th>1.4</th>
<th>1.5</th>
<th>1.6</th>
<th>1.7</th>
<th>1.8</th>
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<td>Institution</td>
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</tbody>
</table>

#### Template 3: Partnering Action Plan

<table>
<thead>
<tr>
<th>Partner</th>
<th>Benchmark</th>
<th>Performance Indicator</th>
<th>Performance Indicator</th>
<th>Goal</th>
<th>Strategies</th>
<th>Start/End Date</th>
<th>Responsible Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>University 1</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>University 2</td>
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<tr>
<td>Template 4: Partnering Response Summary</td>
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<td>Name of institution</td>
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<tr>
<td>Partner/s originally selected</td>
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<tr>
<td>Partner worked with</td>
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<tr>
<td>Goal</td>
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<td>Strategies chosen</td>
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<tr>
<td>Describe procedures:</td>
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<tr>
<td>(how you gathered information.)</td>
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<tr>
<td>Were the procedures adequate?</td>
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<tr>
<td>What action will you take as a result of</td>
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<td>the exercise?</td>
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</tr>
<tr>
<td>How useful was the partnering process?</td>
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<td></td>
</tr>
<tr>
<td>Any other comments?</td>
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</tbody>
</table>
5. CONCLUSION

The purpose of quality assurance is to ensure accountability, yet it must also enhance the quality of higher education itself. The European standards and guidelines for quality assurance provide directions for higher education institutions to improve their internal quality assurance policies and procedures, yet there is often a perception that European quality assurance has become too bureaucratized failing to lead to real deep changes in the sector. Not all higher education institutions take sufficient ownership in the process.

In an increasingly competitive higher education sector, benchmarking is a modern management tool to support strategic decision-making, yet its use is still too limited.

Whether carried out within or between institutions, benchmarking must always lie in the identification of strengths and weaknesses with a view to set targets for improvement. Benchmarking goes beyond the comparison of statistical data. It is a dynamic comparative exercise during which relevant indicators are defined against which the performance of a group of institutions can be measured.

Benchmarking must always be taken at the strategic level to support strategic developments. It will only produce valuable results if it is placed in the context of organisational transformation and progress. Key is to define where efforts should be placed to maximize results and constantly set new targets for institutional improvement.

Quality assurance agencies can gain significantly from comparative benchmarking exercises to assess the effectiveness of their activities in responding to the improvement of quality in higher education at the national and European levels.
Appendix 1. The Benchmarking Code of Conduct

1.0 Principle of Legality

1.1 If there is any potential question on the legality of an activity, consult with your corporate counsel.
1.2 Avoid discussions or actions that could lead to or imply an interest in restraint of trade, market and/or customer allocation schemes, price fixing, dealing arrangements, bid rigging, or bribery. Don’t discuss costs with competitors if costs are an element of pricing.
1.3 Refrain from the acquisition of trade secrets from another by any means that could be interpreted as improper including the breach or inducement of a breach of any duty to maintain secrecy. Do not disclose or use any trade secret that may have been obtained through improper means or that was disclosed by another in violation of duty to maintain its secrecy or limit its use.
1.4 Do not, as a consultant or client, extend benchmarking study findings to another company without first ensuring that the data is appropriately blinded and anonymous so that the participants’ identities are protected.

2.0 Principle of Exchange

2.1 Be willing to provide the same type and level of information that you request from your benchmarking partner to your benchmarking partner.
2.2 Communicate fully and early in the relationship to clarify expectations, avoid misunderstanding, and establish mutual interest in the benchmarking exchange.
2.3 Be honest and complete.

3.0 Principle of Confidentiality

3.1 Treat benchmarking interchange as confidential to the individuals and companies involved.
Information must not be communicated outside the partnering organizations without the prior consent of the benchmarking partner who shared the information.
3.2 A company’s participation in a study is confidential and should not be communicated externally without their prior permission.
4.0 Principle of Use
4.1 Use information obtained through benchmarking only for purposes stated to the benchmarking partner.
4.2 The use or communication of a benchmarking partner’s name with the data obtained or practices observed requires the prior permission of that partner.
4.3 Contact lists or other contact information provided by the International Benchmarking Clearinghouse in any form may not be used for purposes other than benchmarking and networking.

5.0 Principle of Contact
5.1 Respect the corporate culture of partner companies and work within mutually agreed procedures.
5.2 Use benchmarking contacts, designated by the partner company if that is their preferred procedure.
5.3 Obtain mutual agreement with the designated benchmarking contact on any hand-off of communication or responsibility to other parties.
5.4 Obtain an individual’s permission before providing his or her name in response to a contact request.
5.5 Avoid communicating a contact’s name in an open forum without the contact’s prior permission.

6.0 Principle of Preparation
6.1 Demonstrate commitment to the efficiency and effectiveness of benchmarking by being prepared prior to making an initial benchmarking contact.
6.2 Make the most of your benchmarking partner’s time by being fully prepared for each exchange.
6.3 Help your benchmarking partners prepare by providing them with a questionnaire and agenda prior to benchmarking visits.

7.0 Principle of Completion
7.1 Follow through with each commitment made to your benchmarking partner in a timely manner.
7.2 Complete each benchmarking study to the satisfaction of all benchmarking partners as mutually agreed.
8.0 Principle of Understanding and Action

8.1 Understand how your benchmarking partner would like to be treated.
8.2 Treat your benchmarking partner in the way that your benchmarking partner would want to be treated.
8.3 Understand how your benchmarking partner would like to have the information he or she provides handled and used, and handle and use it in that manner.

Benchmark(er)s:

- Know and abide by the Benchmarking Code of Conduct.
- Have basic knowledge of benchmarking and follow a benchmarking process.
- Prior to initiating contact with potential benchmarking partners, have determined what to benchmark, identified key performance variables to study, recognized superior performing companies, and completed a rigorous self-assessment.
- Have a questionnaire and interview guide developed, and share these in advance if requested.
- Possess the authority to share and are willing to share information with benchmarking partners.
- Work through a specified host and mutually agreed upon scheduling and meeting arrangements.

