A PRACTICAL GUIDE
Benchmarking
in European
Higher Education

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BENCHMARKING IN EUROPEAN
HIGHER EDUCATION

This handbook has been drafted by experts in higher education in the context of a two-year EU-funded project, Benchmarking in European Higher Education.

The project was implemented by four partner organisations: the European Centre for Strategic Management of Universities (ESMU), the Centre for Higher Education Development (CHE), the UNESCO European Centre for Higher Education (UNESCO-CEPES) and the University of Aveiro, which carried out extensive desk and bibliographical research into benchmarking concepts and practices. The partners designed a typology to characterise collaborative benchmarking groups in higher education and carried out interviews with these groups. This resulted in a report on project findings, an online tool on benchmarking in higher education and guidelines for effective benchmarking.

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1. INTRODUCTION

In an increasingly competitive higher education environment, paralleled by national and European governments calls for reforms both at system and institutional level, improving university performance has become of paramount importance to demonstrate accountability for the use of public funding, quality of education and research, and contribution to economic growth.

National governments are gathering all types of data to support policy, strategic development and restructuring their higher education systems. They are setting indicators to measure performance, which in turn will lead to defining benchmarks for higher education institutions to respond to. A few years ago, Austria carried out a benchmarking exercise on the mobility of its scientists, Spain has benchmarked the performance of a group of higher education institutions in terms of their research and training capacities, Sweden has benchmarked research management[1]. Such sector-wide benchmarking exercises are setting targets for changes.

At the European level, the Open method of coordination between EU Member States sets quantitative and qualitative benchmarks as a means of comparing best practices. Benchmarks are used extensively to set targets for achievement, 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[2].

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.

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[1] DG research of the European Commission investigated national examples in its report Comparing performance: a proposal to launch a benchmarking exercise on national R&D policies in Europe. Preparatory document for the Informal meeting of Research Ministers in Lisbon - 6 & 7 March 2000, page 2.

[2] For the policy linked to the modernization of higher education, indicators focus on progress with the Bologna Process (number of higher education graduates, cross-national mobility of students in higher education and investment in higher education and training); The 2008 Commission annual report Progress towards the Lisbon objectives in education and training, indicators and benchmarks 2008 provides an update of countries' performance.

At the international level, in its comparative report **Tertiary Education for the Knowledge Society** (2008), the OECD reviews tertiary education in 24 countries from the point of view of governance, funding, quality assurance, research and innovation, links to the labour market and internationalisation. The report also provides recommendations to improve performance and aims to set policy for further development.

It is against this background that the initiative to produce this handbook has been taken. The handbook is the result of a two-year EU-funded project, **Benchmarking in European Higher Education**, which investigated the concepts and practices of benchmarking in higher education.

The project carried out extensive desk and bibliographical research into benchmarking, designed a typology to characterise collaborative benchmarking groups and carried out interviews with these groups. This resulted in the **report on project findings**, an online tool and guidelines for effective benchmarking. See www.education-benchmarking.org.

Benchmarking originated in the **private sector**. In a context of severe financial and competitive pressures Xerox Corporation first started to use benchmarking in 1979. Looking at what competitors were doing led to major changes internally in order to improve quality, processes and enabled the company to gradually regain market position. Benchmarking has been widely used in industry, manufacturing, finance, transport, logistics, and the retail and services sectors.

In the **public sector**, benchmarking has been used increasingly in the health sector (as a way to improve the efficiency of hospitals at national and regional levels), in the public transport sector (to improve railway services), to assess the efficiency of environmental agencies, local administration and so on. At the European level, mechanisms have been developed for the benchmarking of labour market policies, Europe's industrial competitiveness or public transport systems.

Some implicit forms of benchmarking have always been part of **higher education** with various forms of peer review and site visits encompassing some aspects of benchmarking. What is new today is 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.

For the newcomer to benchmarking it may be difficult to have a clear idea of how to proceed to start and manage a benchmarking exercise. The handbook will help with a clarification on concepts and practices of benchmarking. Benchmarking is neither ranking nor accreditation. At the same time, the handbook will provide valuable information for higher education institutions which already have experience with benchmarking and are willing to take their efforts a step further.

I 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 his handbook. I do hope that this handbook will be a valuable tool for leaders, decision-makers and staff in higher education in their constant endeavours to improve university performance. At our own level we certainly intend to take this initiative further in supporting European higher education institutions with their strategic developments.

Frans van Vught
ESMU President

PURPOSE OF THE HANDBOOK

2. PURPOSE OF THE HANDBOOK

The handbook is based on the findings of the two-year EU funded project (Benchmarking in European Higher Education), which explored the concepts and practices of benchmarking in higher education. More specifically the project focused on collaborative benchmarking in higher education, be it initiated by a single higher education institution, by a European association or a university network. The project included extensive desk research into existing benchmarking groups based on 14 criteria by which these could be characterised. It organised a Symposium in November 2007 to present and test preliminary project findings with representatives from higher education institutions. Three specialised practical workshops were organised in the spring 2008 on benchmarking research, internationalisation and internal quality. The project outcomes are available on the project website www.education-benchmarking.org and in the report on the project findings.

While the main **target group** of the handbook consists of decision-makers and staff in higher education institutions willing to initiate or further develop their benchmarking activities, the handbook will also be relevant to national agencies and policy-makers willing to become further acquainted with the concepts and practices of benchmarking. Benchmarking is a powerful strategic tool to assist decision-makers to improve the quality and effectiveness of organisational processes.

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. This practical section of the handbook follows a section on the history and background of benchmarking and a review of the literature on concepts and practices of benchmarking in higher education, in order to enable the reader to gain a better understanding of the subject.

The **review of the literature** on benchmarking attempts to provide a clear definition on what benchmarking is and what it is not, to overcome the confusion with the often misuse of the term. The underlying purpose is clearly to improve the practice of benchmarking in higher education as a powerful tool to support improved governance and management in higher education.

In line with the project, the main focus of the handbook is on institutional and external collaborative benchmarking for higher education management in response to external demands for quality and accountability in an increasingly competitive environment. More precisely, the approach taken is that benchmarking should not be an isolated exercise of a few staff but be taken at a strategic level as a core tool to support strategic developments. However, the handbook will occasionally refer to one-to-one or internal benchmarking which are other examples of benchmarking in higher education. The handbook does not focus on setting benchmarks for subjects or disciplines which is carried out at national or European level. These have the purpose of harmonising education across higher education institutions, different to our focus on management issues.

The **online tool** draws from and complements this handbook in supporting higher education institutions in identifying the most suitable benchmarking approach for their needs. The online tool has an extensive online bibliography.
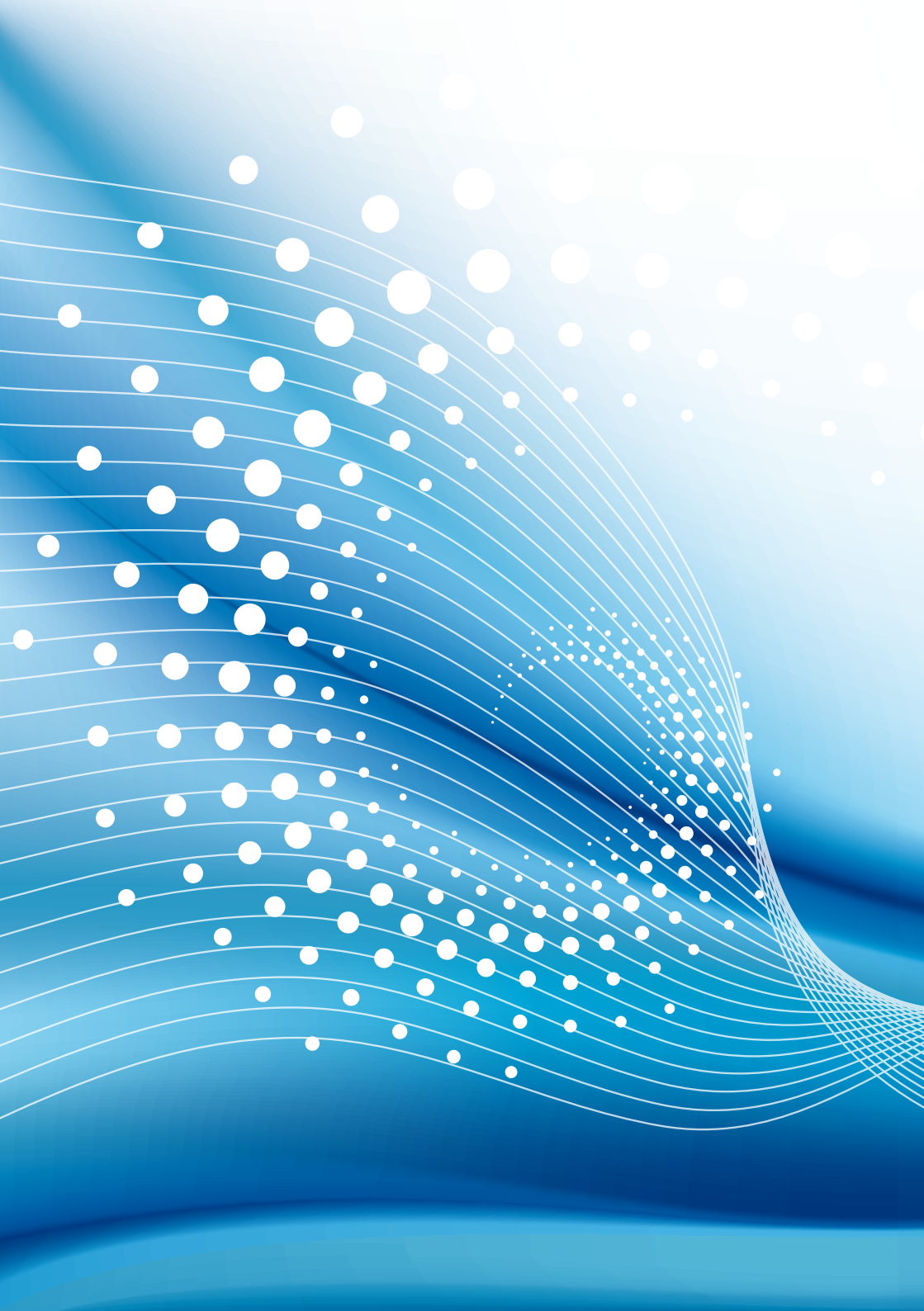
HISTORY OF BENCHMARKING

3. HISTORY OF BENCHMARKING

3.1 THE CONCEPT OF BENCHMARKING

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.**

Benchmarking has been widely used in industry, manufacturing, finance, transport, logistics, retail and services. Benchmarking groups in the corporate sector aim at discovering ways to reduce costs, optimise work input, provide efficient flow of materials and information, improve logistics, distribution and marketing and optimise payrolls.

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 (DG Enterprise) 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 sectoral benchmarking approaches focusing on the competitive challenges in specific sectors of industry. Several benchmarking initiatives were started in the late 1990s such as a benchmarking group on competitiveness, a European Benchmarking Forum and a High level Group on Benchmarking. A Benchmarking Coordination Centre was also established to provide support with data and resources.

Some implicit forms of benchmarking have always been part of higher education. Peer reviews and on-site visits have encompassed some aspects of benchmarking for the reviewers and the visitors: both the peers and the institutions evaluated acquired insights into other institutions and could make comparisons with their own institution. What is new in explicit benchmarking, however, is the increasing interest in the formalisation and institutionalisation of these processes.

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. We shall come back to definitions of the term below.

Benchmarking as a verb should not be confused with the noun 'benchmark'. A benchmark is an industry-wide standard, usually showing the best performance possible at a certain time: the most reliable PC, the best-sounding stereo amplifier, the fastest car, are examples of benchmarks. Sometimes, the word is also used as a synonym for a standard: a description of requirements. In higher education, an example of a benchmark/standard is: "Curriculum design should ensure that appropriate provision is made for the acquisition of general educational objectives and the integration of knowledge and skills across the programme of study" (see www.eadtu.nl/e-xcellenceQS/files/members/ExcellenceManualGrey/CurriculumDesign.html)

A benchmark has to do with products (or services), while benchmarking has to do with the organisations making products or services. In this handbook, we shall also use 'benchmark' to denote the better-performing organisation that is taken as the 'standard' or the 'good practice case' that serves as an external example for one's own organisation.

The history and concept of benchmarking will be further discussed later in the chapter, however, first, we connect and contrast it with quality assurance, as until recently benchmarking appeared as an isolated instrument to enhance performance but without a close link to general governance. In particular, the relationship to the various approaches of quality management (TQM, EFQM, ISO9000) remained vague. This was seen as one of the biggest "impediments to benchmarking in higher education" (Engelkemeyer, 1998).

3.2 BENCHMARKING AND THE QUALITY MOVEMENT

Benchmarking has emerged in the world of (business) organisations 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 d'horizon regarding quality, associated terms and other concepts that one may encounter in the neighbourhood of benchmarking. It should be realised, though, that there is not a single set of definitions that is 'correct': many authors have different opinions. Our use of terms is given below.

QUALITY

Quality is an inherently debatable term and much has been written about it without leading to a single, final answer to the question how it should be defined. The major issue is whether quality is part of the product or service, or depends on the customer. In other words: Should we talk of the quality of university education, or only of student satisfaction?

The fairly authoritative ISO definition of the term 'quality' is: "The totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs" (ISO 9000 – www.iso.org). This definition has elements of both views in it, referring to "characteristics of a good or service", but always from the perspective of satisfying "stated or implied needs" (though it is left implicit if those are customers' needs or, e.g. accreditors' needs).

Different understandings of quality may be maintained within this broad definition. Harvey & Green (1993) distinguished:
• Quality as exceptional ('excellence')
• Quality as perfection or consistency ('zero errors', achieving standards)
• Quality as fitness for purpose (mission-based 'do what you promise', or 'delight customers')
• Quality as value for money
• Quality as transformation (in Harvey & Green's words: "Education is not a service for a customer but an ongoing process of transformation of the participant"; associated with 'value added' and 'empowerment').

Whatever 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).

EVALUATION, QUALITY ASSESSMENT, AUDIT, CONTROL

To know quality, it has to be measured or assessed. 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).

ACCREDITATION

Accreditation is a quality assessment with an attached judgment that the evaluated unit (programme or organisation) meets the minimum standards required to operate in a national higher education system.

Accreditation may apply to a higher education institution or e.g. a faculty, giving it the right to award degrees (in a specific area of knowledge). Thus in many European countries, higher education institutions need institutional accreditation before they are given the right to operate. Another example is the accreditation of business schools by the European Quality Improvement System (EQUIS – see www.efmd.org/equis), intended to distinguish highly-achieving business schools.