When the benchmarking process proceeds to a face-to-face site visit, the following behaviours are encouraged:

- Provide meeting agenda in advance.
- Be professional, honest, courteous, and prompt.
- Introduce all attendees and explain why they are present.
- Adhere to the agenda.
- Use language that is universal, not one’s own jargon.
- Be sure that neither party is sharing proprietary information unless prior approval has been obtained by both parties, from the proper authority.
- Share information about your own process, and, if asked, consider sharing study results.
- Offer to facilitate a future reciprocal visit.
- Conclude meetings and visits on schedule.
- Thank your benchmarking partner for sharing their process.
The following guidelines apply to both partners in a benchmarking encounter with competitors or potential competitors:

- In benchmarking with competitors, establish specific ground rules up-front, e.g. “We don’t want to talk about things that will give either of us a competitive advantage, but rather we want to see where we both can mutually improve and gain benefit.”
- Benchmarkers should check with legal counsel if any information gathering procedure is in doubt, e.g., before contacting a direct competitor. If uncomfortable, do not proceed, or sign a security/nondisclosure agreement. Negotiate a specific non-disclosure agreement that will satisfy the attorneys from both companies.
- Do not ask competitors for sensitive data or cause the benchmarking partner to feel they must.
- Provide data to keep the process going.
- Use an ethical third party to assemble and “blind” competitive data, with inputs from legal counsel in direct competitor sharing. (Note: When cost is closely linked to price, sharing cost data can be considered to be the same as price sharing.)
- Any information obtained from a benchmarking partner should be treated as internal, privileged communications. If “confidential” or proprietary material is to be exchanged, then a specific agreement should be executed to indicate the content of the material that needs to be protected, the duration of the period of protection, the conditions for permitting access to the material, and the specific handling requirements that are necessary for that material.
Appendix II. Benchmarking examples

Benchmarks for e-learning

Benchmark 1: *Institution policy and governance for technology supported learning and teaching*

**Scoping Statement:** This applies to institution level planning, policy development and implementation in relation to the application of technologies for learning and teaching. It includes the delegation of authority and responsibility for developing, implementing, evaluating and responding to results of policies and strategic and operational/functional plans.

**Good Practice Statement**
The institution has established, well understood governance mechanisms and policies that guide the selection, implementation, utilisation/deployment, and evaluation of technologies to support learning and teaching.

**Performance Indicators**

- Institution strategic and operational plans recognise and support the use of technologies to facilitate learning and teaching.
- Specific plans relating to the use of learning and teaching technologies are aligned with the institution’s strategic and operational plans.
- Planning for learning and teaching technologies is aligned with the budget process.
- Institution policies specify the use of technologies to support learning and teaching covering all aspects and stakeholder perspectives.
- Policies are well disseminated and applied.
- The institution has established governance mechanisms for learning and teaching with technologies that include representation from key stakeholders.
- Clear management structures identify responsibilities and authority.
- Decisions regarding new technology adoption are made within current policy frameworks.

**Performance Measures**

- Institution strategic and operational plans recognise and support the use of technologies to facilitate learning and teaching.
- No current strategic or operational plans
- Strategic or operational plan but no recognition of use of technologies
- Strategic or operational plan includes some recognition of use of technologies
- Strategic and operational plans both have some recognition of use of technologies
- Strategic and operational plans both have clear recognition of use of technologies
- Specific plans relating to the use of learning and teaching technologies are aligned with the institution’s strategic and operational plans.

<table>
<thead>
<tr>
<th>Existence</th>
<th>Alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No specific plans</td>
<td>Not aligned to institution strategic and operational plans</td>
</tr>
<tr>
<td>2. Immature plans</td>
<td>Aligned with either institution strategic or operational plans</td>
</tr>
<tr>
<td>3. Some specific plans</td>
<td>Aligned with both institution strategic and operational plans</td>
</tr>
<tr>
<td>4. Numerous specific plans</td>
<td>Aligned with either institution strategic or operational plans</td>
</tr>
<tr>
<td>5. Comprehensive suite of plans</td>
<td>Aligned with both institution strategic and operational plans</td>
</tr>
</tbody>
</table>

Planning for learning and teaching technologies is aligned with the budget process.

- No alignment
- Limited alignment
- Moderate alignment
- Considerable alignment
- Complete alignment

Institution policies specify the use of technologies to support learning and teaching covering all aspects and stakeholder perspectives.

- No institution policies
- Limited range of policies
- Some policies are comprehensive
- Most policies are comprehensive
- All policies are comprehensive

Policies are well disseminated, and applied.

<table>
<thead>
<tr>
<th>Dissemination</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No dissemination</td>
<td>Not applied</td>
</tr>
<tr>
<td>2. Poorly disseminated</td>
<td>Limited application</td>
</tr>
<tr>
<td>3. Moderate dissemination</td>
<td>Partial application</td>
</tr>
<tr>
<td>4. Substantial dissemination</td>
<td>Moderate application</td>
</tr>
<tr>
<td>5. Widely disseminated</td>
<td>Full application</td>
</tr>
</tbody>
</table>
The institution has established governance mechanisms for learning and teaching with technologies that include representation from key stakeholders.

<table>
<thead>
<tr>
<th>Governance</th>
<th>Stakeholder representation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No governance</td>
<td>None</td>
</tr>
<tr>
<td>2. Planning for governance</td>
<td>Limited</td>
</tr>
<tr>
<td>3. Immature</td>
<td>Moderate</td>
</tr>
<tr>
<td>4. Developing</td>
<td>Substantial</td>
</tr>
<tr>
<td>5. Well established and mature</td>
<td>Comprehensive</td>
</tr>
</tbody>
</table>

7. Clear management structures identify responsibilities and authority.

<table>
<thead>
<tr>
<th>Management structures</th>
<th>Responsibilities and authority identified</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No formal management structures</td>
<td>None</td>
</tr>
<tr>
<td>2. Limited</td>
<td>Limited</td>
</tr>
<tr>
<td>3. Partial but unclear</td>
<td>Moderate</td>
</tr>
<tr>
<td>4. Partial and clear</td>
<td>Extensive</td>
</tr>
<tr>
<td>5. Comprehensive and clear</td>
<td>Comprehensive</td>
</tr>
</tbody>
</table>

Decisions regarding new technology adoption are made within current policy frameworks.

- No reference
- Limited reference
- Moderate reference
- Substantial reference
- Comprehensive reference

**Benchmark 2: Planning for, and quality improvement of the integration of technologies for learning and teaching**

**Scoping Statement:** There is a need for institution wide quality assurance processes to ensure the appropriate use of technologies in learning and teaching. This will include planning, implementation, evaluation and feedback loops.