Alternatively it may apply to a certain study programme, which is recognised to be of a certain nature and level (e.g. a bachelor's degree in biology). More-over, accreditation of a study programme may have consequences for its graduates' entering a profession. For instance, in some countries graduates from an accredited programme are exempt from having to pass examina-tions to become registered in a professional organisation.

Accreditation has official, often legal consequences and is therefore a proce-dure with heavy emphasis on forming opinion statements that can be upheld in administrative or legal procedures. One important consequence of this is that accreditation almost invariably proceeds from previously-published standards. For institutional accreditation such standards may be of an or-ganisational nature and include e.g. numbers of full professors. For study programmes standards concern the curriculum, staff and facilities, or (in-creasingly) knowledge and other competencies of graduates. Sometimes, such programme standards are called 'subject benchmarks', although in the UK, where the term was introduced in the 1990s, these 'subject benchmarks' were not obligatory and were used in a quality assessment process not lead-ing to formal accreditation.

QUALITY MANAGEMENT AND IMPROVEMENT

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.

QUALITY ASSURANCE

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.

STREAMS IN THE QUALITY MOVEMENT

The quality 'movement' started in the private sector: Japanese industries after WWII were looking for ways to make a new and better start, having hitherto been known for producing en masse cheaper but poor quality copies of Western products. They invited some U.S. engineers and consultants to assist them in re-designing their business processes and when in the 1960s they proved to be so successful that Japanese products began to be serious competitors for locally-made products on Western markets (reliable cars, high quality photo cameras etc.), Western industries also turned to those engineers and consultants. What was the 'magic formula' through which they made such a turnaround in global markets? In the business literature much stress was laid on the Japanese industry's dramatic increase in quality. Accordingly the authors became the 'gurus' of the quality movement: Deming, Juran, Crosby, Conti, etc. Over time, different 'ways' were developed and the quality movement divided into different sub-movements—some commentators in the 1990s aptly compared them to religious sects.

The term 'benchmarking' was first adapted to business practices in 1979 by the then almost-bankrupt Xerox. Through the systematic and collaborative comparison of performance with its competitors, Xerox's aim was to evaluate itself, to identify its strengths and weaknesses and adapt to constantly changing market conditions. 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.

Benchmarking has a special place among these movements, but first there are other major routes towards quality and improved performance.

As a 'health warning', it should be emphasised that the situation is not stable- on the contrary, ideas are developed, new names and abbreviations are introduced regularly and widely-shared views change. Potential practitioners are therefore advised not to take the following as eternal truths cast in stone.

The aim here is not to discuss thoroughly all the models available in the quality movement. To remain brief and to the point, high-lights of some aspects of some major types of quality assurance models have been presented that may make them interesting for quality management in higher education institutions.

TOTAL QUALITY MANAGEMENT (TQM)

Total Quality Management, abbreviated to TQM, was "the dominant theoretical and empirical paradigm for quality management" (Schroeder, Linderman, Liedtke, & Choo, 2008). Yet, TQM is not a single quality assurance model, but rather a broad movement with many varieties (e.g. Conti, 1993; Deming, 1993; Juran & Gryna, 1988). For our purposes, it will be enough to distinguish a hard and a soft version. Common to all varieties of TQM is the belief that managing quality will lead to large scale improvements in the organisation and its performance. While some of the TQM claims may have been overstatements, it builds on sound principles, applicable in public higher education institutions (Dill, 1999).

One of the most-used elements of TQM may well be the idea of the **PDCA-cycle**, i.e. the Plan-Do-Check-Act cycle. This is nothing much different from the feedback loop well known from open systems theory. Both approaches, TQM and open systems, were developed in the 1950s, so it is not so surprising that different names were developed for the same principle. Its main use is that it focuses attention on the fact that after quality assessment, management activity ('act') should follow in order to solve problems and actually enhance quality.

TQM helped significant circles in higher education institutions realize that the focus should be on learning by students ('customer orientation') instead of the traditional focus on the professionals and their teaching.

A major element in TQM is the idea of continuous quality improvement—closely related to academe's 'excellence', as it expresses the assumption that whatever has been achieved, further improvements (discoveries) must be possible.

On the 'hard' side of TQM, the major principle was that decision making should be fact-based, for which statistical process control tools were developed. One of those tools was the Ishikawa-diagram (or 'fishbone' diagram), showing how different activities contribute to the full 'production process'. In that way it may have helped to visualise the turnaround to student-centered views of education. While some of these tools have been quite useful, one does come across resistance in universities against using them because professors design tools, they do not just use those made by others.

A relatively new and successful offshoot of the TQM type of quality assurance is **Six Sigma**, which is seen to be more structured and organisation-oriented in its approach (Schroeder et al., 2008, pp. 548-549). Six Sigma was developed by Motorola. It belongs to the 'hard' variants of TQM in its emphasis on identifying and removing causes of defects in business processes (striving for a 'zero errors' concept of quality). Statistical tools play an important role, and the tools are organisationally embedded in a special infrastructure of people (the quality champions who implement the Six Sigma methods are called 'Black Belts').

ISO 9000

Perhaps most widely known of all quality models are the different parts of the ISO 9000 series, because its certificates are advertised widely in many branches of industry. The ISO is the International Standards Organisation, which issues norms for all kinds of products and processes. The standards on quality used to be specified in ISO 9001 to ISO 9004, but with the 2004 update (they are updated regularly) all were brought together in ISO 9000.

The highlight of the ISO 9000 approach is in the detailed description of processes in organisations. Putting processes on paper into handbooks whose application is checked by external auditors, which when successful leads to the ISO certification, is the core of the approach.[3] In the newer versions of the ISO 9000-series, the approach is said to be more sophisticated, but for the public certification remains the focus. The emphasis is therefore on standardising activities in organisations. The strength of formalising procedures is that all cases will be handled in a standardised manner; in this way, errors of neglect will be avoided. This strength is also its weakness: the ISO approach is less suited to work processes that show a large repertoire of options, whose choice depends on expert insight, or on trial and error. And that is precisely what characterises the core of the work in higher education institutions, such as individualisation of teaching to students with different learning styles and background knowledge, or designing and running innovative empirical tests in laboratories or surveys. Of course, higher education institutions use many processes that are fairly amenable to standardisation, e.g. student services, library and ICT services, or information and management processes. For these processes, usually processes supporting the core activities of education and research, an ISO approach is as applicable as it is in business organisations.

[3] The presence of certificates may lead to a target-shift from assuring quality to getting the certificate, with the same aberrations we see in higher education: just as there continues to be a demand for degree mills, there is also demand for forged ISO certificates.

EFQM – EXCELLENCE MODEL

The European Foundation for Quality Management (EFQM) introduced its excellence model originally as the framework for its European Quality Award in the early 1990s, taking the U.S. based Malcolm Baldridge Award as its model. The EFQM model has become quite well-known, and is valued in higher education especially because it helps map the total organisation, whereas in practice ISO or TQM tools have a tendency to focus on the less aggregated level of the separate work processes. The excellence model's map is divided into nine fields, four 'enablers' for quality (leadership, people[4], policy & strategy and partnerships & resources), the process itself and four fields of 'results' (people results, customer results, society results and key performance results) (see: www.efqm.org). Adaptations to higher education have been made to the EFQM model; an early example in the Netherlands was a model for use in universities of applied sciences (Expertgroep, 1996). The map may be used to make an inventory of what is known and which areas of indicators are missing in an institution, or where enhancement is needed first.