**Good Practice Statement**

Institutions support and encourage the appropriate use of technology in learning and teaching through strategic planning processes at all levels of the institution. The focus is continuous improvement through systematic and regular evaluation of implementation strategies and outcomes. Such evaluation will in turn inform future planning.

**Performance Indicators**

- Institution wide processes for quality assurance are in place and in use to integrate technologies in learning and teaching.
- Institution and Faculty plans are aligned with institution policy for the use of technology in learning and teaching.
• Operationalisation is planned and evaluated.
• Planning and quality improvement is resourced.
• Collaboration for integrating technology in learning and teaching occurs across key functional areas.
• Evaluation cycles are in place to measure key performance indicators for all key stakeholders.
• Outcomes are reported to all levels of the institution.
• Evaluation feedback is integrated in planning for continuous improvement purposes.

Performance Measures

1. Institution wide processes for quality assurance are in place and in use to integrate technologies in learning and teaching.

<table>
<thead>
<tr>
<th>Process in place</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. None</td>
<td>None</td>
</tr>
<tr>
<td>2. Limited</td>
<td>Occasional/infrequent</td>
</tr>
<tr>
<td>3. Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>4. Extensive</td>
<td>Frequent</td>
</tr>
<tr>
<td>5. Comprehensive</td>
<td>Systematic</td>
</tr>
</tbody>
</table>

2. Institution and faculty plans are aligned with institution policy for the use of technology in learning and teaching.

<table>
<thead>
<tr>
<th>Institution plans</th>
<th>Faculty plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No alignment</td>
<td>No alignment</td>
</tr>
<tr>
<td>2. Limited</td>
<td>Limited</td>
</tr>
<tr>
<td>3. Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>4. Considerable</td>
<td>Considerable</td>
</tr>
<tr>
<td>5. Optimal</td>
<td>Optimal</td>
</tr>
</tbody>
</table>

3. Operationalisation is planned and evaluated.

<table>
<thead>
<tr>
<th>Planned</th>
<th>Evaluated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. None</td>
<td>1. None</td>
</tr>
<tr>
<td>2. Limited</td>
<td>2. Limited</td>
</tr>
<tr>
<td>3. Moderate</td>
<td>3. Moderate</td>
</tr>
<tr>
<td>4. Substantial</td>
<td>4. Substantial</td>
</tr>
<tr>
<td>5. Optimal</td>
<td>5. Optimal</td>
</tr>
</tbody>
</table>

4. Planning and quality improvement is resourced.
• No resources
• Inadequate resources
• Moderate resources
• Substantial resources
• Comprehensive resources
5. Collaboration for integrating technology in learning and teaching occurs across key functional areas.
   - No collaboration
   - Infrequent collaboration
   - Occasional collaboration
   - Frequent collaboration
   - Comprehensive collaboration

6. Evaluation cycles are in place to measure key performance indicators for all key stakeholders.
   - No evaluation cycles
   - Limited evaluation cycles for some key stakeholders
   - Evaluation cycles for some key stakeholders
   - Evaluation cycles for all key stakeholders
   - Comprehensive evaluation cycles for all key stakeholders

7. Outcomes are reported to all levels of the institution.
   - No outcomes are reported
   - Some outcomes are reported to some levels
   - Outcomes are reported to the majority of levels
   - Outcomes are reported to all levels
   - Comprehensive outcomes are reported to all levels

8. Evaluation feedback is integrated in planning for continuous improvement purposes.
   - No integration
   - Limited integration
   - Moderate integration
   - Extensive integration
   - Comprehensive integration

Benchmark 3: Information technology infrastructure to support learning and teaching

Scoping Statement: Information technology (IT) infrastructure describes a range of information and communication technologies that are used to support learning and teaching. This can include the use of: productivity software; learning management systems; library systems; the World Wide Web; mobile technologies. It also includes hardware (computers, telecommunications and ancillary equipment) and networks, both internal (LANS and WANS) and external which are used for the purposes of learning and teaching. These technologies support learning on and off campus. The topic can also include audio visual equipment. Decisions about the selection of IT infrastructure for learning should refer to directional/policy statement(s) about the learning and teaching environment
of an institution (for example distance education, or blended approaches). Once a technology is selected it is important that an institution has robust and accepted processes for trialling and rolling out a new technology, that involves all key stakeholders.

Out of scope
The pedagogical issues relating to the use of infrastructure is the domain of other benchmarks.

**Good Practice Statement**
Technical infrastructure is aligned with institutional learning goals and the technologies are resourced, support staff members are trained and the infrastructure is implemented, maintained, administered and supported efficiently and effectively.

**Performance Indicators**
- Evaluation processes are in place to generate data to support decision making.
- Evaluation processes are comprehensive.
- Responsibilities and processes for maintenance and administration are effective and efficient.
- Responsibilities and processes for support and training are effective and efficient.
- Project management processes are in place, responsibilities defined and processes applied.
- Resources are allocated for maintenance and upgrades of existing equipment.
- Implementation is well planned.
- Implementation is resourced.
- Professional development occurs for staff managing infrastructure (including new and emerging technologies).

**Performance Measures**
1. **Evaluation processes are in place to generate data to support decision making.**
   - No evaluation processes
   - Some processes generating limited data
   - Processes generate some useful decision making data
   - Processes generate comprehensive data
   - Processes generate regular, timely and comprehensive data
2. Evaluation processes are comprehensive
   - No processes
   - Limited processes
   - Some integration of complementary processes
   - Substantial processes
   - Comprehensive, integrated processes

3. Responsibilities and processes for maintenance and administration are effective and efficient.

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Effective and efficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Nobody identified/allocated</td>
<td>Not at all</td>
</tr>
<tr>
<td>2. Ad hoc</td>
<td>Marginally</td>
</tr>
<tr>
<td>3. Allocated but unclear</td>
<td>Somewhat</td>
</tr>
<tr>
<td>4. Sound practice emerging</td>
<td>Generally</td>
</tr>
<tr>
<td>5. Clearly defined</td>
<td>Extremely</td>
</tr>
</tbody>
</table>

4. Responsibilities and processes for support and training are effective and efficient.

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Effective and efficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Nobody identified/allocated</td>
<td>Not at all</td>
</tr>
<tr>
<td>2. Ad hoc</td>
<td>Marginally</td>
</tr>
<tr>
<td>3. Allocated but unclear</td>
<td>Somewhat</td>
</tr>
<tr>
<td>4. Sound practice emerging</td>
<td>Generally</td>
</tr>
<tr>
<td>5. Clearly defined</td>
<td>Extremely</td>
</tr>
</tbody>
</table>

5. Project management processes are in place, responsibilities clearly defined and processes applied.

<table>
<thead>
<tr>
<th>Processes in place</th>
<th>Responsibilities defined</th>
<th>Processes applied</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Absent</td>
<td>Absent</td>
<td>Not applied</td>
</tr>
<tr>
<td>2. Ad hoc</td>
<td>Ill-defined</td>
<td>Unevenly applied</td>
</tr>
<tr>
<td>3. Limited</td>
<td>Somewhat defined</td>
<td>Limited</td>
</tr>
<tr>
<td>4. Extensive</td>
<td>Substantially defined</td>
<td>Generally</td>
</tr>
<tr>
<td>5. Comprehensive</td>
<td>Clearly defined</td>
<td>Systematic</td>
</tr>
</tbody>
</table>

6. Resources are allocated for maintenance and upgrades of existing equipment.

<table>
<thead>
<tr>
<th>Maintenance</th>
<th>Upgrades</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No resources</td>
<td>No resources</td>
</tr>
<tr>
<td>2. Inadequate resourcing</td>
<td>Inadequate resourcing</td>
</tr>
<tr>
<td>3. Moderate resourcing</td>
<td>Moderate resourcing</td>
</tr>
<tr>
<td>4. Substantial resourcing</td>
<td>Substantial resourcing</td>
</tr>
<tr>
<td>5. Comprehensive resourcing</td>
<td>Comprehensive resourcing</td>
</tr>
</tbody>
</table>
7. **Implementation is well planned.**
   - No planning
   - Limited planning
   - Moderate planning
   - Extensive planning
   - Comprehensive planning

8. **Implementation is resourced.**
   - No resources
   - Inadequate resources
   - Moderate resources
   - Substantial resources
   - Comprehensive resources

9. **Professional development occurs for staff managing infrastructure (including new and emerging technologies).**

<table>
<thead>
<tr>
<th>Existing infrastructure</th>
<th>New and emerging technologies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Does not occur</td>
<td>Does not occur</td>
</tr>
<tr>
<td>2. Occasionally</td>
<td>Occasionally</td>
</tr>
<tr>
<td>3. Sometimes</td>
<td>Sometimes</td>
</tr>
<tr>
<td>4. Usually</td>
<td>Usually</td>
</tr>
<tr>
<td>5. Systematic</td>
<td>Systematic</td>
</tr>
</tbody>
</table>

**Benchmark 4: Pedagogical application of information and communication technology**

**Scoping Statement:** This topic addresses the effective application of information and communication technology (ICT) to support institution learning and teaching. It encompasses the underlying rationale and strategic intent, how it is embedded in institution teaching, how it is resourced and how it is evaluated. The pedagogical application of ICT is a developing area that has the potential to impact on every student and staff member, and failure to apply ICT in pedagogically sound ways will reduce the value of infrastructure investment, and may detract from the ability of the institution to meet its teaching and learning goals.

**Out of scope**

Technological, policy and administrative issues relating to the pedagogical application of ICT are the domain of other benchmarks.
Good Practice Statement

Pedagogical application should be:

- **aligned** to institution strategy;
- **informed** by good practice and research;
- **supported** adequately;
- **deployed** and promoted effectively; and
- **evaluated** from a number of perspectives.

Performance indicators are organised to reflect these aspects of pedagogical application.

Performance Indicators

Aligned

- Pedagogical applications are grounded in the context of the institution’s learning and teaching strategy.
- The intent of pedagogical applications of ICT is readily available to all teaching and teaching support staff.

Informed

- Pedagogical application is based on sound educational research and good practice.
- Guidelines (including compliance with legal requirements, accessibility, and learning designs) for the pedagogical application of ICT are readily available to all teaching and teaching support staff and in use.
- Examples of good practice are available and in use.

Supported

- Communities of practice exist for communicating and promoting the innovative use of pedagogical applications in learning and teaching.
- Professional development covering e-learning pedagogy is available for all teaching staff and used.
- Tools for the pedagogical application of ICT are available for all teaching staff and in use.

Deployed

Resources are allocated for developing e-learning projects.

The pedagogical application of ICT is sustainable.

Evaluated

- Deployment of pedagogical applications of ICT is evaluated at the unit of study level including students’ learning outcomes.
- Overall, pedagogical application of ICT is evaluated.
- Evaluation of feedback is integrated in planning for continuous improvement of pedagogical application.
**Performance Measures**

**Aligned**

1. Pedagogical applications are grounded in the context of the institution’s learning and teaching strategy.
   - Pedagogical application has no links to institution learning and teaching strategy or no learning and teaching strategy exists
   - Isolated instances of links to institution learning and teaching strategy
   - Some elements are covered by pedagogical applications
   - The majority of elements are covered by pedagogical applications
   - The vast majority of pedagogical applications are the complete realisation of an existing institutional learning and teaching strategy

2. The intent of pedagogical applications of ICT is readily available to all teaching and teaching support staff.
   - Pedagogical application has no declared intent or guidelines
   - Few statements of intent exist and are not readily available
   - Incomplete statements of intent are evident and available
   - Some clear statements of intent and guidelines are evident and available.
   - There are many clear statements of intent and guidelines are readily available

**Informed**

3. **Pedagogical application is based on sound educational research and good practice.**
   - Pedagogical application has no basis in sound educational research or good practice
   - Pedagogical application has a limited base in either sound educational research or good practice
   - Pedagogical application is partially informed by both sound educational research and good practice
   - Pedagogical application is substantially based on either sound educational research or good practice
   - Pedagogical application is comprehensively based on both sound educational research and good practice

4. **Guidelines (including compliance with legal requirements, accessibility and learning designs) for the pedagogical application of ICT are readily available to all teaching and teaching support staff and in use.**

<table>
<thead>
<tr>
<th>Guidelines available</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. None</td>
<td>None</td>
</tr>
<tr>
<td>2. Limited</td>
<td>Occasional/infrequent</td>
</tr>
<tr>
<td>3. Some</td>
<td>Moderate</td>
</tr>
<tr>
<td>4. Extensive</td>
<td>Frequent</td>
</tr>
<tr>
<td>5. Comprehensive</td>
<td>Systematic</td>
</tr>
</tbody>
</table>
5. Examples of good practice are available and in use.