The aim of mapping the institution according to the EFQM model is to assess its progress towards excellence. The Excellence Model does not prescribe a certain way of organising or managing to get to high levels of quality, but may help to set aims.
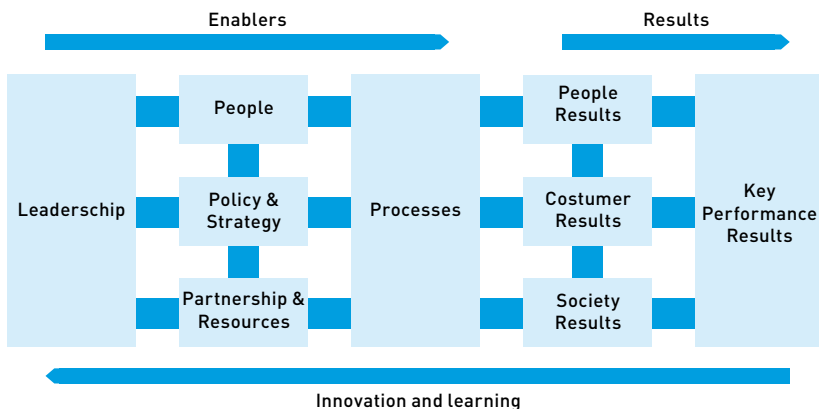

Fig. 1 EFQM model 'map' of the organisation (© EFQM 1999-2003)

[4] 'People' refers to personnel, staff members.

BUSINESS PROCESS REENGINEERING (BPR)

Business process reengineering (BPR) differs from the previous models of quality assurance in that it is less about setting aims (as EFQM) or individual tools and processes (as ISO 9000 and TQM) but more about internal processes. Its major question is how an organisation can best design its processes to achieve its aims. The approach is one of radical revolution to stop doing things 'because that is how they always have been done' and reconsider their use. While often criticised as a managerial, control-oriented approach with the aim to downsize organisations, the positive point for higher education institutions may be that it directs attention to the actual, internal operation of the institution (and consequently to the organisation that performs the operation). In that sense it sets the stage for benchmarking.

APPLICATION OF INDUSTRIAL MODELS TO HIGHER EDUCATION INSTITUTIONS

A major conclusion from the educational literature is that although it may be too categorical to still call the learning process 'opaque' (Scheerens, 1987), still our knowledge of it remains limited. Moreover, learning remains an individual process for each learner/student and it is only partly dependent on teaching. It is difficult enough for quality assurance models to get close to the teaching process, but to the extent that they do, they still only help map, protocol, design, implement, evaluate and improve processes around learning, but not the 'creative moment' of the teacher igniting a spark in the student's mind.

Industrial quality assurance models, with their strengths in management processes and their adaptation to more standardised production processes, including those in the service industry, may be more applicable to 'standard' services within higher education institutions, e.g. student administration, counselling, library and ICT-services.

Of all forms of external quality assurance, professional discourse, i.e. peer review, may get closest to the core of the work in higher education: teachers share their views on education with colleagues and in this way may stimulate reflection on the daily work (Schön, 1983, 1987) and help spread good practices.

This idea is in the spirit of 'soft' TQM, which also stresses involvement, quality improvement from the work floor upwards, no fear environments enabling experimentation, etc. However, although 'peer review' is a very poplar term in quality assurance practice in higher education, in fact the discussion between evaluated and evaluators is often hampered from being a free, intercollegial, discourse. There is a power distance between the two parties, which is larger, the larger the consequences of the evaluation are, and that makes communication asymmetrical. Besides, 'high stakes testing', or high stakes evaluation for that matter, leads to tendencies on the side of evaluees to avoid 'failing' by all means, intended or not (Westerheijden, 1990). Accreditation is therefore a poor environment for open, improvement-oriented peer review. But to some extent similar effects are visible in all publicly-driven quality assurance schemes in use in Europe even if they are not accreditation schemes.

If quality assurance as practiced in Europe nowadays rarely helps enhance quality in higher education, what is it good for? First, there is positive value in the other function of quality assurance, namely accountability for the functioning of higher education to society, in particular to the government (Vroeijenstijn, 1995). Second, higher education has become much more 'massified' in recent decades and further growth of the proportion of each cohort to enter higher education is the goal in many countries. This makes higher education systems, and most higher education institutions separately, too large for informal quality assurance: the non-management models prevailing in higher education up until at least the 1980s and in many European countries for much longer, are not adequate to maintain and lead massive institutions operating with thousands of staff members, serving tens of thousands of customers (students). From that perspective, even without external pressure, higher education systems and higher education institutions would probably need more explicit management.

What can industrial quality assurance models contribute? Firstly, at the institutional level: do higher education institutions adopt industrial quality assurance models? Formal research that could give objective figures again is lacking, but certainly some higher education institutions have adopted industrial quality assurance models. We gave an example above of the EFQM model being adapted by a group of Dutch higher education quality officers and TQM also has had its following (e.g. a collection of early US examples: Sherr & Teeter, 1991), but Birnbaum showed convincingly how TQM was one of many fads that came and went in US higher education institutions (Birnbaum, 2000), and if it survived, that happened mostly in the support sections of higher education institutions. More numerously, it seems, higher education institutions across the world have applied for certification under ISO9001, some for support services, some also for their education. The impression is that this happens more often in non-university higher education institutions (hogescholen, polytechnics, colleges etc.) and in institutions in Central/Eastern-European and Asian countries (in line with: Schroeder et al., 2008).

As shown above, some positive elements may be seen in these industrial quality assurance models, and cases where they were successful in bringing about needed change can be found. The very mixed experiences of other higher education institutions, or in countries where certain models were prescribed without bringing about much change in higher education institutions show that applying industrial management models in itself is not a cause of radical quality improvement. The message that we want to convey with this section is that higher education institutions may use what is sensible in your case (environment, aims, means/resources) from existing quality assurance models, but that it is neither necessary nor—in most cases—useful to become a slave to any given model or following all the precepts completely.

BENCHMARKING IS SPECIAL

What is special about benchmarking compared with the quality assurance streams mentioned above? The account above of the limited usefulness of quality assurance models was giving in fact a relatively optimistic view about their actual rate of adoption: "It should be self-evident ... that any method adopted from the business sector is most likely to fail in defensive organisations like the universities. Surprisingly enough, this seems not be true with benchmarking" (Karjalainen 2002).

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, BPR 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 'KPIs') 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*[5] rather than (only) good performance.[6]

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[5] We prefer the more general term 'good practice' over 'best practice'. 'Best' assumes that there is a single best way to do things, while 'good' leaves room for different ways that may be effective in different circumstances or for different organisations.

[6] Although one would like to see a correlation between good practice and good performance, there may be cases where good performance does not result from good practices (who never got through an exam with only studying it the night before?), or where good practice does not lead to good performance (e.g. when other processes in the organisation are not equally good, or when the environment is adverse).

To enable learning about good practices from deep within another organisation, benchmarking can only thrive in an atmosphere of co-operation 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. Maybe fear of competition is also a reason why benchmarking clubs are often international: club members are then usually not competing for the same pool of students. Another solution may be to focus first on processes in which there is little or no competition even if for other processes benchmarking partners are competitors, e.g. focus on support processes for students once they are on campus rather than on student recruitment. Once benchmarking partners have achieved sufficient trust in this way, more sensitive issues may be raised.