<table>
<thead>
<tr>
<th>Examples available</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. None</td>
<td>None</td>
</tr>
<tr>
<td>2. Limited</td>
<td>Occasional/infrequent</td>
</tr>
<tr>
<td>3. Some</td>
<td>Moderate</td>
</tr>
<tr>
<td>4. Extensive</td>
<td>Frequent</td>
</tr>
<tr>
<td>5. Comprehensive</td>
<td>Systematic</td>
</tr>
</tbody>
</table>

**Supported**

6. Communities of practice exist for communicating and promoting the innovative use of pedagogical applications in learning and teaching.
   - No communities of practice exist
   - Isolated communities of practice exist in a limited number of disciplines
   - Communities of practice exist but do little to promote innovative use
   - Many communities of practice exist but do little to promote innovative use
   - Communities of practice exist and promote innovative use

7. Professional development covering e-learning pedagogy is available for all teaching staff and used.

<table>
<thead>
<tr>
<th>Professional development available</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. None</td>
<td>None</td>
</tr>
<tr>
<td>2. Limited</td>
<td>Occasional/infrequent</td>
</tr>
<tr>
<td>3. Some</td>
<td>Moderate</td>
</tr>
<tr>
<td>4. Extensive</td>
<td>Frequent</td>
</tr>
<tr>
<td>5. Comprehensive</td>
<td>Systematic</td>
</tr>
</tbody>
</table>

8. Tools for the pedagogical application of ICT are available for all teaching staff and in use.

<table>
<thead>
<tr>
<th>Tools available</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. None</td>
<td>Not</td>
</tr>
<tr>
<td>2. Limited</td>
<td>Occasional/infrequent</td>
</tr>
<tr>
<td>3. Some</td>
<td>Moderate</td>
</tr>
<tr>
<td>4. Extensive</td>
<td>Frequent</td>
</tr>
<tr>
<td>5. Comprehensive</td>
<td>Systematic</td>
</tr>
</tbody>
</table>

**Deployed**

9. Resources are allocated for developing e-learning projects.
   - No resources
   - Inadequate resources
   - Moderate resources
   - Substantial resources
   - Comprehensive resources
10. The pedagogical application of ICT is sustainable.

- No specific consideration given to sustainability
- Limited consideration given to sustainability
- Some pedagogical applications are sustainable
- Many pedagogical applications are sustainable
- Sustainability is built in to all pedagogical applications

**Evaluated**

11. Deployment of pedagogical applications of ICT is evaluated at the unit of study level including students’ learning outcomes.

- Not evaluated
- Limited evaluation
- Regularly evaluated
- Extensively evaluated
- Systematic evaluation

12. Overall, pedagogical application of ICT is evaluated.

- Not evaluated
- Limited evaluation
- Regularly evaluated
- Extensively evaluated
- Systematic evaluation

13. Evaluation of feedback is integrated in planning for continuous improvement purposes.

- No integration
- Limited integration
- Regular integration
- Extensive integration
- Systematic integration

**Scoping Statement:** The key focus is on developing teaching staff to make effective use of technologies for learning and teaching. Professional and staff development activities encompass individual and group delivery, face-to-face as well as online. Self-directed learning activities/resources are also included.

Some professional development will be designed and delivered to meet the strategic needs of the organisation whilst other activities will be provided to meet the demands of teaching staff as they arise.

**Good Practice Statement**

Quality learning and teaching is brought about where people are expert, enthusiastic, skilled and well supported and learning experiences are designed to engage the learner and to employ multimodal approaches.

Engagement in project development should not be limited by factors of physical location, equity or technological skills. This means that professional
staff development is offered flexibly, accommodates a range of entry points, is evaluated and is informed by the work of related units.

A good practice approach to learning and teaching technologies reflects an understanding of learners’ characteristics and needs as required by different discipline contexts, for example, problem-based learning in medicine.

**Performance Indicators**

All of the institution’s obligations to learning and teaching technologies are clearly communicated in its strategies, policies and practices.

Processes are in place and in use to identify staff development needs for the institution’s strategic development.

Processes are in place and in use to identify individual staff development needs.

Educational and technical expertise is available to develop and support quality programs and resources which address staff needs, including those with special needs.

Staff development programs are coordinated with other service units.

Staff development is resourced.

Professional/staff development programs can be delivered flexibly and address differing skill levels.

Evaluation of feedback is integrated in planning for continuous improvement of professionals/staff development processes.

**Performance Measures**

All of the institution's obligations to learning and teaching technologies are clearly communicated in its strategies, policies and practices.

<table>
<thead>
<tr>
<th>Obligations covered</th>
<th>Clarity</th>
<th>Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>2. Limited</td>
<td>Minimal</td>
<td>Limited</td>
</tr>
<tr>
<td>3. Moderate</td>
<td>Partial</td>
<td>Moderate</td>
</tr>
<tr>
<td>4. Extensive</td>
<td>Substantial</td>
<td>Substantial</td>
</tr>
<tr>
<td>5. Full</td>
<td>Complete</td>
<td>Full</td>
</tr>
</tbody>
</table>

Processes are in place and in use to identify staff development needs for the institution’s strategic development.

<table>
<thead>
<tr>
<th>Process in place</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. None</td>
<td>None</td>
</tr>
<tr>
<td>2. Limited</td>
<td>Occasional/infrequent</td>
</tr>
<tr>
<td>3. Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>4. Extensive</td>
<td>Frequent</td>
</tr>
<tr>
<td>5. Comprehensive</td>
<td>Systematic</td>
</tr>
</tbody>
</table>
3. Processes are in place and in use to identify individual staff development needs.

<table>
<thead>
<tr>
<th>Process in place</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. None</td>
<td>None</td>
</tr>
<tr>
<td>2. Limited</td>
<td>Occasional/infrequent</td>
</tr>
<tr>
<td>3. Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>4. Extensive</td>
<td>Frequent</td>
</tr>
<tr>
<td>5. Comprehensive</td>
<td>Systematic</td>
</tr>
</tbody>
</table>

Educational and technical expertise is available to develop and support quality programs and resources which address staff needs, including those with special needs.

- No expertise
- Limited expertise
- Moderate expertise
- Considerable expertise
- Comprehensive expertise

Staff development programs are coordinated with other service units.

- No coordination
- Occasional coordination
- Moderate coordination
- Frequent coordination
- Comprehensive coordination

Staff development is resourced.

- No resources
- Inadequate resources
- Moderate resources
- Substantial resources
- Comprehensive resources

Professional/staff development programs can be delivered flexibly and address differing skill levels.

<table>
<thead>
<tr>
<th>Flexibility</th>
<th>Tailoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Not at all</td>
<td>Not at all</td>
</tr>
<tr>
<td>2. Limited</td>
<td>Limited</td>
</tr>
<tr>
<td>3. Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>4. Substantial</td>
<td>Substantial</td>
</tr>
<tr>
<td>5. Full</td>
<td>Full</td>
</tr>
</tbody>
</table>

Evaluation of feedback is integrated in planning for continuous improvement of professional/staff development processes.

- No integration
- Limited integration
- Regular integration
- Extensive integration
- Systematic integration
Benchmark 5: Staff support for the use of technologies for learning and teaching

Scoping Statement: This benchmark is restricted to the support of staff for the use of technologies in their teaching. It deals with staff who want to use technologies and/or encounter difficulties while using them, and who need to be able to get ready access to technical or educational assistance. Technical support is required to deal with problems or needs related to the technological environment, including hardware and software, communications and connections, and performance. Educational support addresses the needs of staff who want to maximise student learning outcomes.

Good Practice Statement
Staff members are aware of and have access to comprehensive technical and educational support for the use of the technologies in learning and teaching: prior to the implementation of the technology, in formal training sessions, on a just-in-time basis, and for troubleshooting purposes.

Performance Indicators
1. Technical and/or educational support is aligned with the current and emerging technologies for learning and teaching in use at the institution.
2. Support needs are identified for individuals, work groups and the institution.
3. Support services for staff are evaluated for materials, procedures and systems.
4. Coordination occurs between areas providing staff support services.
5. Support provided is available, accessible and used by staff.
6. Support services are adequately resourced.
7. Support services are promoted to staff.
8. New technologies are analysed for staff support implications.
9. Evaluation of feedback is integrated in planning for continuous improvement purposes.
Performance Measures

1. Technical and/or educational support is aligned with the current and emerging technologies for learning and teaching in use at the institution.

<table>
<thead>
<tr>
<th>Technical</th>
<th>Educational</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No alignment</td>
<td>No alignment</td>
</tr>
<tr>
<td>2. Limited alignment</td>
<td>Limited alignment</td>
</tr>
<tr>
<td>3. Moderate alignment</td>
<td>Moderate alignment</td>
</tr>
<tr>
<td>4. Considerable alignment</td>
<td>Considerable alignment</td>
</tr>
<tr>
<td>5. Full alignment</td>
<td>Full alignment</td>
</tr>
</tbody>
</table>

2. Support needs are identified for individuals, work groups and the institution.

<table>
<thead>
<tr>
<th>Individual</th>
<th>Work group</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Not identified</td>
<td>Not identified</td>
<td>Not identified</td>
</tr>
<tr>
<td>2. Limited identification</td>
<td>Limited identification</td>
<td>Limited identification</td>
</tr>
<tr>
<td>3. Some identification</td>
<td>Some identification</td>
<td>Some identification</td>
</tr>
<tr>
<td>4. Regular identification</td>
<td>Regular identification</td>
<td>Regular identification</td>
</tr>
<tr>
<td>5. Systematic identification</td>
<td>Systematic identification</td>
<td>Systematic identification</td>
</tr>
</tbody>
</table>

3. Support services for staff are evaluated for materials, procedures and systems.

<table>
<thead>
<tr>
<th>Materials</th>
<th>Procedures</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Not evaluated</td>
<td>Not evaluated</td>
<td>Not evaluated</td>
</tr>
<tr>
<td>2. Limited evaluation</td>
<td>Limited evaluation</td>
<td>Limited evaluation</td>
</tr>
<tr>
<td>3. Regularly evaluated</td>
<td>Regularly evaluated</td>
<td>Regularly evaluated</td>
</tr>
<tr>
<td>4. Extensively evaluated</td>
<td>Extensively evaluated</td>
<td>Extensively evaluated</td>
</tr>
<tr>
<td>5. Systematic evaluation</td>
<td>Systematic evaluation</td>
<td>Systematic evaluation</td>
</tr>
</tbody>
</table>

4. Coordination occurs between areas providing staff support services.
   - No coordination
   - Infrequent coordination
   - Some coordination
   - Frequent coordination
   - Comprehensive coordination

5. Support provided is available, accessible and used by staff.

<table>
<thead>
<tr>
<th>Support available</th>
<th>Support accessible</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. None</td>
<td>Not at all</td>
<td>Not all</td>
</tr>
<tr>
<td>2. Limited</td>
<td>Restricted</td>
<td>Limited</td>
</tr>
<tr>
<td>3. Moderate</td>
<td>Working hours</td>
<td>Moderate</td>
</tr>
<tr>
<td>4. Considerable</td>
<td>Extended hours</td>
<td>Considerable</td>
</tr>
<tr>
<td>5. Comprehensive</td>
<td>24 x 7</td>
<td>Comprehensive</td>
</tr>
</tbody>
</table>
6. **Support services are resourced.**
   No resources
   Inadequate resources
   Moderate resources
   Substantial resources
   Comprehensive resources

7. **Support services are promoted to staff.**
   No promotion
   Limited promotion
   Moderate promotion
   Substantial promotion

8. **Systematic promotion**
   New technologies are analysed for staff support implications.
   No analysis
   Limited analysis
   Partial analysis
   Extensive analysis
   Complete analysis

9. **Evaluation of feedback is integrated in planning for continuous improvement purposes.**
   No integration
   Limited integration
   Regular integration
   Extensive integration
   Systematic integration

**Benchmark 6. Student training for the effective use of technologies for learning**

**Scoping Statement:** ‘Technologies for learning’ describes a range of information and communication technologies that are used to support learning and teaching. These can include the use of: computers and productivity software; learning management systems; library systems; the World Wide Web; mobile technologies. This includes technologies used on and off campus. Aspects of an ethical approach to the use of learning technologies are included.