CONCEPTS AND PRACTICES OF BENCHMARKING

4.1 THE TERM 'BENCHMARKING' REVISITED

The majority of publications on benchmarking in higher education have a focus on practice, whereas theoretical publications are small in number. Stressing the wide diversity between higher education institutions, Yorke pointed out that there "can be no single reference point for the purposes of benchmarking" (Yorke, 1999: 91); from our project's findings we may add: nor is there a single method for benchmarking. Another reason for the absence of an explicit theory of benchmarking is identified by Yasin (2002) who ana-lysed more than 5.000 publications on benchmarking from various fields published between 1986 and 2001. He found a remarkable rise in the volume of publications related to benchmarking while this "expansion of benchmark-ing information, innovations and case studies occurred primarily in practi-tioner publications" (Yasin 2002). He stresses the fact that benchmarking evolved with only "little if any input or diffusion of knowledge from the aca-demic community" (Yasin 2002). Yet, some counter-examples exist and they can give us important guidance.

In **Benchmarking in Higher Education, An international review**, Schofield (1998) points to the difficulties of definitions for benchmarking by highlighting that "the term can vary considerably between different approaches and prac-titioners, causing problems to institutions investigating the subject for the first time". In the same publication, based on an analysis of benchmarking in the Australian context, Massaro points to the term being used "fairly loosely to cover qualitative comparisons, statistical comparisons with some qualita-tive assessment of what the statistics mean and the simple generation of statistical data from a variety of sources which are then published as tables with no attempt at interpretation".

What was written in the mid 1990s is still true today. The term is used for very different practices from the mere comparison of statistical data and indica-tors to detailed analyses of processes within institutions. Hence there is the danger that the term becomes a 'catch all' phrase for a wide range of man-agement instruments.

Clearly the selection of the literature in this section is far from complete, and other major publications could have been chosen. The point, however, is not completeness but clarity of exposition. For further reading, please refer to the online bibliography (see www.education-benchmarking.org).

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, www.shu.ac.uk/research/integralexcellence). Benchmarking as we understand it is undertaken to increase quality for institutional development. 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 (illustrated in fig. 2): the voluntary process of self-evaluation and self-improvement through the **systematic and collaborative comparison of practice and performance** with similar organisations.

Benchmarking proceeds by learning about good practices for primary and/or support processes through studying those processes in other, better-performing organisations, building on evaluation of relevant performances (if possible through measurement of Key Performance Indicators) in own and others' organisations.
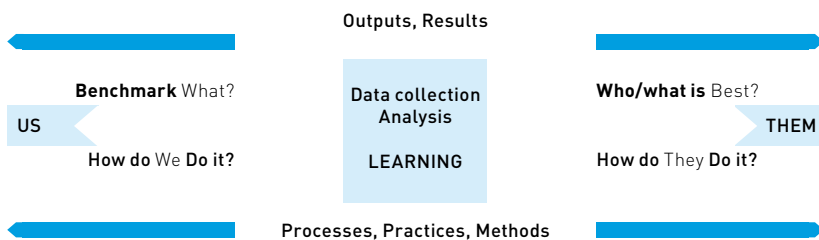

Fig. 2 The concept of benchmarking (Nazarko 2007 on the basis of Whatson 1995)

If two or more organisations all think they can learn something from each other, e.g. process A from organisation X is a good practice and so is process B from organisation Y, then they may be able to engage in **mutual benchmarking**, or to form a **benchmarking club**.

Benchmarking relates to quality assurance, as mentioned above, and in particular to the concept of continual institutional evaluation, since to undertake benchmarking universities have to map, analyse and evaluate their internal processes. Good identification and consciousness of one's own practice is indispensable for successful benchmarking.

TERMS: INDICATORS, BENCHMARKS, RANKINGS, CHECKLISTS, CRITERIA, STANDARDS - AND THEIR INTERRELATIONS

Some initiatives called 'benchmarking' only consist of collecting quantitative statistics and performance indicators and lack the focus on learning which is a distinguishing characteristic of benchmarking. We should clarify how in our use of terms a number of things are related, realising that other actors have different uses of the terms. A hypothetical example may help.

The first need is to know what constitutes '**performance**'. Higher education institutions have a number of performances (teaching outputs, research outputs, etc.). The higher education institution must decide which performance(s) is/are in need of improvement. Besides an institution's own performance goals, often authorities define certain requirements too: increase the number of students in mathematics, achieve social equity of access, minimise time to degree, have a development plan, set a quality assurance policy, etc. Such definitions of things to be performed, especially if set by external authorities, are variously called standards, criteria, checklists and even benchmarks (e.g. that is how the EU understands 'benchmarks' for higher education). In the latter case, please note that our use of the term 'benchmark' is different: for what we would call a **standard** (e.g. a higher proportion of students in the sciences is desired),[7] one or more **indicators** can be found (e.g. ratio of newly entering students in study programmes in the Faculty of Sciences); for these indicators **criteria** may be formulated (e.g. the ratio should grow annually by at least 20%)—and then data have to be collected to find out about the situation regarding this criterion. In the next step, one might compare one's own ratio with those of others to find the highest around. The highest relevant value found we would call the **benchmark**: say one higher education

[7] A list of standards, especially if they were formulated in terms of 'presence' or 'adequacy' of a number of items, could be called a checklist, e.g. higher education institutions should have a formal quality policy, a formal mechanism for curriculum review, and honest and open assessment of students (the first three 'standards' of the European Standards and Guidelines).

institution reached 40% growth of first-year science students.[8] It might then be interesting for your higher education institution, with 10% growth, to learn how they managed to do this in order to emulate them. The steps in this process controlled by the higher education institution, i.e. data collection, identifying benchmark organisations and learning from them, constitutes **benchmarking** as we use the term.[9]

To the extent that relevant data are publicly available, national or even inter-national databases and **rankings** may show in which universities bench-marks are to be found. But note the caveat about relevance of data. First, this has to do with levels: many international databases collect data at national level, and national averages can do no more than tell that one is performing as good as the average higher education institution in country X. Second and even more relevantly, this has to do with selection of indicators: how relevant is the Academic Ranking of World Universities (known as the Shanghai Ranking, www.arwu.org) with its emphasis on cited publications in natural sciences and Nobel Prize winners for an academy in performing arts?

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[8] Imagine that there also was one higher education institution with an even higher growth of 70%, but that that was due to its splitting off the Faculty of Arts, and that that was not an option for your higher education institu-tion; then this case would not be a relevant one.

[9] Quite another matter is if these standards etc. are effective in solving the underlying problem in society, i.e. too few persons in the workforce to fill all jobs that need science degrees. Maybe the indicator focusing on first-year students led to allowing less-prepared students into the courses and in fact fewer will reach their degree than before (good students are discouraged, and/or staff are too busy trying to 'repair' bad students), leading to fewer science graduates in the labour market—policies may have perverse effects and it is never wise to focus on a single indicator.

4.2 TYPES AND DISTINCTIONS OF BENCHMARKING

In order to cope with the diversity of practices within benchmarking, there have been several attempts to distinguish different kinds of benchmarking, i.e. to define benchmarking by a set of descriptors or, in some cases, by analytical dichotomies.

A commonly used benchmarking typology is the one included in **InnoSupport: Supporting innovation in SMEs** (adapted into table below).