Student training refers to the applied use of such technologies in a learning context. It can take many forms and be provided by many people, for example through: specific training classes; selfstudy; or as part of a unit of study. Staff providing the training need appropriate skills which require alignment to the professional/staff development benchmark.
Good Practice Statement

The provision of student training for the effective use of learning and teaching technologies is aligned with the technologies and teaching approaches in use at the institution; is adequately resourced; is coordinated with student support; is flexible; is focused on the needs of students; covers a range of current technologies and reflects good practice in the use of technology.

Performance Indicators

1. Student training is aligned with the use of technologies and teaching approaches in use at the institution.
2. Student training is resourced.
3. Processes are in place to determine student needs and maintain alignment with those needs.
4. Processes are in place to evaluate student satisfaction with their training.
5. Coordination occurs between areas providing student training.
6. Student training is delivered flexibly and tailored to address differing needs.
7. Student training promotes an ethical approach to the use of technologies for learning.
8. Materials used in student training and student support are complementary.
9. Evaluation of feedback is integrated in planning for continuous improvement purposes.

Performance Measures

1. Student training is aligned with the technologies and teaching approaches in use at the institution.

   No alignment
   Limited alignment
   Moderate alignment
   Considerable alignment
   Full alignment

2. Student training is resourced.

   No resources
   Inadequate resources
   Moderate resources
   Substantial resources
   Comprehensive resources
3. Processes are in place to determine student needs and maintain alignment with those needs.

<table>
<thead>
<tr>
<th>Identification</th>
<th>Alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. None</td>
<td>None</td>
</tr>
<tr>
<td>2. Limited</td>
<td>Limited</td>
</tr>
<tr>
<td>3. Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>4. Extensive</td>
<td>Extensive</td>
</tr>
<tr>
<td>5. Comprehensive</td>
<td>Comprehensive</td>
</tr>
</tbody>
</table>

4. Processes are in place to evaluate student satisfaction with their training.

- No processes
- Limited processes
- Moderate processes
- Extensive processes
- Comprehensive processes

5. Coordination occurs between areas providing student training.

- No coordination
- Occasional coordination
- Some coordination
- Frequent coordination
- Comprehensive coordination

6. Student training is delivered flexibly and tailored to address differing needs.

<table>
<thead>
<tr>
<th>Flexibility</th>
<th>Tailoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Not at all</td>
<td>Not at all</td>
</tr>
<tr>
<td>2. Limited</td>
<td>Limited</td>
</tr>
<tr>
<td>3. Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>4. Substantial</td>
<td>Substantial</td>
</tr>
<tr>
<td>5. Full</td>
<td>Full</td>
</tr>
</tbody>
</table>

7. Student training promotes an ethical approach to the use of technologies for learning.

- No promotion
- Limited promotion
- Moderate promotion
- Substantial promotion
- Systematic promotion

8. Materials used in student training and student support are complementary.

- Not at all complementary
- Partially complementary
- Somewhat complementary
- Generally complementary
- Extensively complementary
9. Evaluation of feedback is integrated in planning for continuous improvement purposes.

No integration
Limited integration
Regular integration
Extensive integration
Systematic integration

Benchmark 7: Student support for the use of technologies for learning

Scoping Statement: Support for students in the use of technologies for learning is defined as primarily technical, but the learning context should be considered. Support should be considered in terms of the use of on-campus student computer facilities and the use of technologies from a distance. The term can include the use of: computers and productivity software; learning management systems; library systems; the World Wide Web; and mobile technologies.

Good Practice Statement

Students are aware of and have access to effective and well resourced support for the learning technologies in use at the institution. Student support is responsive to student needs; is coordinated with student training; and is constantly developing in response to changing technology.

Performance Indicators

1. The provision of support for students is integrated with current and emerging technologies for learning that are in use at the institution.
2. Support services are resourced.
3. Support services are promoted to the student body.
4. Support is available and accessible to students and used.
5. Support services for students are evaluated - for materials, procedures and systems.
6. Coordination occurs between areas providing student support.
7. Processes are in place to determine the ongoing support needs of students.
8. Evaluation of feedback is integrated in planning for continuous improvement purposes.
9. New learning technology initiatives are analysed for student support implications.
10. Materials used in student training and student support are complementary.
Performance Measures

1. The provision of support for students is integrated with current and emerging technologies for learning that are in use at the institution.

   No integration
   Limited integration
   Regular integration
   Extensive integration
   Systematic integration

2. Support services are resourced.

   No resources
   Inadequate resources
   Moderate resources
   Substantial resources
   Comprehensive resources

3. Support services are promoted to the student body.

   No promotion
   Limited promotion
   Moderate promotion
   Substantial promotion
   Systematic promotion

4. Support is available and accessible and used by students.

<table>
<thead>
<tr>
<th>Support available</th>
<th>Support accessible</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. None</td>
<td>Not at all</td>
<td>Not at all</td>
</tr>
<tr>
<td>2. Limited</td>
<td>Restricted</td>
<td>Limited</td>
</tr>
<tr>
<td>3. Moderate</td>
<td>Working hours</td>
<td>Moderate</td>
</tr>
<tr>
<td>4. Considerable</td>
<td>Extended hours</td>
<td>Considerable</td>
</tr>
<tr>
<td>5. Comprehensive</td>
<td>24 x 7</td>
<td>Comprehensive</td>
</tr>
</tbody>
</table>

5. Support services for students are evaluated for materials, procedures and systems.

<table>
<thead>
<tr>
<th>Support materials</th>
<th>Support procedures</th>
<th>Support systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Not evaluated</td>
<td>Not evaluated</td>
<td>Not evaluated</td>
</tr>
<tr>
<td>2. Limited evaluation</td>
<td>Limited evaluation</td>
<td>Limited evaluation</td>
</tr>
<tr>
<td>3. Regularly evaluated</td>
<td>Regularly evaluated</td>
<td>Regularly evaluated</td>
</tr>
<tr>
<td>4. Extensively evaluated</td>
<td>Extensively evaluated</td>
<td>Extensively evaluated</td>
</tr>
<tr>
<td>5. Systematic evaluation</td>
<td>Systematic evaluation</td>
<td>Systematic evaluation</td>
</tr>
</tbody>
</table>
6. Coordination occurs between areas providing student support.
   
   No coordination
   Infrequent coordination
   Some coordination
   Frequent coordination
   Comprehensive coordination

7. Processes are in place to determine the ongoing support needs of students.
   
   No processes
   Limited processes
   Some processes
   Extensive processes
   Comprehensive processes

8. Evaluation of feedback is integrated in planning for continuous improvement purposes.
   
   No integration
   Limited integration
   Regular integration
   Extensive integration
   Systematic integration

9. New learning technology initiatives are analysed for student support implications.
   
   No analysis
   Limited analysis
   Partial analysis
   Extensive analysis
   Complete analysis
Appendix III: Glossary of benchmarking

BENCHMARK

A standard, a reference point, or a criterion against which the quality of something can be measured, judged, and evaluated, and against which outcomes of a specified activity can be measured. The term, benchmark, means a measure of best practice performance. The existence of a benchmark is one necessary step in the overall process of benchmarking.

Benchmark Information: Explicit national statements of academic standards or outcomes for individual subjects. Some countries (e.g., the United Kingdom) develop benchmarks of this type in regard to a certain group of subjects as part of their quality assurance process.

Subject Benchmark/Subject Benchmark Statements: Subject benchmark statements provide means for the academic community to describe the nature and characteristics of programmes in a specific subject and the general expectations about standards for the award of a qualification at a given level in a particular subject area. They are reference points in a quality assurance framework more than prescriptive statements about curricula.

BENCHMARKING

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. Benchmarking gives the organization (or the programme) the external references and the best practices on which to base its evaluation and to design its working processes.

Benchmarking is also defined as:

- a diagnostic instrument (an aid to judgments on quality);
- a self-improvement tool (a quality management/quality assurance tool) allowing organizations (programmes) to compare themselves with others regarding some aspects of performance, with a view to finding ways to improve current performance;
- an open and collaborative evaluation of services and processes with the aim of learning from good practices;
- a method of teaching an institution how to improve;
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.

Benchmarking implies specific steps and structured procedures. Depending on what is being compared or the type of information an institution is gathering, there are different types of benchmarking: strategic benchmarking (focusing on what is done, on the strategies organizations use to compete); operational benchmarking (focusing on how things are done, on how well other organizations perform, and on how they achieve performance), or data-based benchmarking (statistical bench-marking that examines the comparison of data-based scores and conventional performance indicators). There is also internal/external and external collaborative/trans-industry/ implicit benchmarking. Within different types, benchmarking may be either vertical (aiming at quantifying the costs, workloads, and learning productivity of a predefined programme area) or horizontal (looking at the costs of outcomes of a single process that cuts across more than one programme area).

**Internal Benchmarking:** Benchmarking (comparisons of) performances of similar programmes in different components of a higher education institution. Internal benchmarking is usually conducted at large decentralized institutions in which there are several departments (or units) that conduct similar programmes.

**(External) Competitive Benchmarking:** Benchmarking (comparisons of) performance in key areas, on specific measurable terms, based upon information from institution(s) that are viewed as competitors.

**Functional (External Collaborative) Benchmarking:** Benchmarking that involves comparisons of processes, practices, and performances with similar institutions of a larger group of institutions in the same field that are not immediate competitors.

**Trans-Institutional Benchmarking:** Benchmarking that looks across multiple institutions in search of new and innovative practices, no matter what their sources.

**Implicit Benchmarking:** A quasi-benchmarking that looks at the production and publication of data and of performance indicators that could be useful for meaningful cross-institutional comparative analysis. It is not based on the voluntary and proactive participation of institutions (as in the cases of other types), but as the result of the pressure of markets, central funding, and/or co-ordinating agencies. Many of the current benchmarking activities taking place in Europe are of this nature.

**Generic Benchmarking:** Compares institutions in terms of a basic practice process or service (e.g., communication lines, participation rate, and drop-out
rate). It compares the basic level of an activity with a process in other institutions that has similar activity.

**Process–Based Benchmarking**: Goes beyond the comparison of data-based scores and conventional performance indicators (statistical benchmarking) and looks at the processes by which results are achieved. It examines activities made up of tasks, steps which cross the boundaries between the conventional functions found in all institutions. It goes beyond the comparison of data and looks at the processes by which the results are achieved.

**BEST PRACTICE**

A superior method or an innovative process involving an actual accepted range of safe and reasonable practices resulting in the improved performance of a higher education institution or programme, usually recognized as “best” by other peer organizations. A best practice does not necessarily represent an absolute, ultimate example or pattern, the application of which assures the improved performance of a higher education institution or programme; rather, it has to do with identifying the best approach to a specific situation, as institutions and programmes vary greatly in constituencies and scope.

**INDICATORS**

Operational variables referring to specific empirically measurable characteristics of higher education institutions or programmes on which evidence can be collected that allows for a determination of whether or not standards are being met. Indicators identify performance trends and signal areas in need for action and/or enable comparison of actual performance with established objectives. They are also used to translate theoretical aspects of quality, a process known as operationalization. An indicator must be distinguished from a measure, which is data used to determine the level of performance of an attribute of interest, and from a standard, which is the level of acceptable performance in terms of a specific numeric criterion.

**Performance Indicators**: A range of statistical parameters representing a measure of the extent to which a higher education institution or a programme is performing in a certain quality dimension. They are qualitative and quantitative measures of the output (short-term measures of results) or of the outcome (long-term measures of outcomes and impacts) of a system or of a programme. They allow institutions to benchmark their own performances or allow comparison among higher education institutions. Performance indicators work efficiently only when they are used as part of a coherent set of input,
process, and output indicators. As higher education institutions are engaged in a variety of activities and target a number of different objectives, it is essential to be able to identify and to implement a large range of performance indicators in order to cover the entire field of activity. Examples of frequently used performance indicators, covering various institutional activities, include: the number of applications per place, the entry scores of candidates, the staff workload, the employability of graduates, research grants and contracts, the number of articles or studies published, staff/student ratio, institutional income and expenditure, and institutional and departmental equipment and furniture. Performance indicators are related to benchmarking exercises and are identified through a specific piloting exercise in order to best serve their use in a comparative or profiling analysis.
LITERATURE:


relevance and impact”, Programme on Institutional Management (IMHE), OECD, 8-10th September 2008, Paris, France.