Tab. 1 Levels and comparators for benchmarking
(Nazarko 2007 on the basis of InnoSupport 2007)

Organisa-tional level	Benchmark organisation					
	Internal		External			
	Enterprise	Network	Branch-independent	Branch	Competition	World-class
Product						
Process						
Strategy						
Organisation						

The InnoSupport typology combines comprehensiveness (i.e. organisational level) and ambition level (i.e. benchmark organisation), which gives insight into two dimensions of a benchmarking process: the rows indicate **what** is being benchmarked and the columns address **with whom** questions. The lower lines (strategy and organisation) contain the more intensive subjects for benchmarking; this handbook focuses mostly on these levels. And the more one goes to the right in the table, the tougher the benchmarking will be. Another question on **with whom** is **with how many**? It may be simpler to achieve the trust needed to let other persons 'look into one's kitchen' in a bilateral relationship (**one-to-one benchmarking**); on the other hand more options for mutual learning may exist in **one-to-many benchmarking** as in benchmarking clubs and one is less dependent on full co-operation by a single partner.

Other distinctions in the literature rather address questions of the **aim** (mutual improvement or competition) and with that the **character** of the process: cooperative with partners or rather like finding out how to beat competitors (in the extreme case: industrial espionage). Further on aims, on the one hand there are **direct aims** of benchmarking such as comparing to others, learning from others, better identification of processes inside the organisation, identification of strengths and weaknesses, or improvement of practices. On the other hand one finds **indirect aims** such as: development of management abilities, increased stakeholder satisfaction, gaining advantage over competitors or overcoming reluctance to ideas from the outside of the organisation. Obviously, different combinations of direct and indirect aims are possible. With so many options for so many dimensions, a confusing plethora of classifications is possible—and quite a few have been published. Some of the most interesting ones include the following.

One of the highly-cited general classifications is that by Camp (1989) who identifies four kinds of benchmarking:
- Internal benchmarking
- Competitive benchmarking
- Functional/industry benchmarking
- Generic process/'best in class' benchmarking

Jackson (2001) notes that many benchmarking exercises combine a variety of approaches but can be classified according to the nature of the underlying processes, i.e. whether they are implicit or explicit, conducted as an independent or collaborative exercise, specific to a single organisation (and internal), or involving dissimilar organisations (as an external exercise), focusing on the whole process (vertical) or being horizontal across different functional units, focusing on inputs, outputs or processes, or based on quantitative or qualitative information. Highlighting that the purists only see one practice model in the collaborative partnerships, he nevertheless refers to four benchmarking practice models, i.e. the collaborative group partnerships, the collaborative one-to-one partnerships, independent (non-collaborative) benchmarking (which only requires a database available with relevant statistics, performance indicators and codes of practices) and the brokered models.

He provides a second set of characteristics to describe whether these are essentially based on active research and dialogue between the participants, or are of a bureaucratic nature mainly based on performance criteria, codes of practices and specifications.

Alstete (1995) defined four types of voluntary, explicit benchmarking and he added implicit benchmarking:
- international benchmarking (with the comparison of performance of different departments),
- external competitive benchmarking (comparing performance in key areas based on information from institutions seen as competitors),
- external collaborative benchmarking comparisons, with a larger group of institutions who are not immediate competitors,
- external trans-industry (best-in-class) benchmarking (looking across industries in search of new and innovative practices).
- implicit benchmarking, which results from market pressures to provide data for government agencies and the like.

UNESCO-CEPES (2007) built on the existing literature to distinguish six types of benchmarking in the higher education sector:
- internal benchmarking (comparing similar programmes in different components of one higher education institution),
- external competitive benchmarking (comparing performance in key areas based on institutions viewed as competitors),
- functional benchmarking (comparing single processes),
- trans-institutional benchmarking (across multiple institutions),
- implicit benchmarking (quasi-benchmarking looking at the production and publication of data/performance indicators which can be useful for meaningful cross-institutional comparative analysis; these are not voluntary but result from market pressures or coordinating agencies),
- generic benchmarking (looking at basic practice process or service) and process-based benchmarking (looking at processes by which results are achieved).

In its report **Benchmarking in the Improvement of Higher Education** (Hämäläinen et al., 2002), ENQA, the European Network for Quality Assurance attempted an understanding of the principles of true benchmarking, providing concrete examples and conclusions on perspectives for European benchmarking within higher education. ENQA provides a list of 32 attributes given to benchmarking, the main ones being collaborative/competitive, qualitative/quantitative, internal/external, implicit/explicit, horizontal/vertical; outcome-oriented or experience-seeking, with various purposes (standards, benchmarks, best practices) and interests (to compare, to improve, to cooperate), depending on the owners of the benchmarking exercises. The list covers many relevant factors, but does not amount to a systematic typology of approaches to benchmarking. ENQA concluded that "good instruments are needed for useful benchmarking exercises" and that "current benchmarking methodologies in Europe must be improved".

BENCHMARKING IN THE PUBLIC SECTOR

Our introduction on the history of the term benchmarking already showed that most applications of benchmarking were developed in the private sector of the economy. Interesting examples can still be found there; it is notable that benchmarking is possible even in the competition of private sector organisations. As market-like governance mechanisms have become fashionable in the public sector since the early 1980s benchmarking has also entered public-sector organisations. Especially 'New Public Management' with its emphasis on (quasi-)markets, strong management, etc., has drawn attention to instruments like quality assurance and benchmarking.

A problem may be that public organisations cannot use profits or similar widely-known **key performance indicators (KPI)**, which define a private business's success and which are therefore self-evident candidates for benchmarks. However, even in private business, a single KPI does not denote a healthy and prosperous firm: KPIs are always partial. For example, profits may be pushed at the cost of employee satisfaction. KPIs have to be used in balanced sets for management purposes—though for functional benchmarking (of single processes), only one or a few may be needed. In higher education, alternative KPIs to 'profit' have been developed. For instance, educational performance can be indicated by retention rates, percentage of students graduating on time, student satisfaction, alumni satisfaction, employer satisfaction, etc. Research and innovation performance can be indicated by numbers of publications, citation scores, number of patents, contract income, numbers of spin-offs, etc. For services, similar lists can also be found or developed as well (e.g. library loans, ICT use figures, students back on track after counselling).

Yet often indicators are not available, especially not if one wants detailed information about processes **within** organisations showing **how** performances are reached. This makes it impossible to engage in competitive-type benchmarking, or finding best-in-class benchmark organisations on the basis of publicly available data.

BENCHMARKING IN HIGHER EDUCATION

For higher education institutions the difficulty of defining 'good performance' may be even greater than in many other public organisations because higher education institutions are 'multi-product firms', not only providing education in different fields of knowledge, but also results of scholarship and research (fundamental or applied), and having a third mission to engage with the local or regional community and economy in various ways. The tasks of higher education institutions are, moreover, ever-changing due to endogenous developments (new knowledge and methods of research and teaching emerging from the knowledge fields) as well as exogenous developments (e.g. authorities requiring new tasks). Accordingly there are many different processes about which mutual learning might be beneficial and many potential KPIs to inform about them.

In the USA benchmarking was first introduced in higher education by NACUBO (National Association of Colleges and University Business Officers, www.nacubo.org). Overall, early approaches developed in the US were not true benchmarking in our use of the term but "the generation of management information which produces performance indicators and may lead to identification of benchmarks, but does not often extend to benchmarking by identifying best practice and adapting them to achieve continuous improvement in institutional contexts" (Farquhar 1998).

In Australia, as elsewhere, the development of benchmarking was linked to the quality enhancement movement and the need to demonstrate comparative quality and efficiency of university operations. Benchmarking approaches have been developed at the national level, internationally, by universities themselves or with the support of consulting firms. In its report on Benchmarking in Higher Education (Stella and Woodhouse, 2007), AUQA, the Australian Universities Quality Agency, concluded that much more needed to be done since there was little systematic use of benchmarking to monitor institutional performance, that there was no clear view of the reasons to initiate benchmarking strategies and a lack of clear understanding of the approach.

In Europe, benchmarking approaches in the higher education sector have developed from the mid-1990s at the national level, either as an initiative launched by a national body, by one or a group of higher education institutions or by an independent body. These usually only involved a small number of institutions and were on a voluntary basis. Transnational level exercises have so far been fairly limited. These benchmarking exercises have adopted a mixture of quantitative, qualitative and processes-oriented approaches. The degree to which these were structured depends on experience and purposes.

The ESMU European Benchmarking programme (www.esmu.be) is an example of a transnational benchmarking exercise which goes beyond the mere comparison of data by focusing on the effectiveness of university-wide management processes. In a collaborative way, the programme works with small groups of higher education institutions towards the identification of good practices. The method was originally developed from the one used for the Malcom Baldridge National Quality Award and for the EFQM European Excellence Model.

WHAT BENCHMARKING IS NOT
With so many efforts to define 'benchmarking' and with so many other terms in the conceptual neighbourhood, there is ample room for misconceptions. Accordingly, it may be useful to differentiate benchmarking from 'what it is not'.

First, benchmarking is not a mechanism for resource reduction (Camp 1990). Yet, after a benchmarking exercise, resources may be redeployed in a more effective way to increase institutional performance.

Second, benchmarking is not a panacea or programme. Ideally, it should be an ongoing management process and have a structured methodology. Both will contribute to ensuring impact of the benchmarking activities. It also has to be flexible to incorporate innovative ways of obtaining the needed information. For that reason, a single approach should not be expected.

Third, benchmarking is not a cookbook that requires only looking up ingredients and using them for success. On the contrary, benchmarking is a discovery process and a learning experience.

Fourth, benchmarking is not a fad, but a strategy for improvement. It assists managers in identifying practices that can be adapted to build plans that are realistic and acceptable to higher education communities, and in this way achieve higher performance goals.

Another misconception about benchmarking is that it is only a process of measuring best performance (APQC, 1999, www.apqc.org). It is sometimes wrongly believed that after discovering the best-performance benchmark, the organisation should turn to its own creative resources to meet or beat the benchmark in whichever way it can think of. Benchmarking is not just a comparative analysis of how an institution matches up to the others in terms of different performance measures, since such a comparison does not by itself bring change (CHEMS 1998). The most important aspect of benchmarking is learning from others and innovative adaptation of good practices that help achieve best performance. It is best practice even more than best performance for which benchmarking strives, even if it may start by finding best performance.
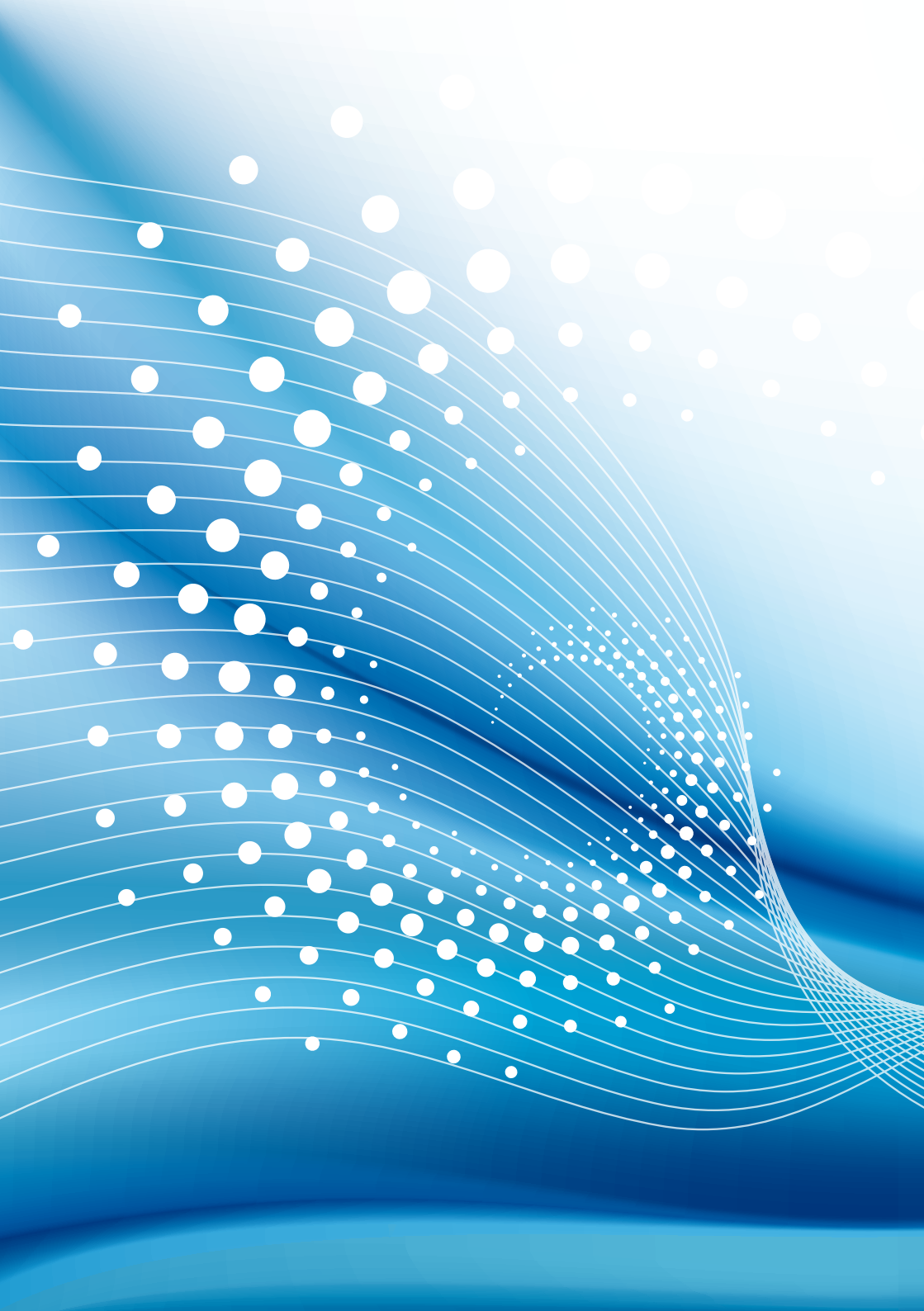
It is also not a 'process re-engineering,' where internal processes are investigated and redesigned without reference to another organisation's practice. Benchmarking is also not just a survey, where data are presented in aggregated or averaged terms.

In this respect, the benchmarking literature often employs the concepts of 'true' and 'false' benchmarking. It may be overly normative to judge what is true or false - words can be used in any way one likes. However, this distinction may be helpful to show where we stand.

The European Network for Quality Assurance in Higher Education (ENQA 2002) rightly states that 'true benchmarking' is improvement-oriented. The indispensable elements of true benchmarking are: negotiation, collaboration, dialogue and developing a process for mutual understanding. Other distinctive features of true benchmarking are explicit and open goals. On the other hand 'false benchmarking' is defined as rank-oriented or merely explorative without interest in improvement. It has hidden purposes and it can even be perceived as simply spying. Fuzzy goals and undefined processes are typical false benchmarking constituents. Performance measurement by using some benchmarks moves into true benchmarking when it defines targets for improvement.

Rankings and league tables of universities are in this sense perceived as false benchmarking, since they do not point to ways of improvement which is the essence of benchmarking. Rankings contain no information about good practices. Indicators of rankings and league tables are generally biased in favour of large universities with large science schools, acknowledged traditions and history, abundance of professors, best-in-class equipment, extensive library collections, etc., leaving small but effective universities little chance for top places (cf. Dill & Soo, 2005; Usher & Savino 2007). The need is increasingly felt for different types of rankings to compare similar institutions. Although rankings are popular for comparison, they provide little information about how the university reached the score and if they do, indicators are often irrelevant to quality improvement of the higher education institution. Rankings can, however, initiate benchmarking by serving as a starting point in identifying benchmarking partners.
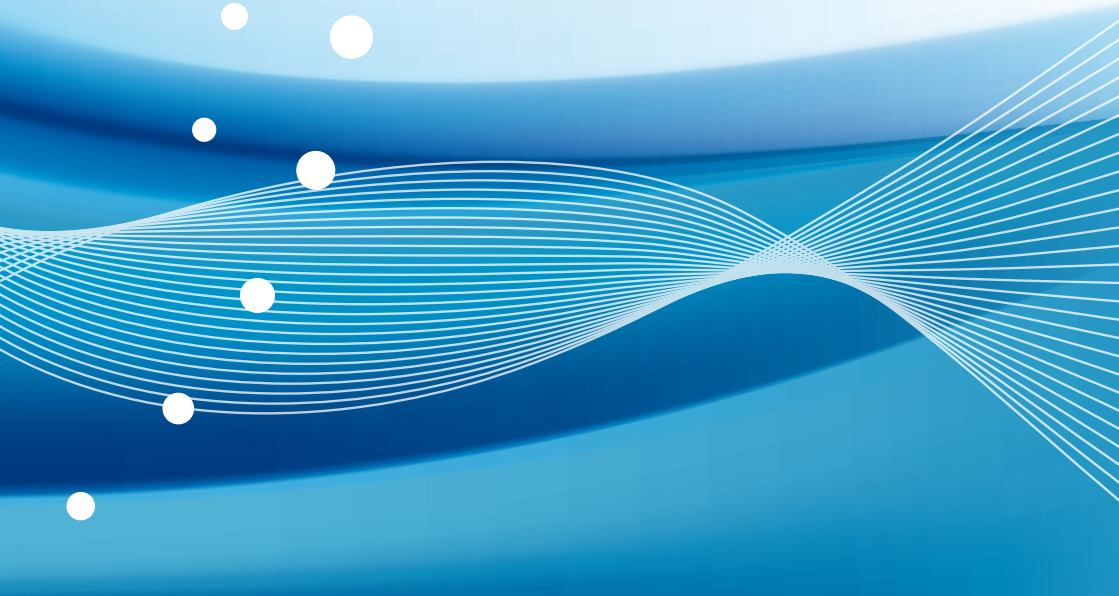
A STEP BY STEP APPROACH

5.1 INTRODUCTION

The **review of the literature** in the previous section demonstrated a range of definitions, concepts and approaches to benchmarking. Besides the litera-ture, our guidelines are based on our analysis of 18 existing initiatives in higher education benchmarking from countries in Europe, Australia, Canada and the USA. The extensive project online tool contains a bibliography with search facilities, enabling readers to become further acquainted with these concepts and practices.

For the purposes of the project, the term 'benchmarking' has been defined as the voluntary process of **self-evaluation** and self-improvement through the **systematic and collaborative comparison of practice and performance** with similar organisations. This process allows institutions to identify strengths and weaknesses, and to learn how to adapt and **improve organisa-tional processes** in order to face growing competition.

5.2 CRITICAL SUCCESS FACTORS FOR EFFECTIVE BENCHMARKING

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 snap shot (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 key to the effectiveness of the benchmarking exercise.

5.3 INITIATING A BENCHMARKING EXERCISE IN YOUR INSTITUTION

CONTEXTUAL BACKGROUND: INSTITUTIONAL PROFILE AND EXPERIENCE WITH BENCHMARKING

There will be a **different starting point for every higher education institution**. Its profile, institutional capacity, organisational climate, focus on quality improvements, willingness to change, available resources and data, and degree of autonomy all impact on the nature and size of the benchmarking exercise.

Self-assured and high-aiming higher education institutions will immediately seek to benchmark against higher achieving institutions; Other higher education institutions might seek to benchmark first internally, then with peer institutions focusing more on functional than strategic areas. The **different motives** behind benchmarking exercises will determine the approach, methodology and choice of partners, i.e. defining a strategy to be the best in the sector, improving in order to move up in the sector or simply improving by learning from others without a strategic positioning agenda in mind.

Higher education **institutions new to benchmarking** should pay attention to carrying out a thorough self-assessment exercise (which is essential in a benchmarking exercise), become acquainted with the processes and practices of benchmarking, and carry out a preliminary internal benchmarking exercise before looking outside for benchmarking partners. Starting small with a simple exercise may be the best approach. If major resources are available, a large scale exercise can be investigated. Key will be to plan the exercise thoroughly, train staff and have the right expertise at hand to produce the desired outcomes. For higher education institutions with significant experience with benchmarking concepts and approaches, targets can be placed at an advanced level.

PURPOSE, GOALS AND PERSPECTIVES

Guidelines - Purpose and goals should:
- *Be explicit, both internally and externally with benchmarking partners*
- *Link to the national/European context of quality assurance and measurements of performance*
- *Connect closely to the institution's strategies and to the development of a benchmarking and quality culture*
- *As a result, the benchmarking exercise must have a clear focus*

Benchmarking is a tool for change management and target setting, therefore to be most effective, the **purpose** of a benchmarking exercise must be clearly defined from the outset: **what** do you want to find out, **why**, and **what** do you want to **do** with the **results**? Going a step further: How well are you performing in relation to other higher education institutions? Which higher education institution is doing better and how does it do so? What can you adapt from other institutions and how can you improve? When a list of leaders and best-performing institutions are identified, some sort of ranking will take place for strategic positioning. Nevertheless, the dynamics of benchmarking are to set targets for improvement, going beyond ranking exercises.

The **perspective** from which the benchmarking exercise is carried out must also be clear. An exercise carried out from a ***customer-oriented perspective*** will place the focus on a strong institutional strategy for example to increase the institution's reputation, or to obtain the EFQM Excellence Award. The benchmarks, labels or certificates (i.e. ISO9000 types) obtained, and achievements gained will be used for marketing purposes. If a ***provider perspective*** is chosen, the focus is on improving internal processes, for example staff training, the marketing function or the student registration process. In this case results will be used more internally for improvement rather than externally for promotional purposes.

WHAT TO BENCHMARK?

The ESMU European Benchmarking Programme

Established in 2000, the ESMU benchmarking programme (www.esmu.be) aims at measuring and promoting good practices in university manage-ment. The programme works on an annual basis and focuses on man-agement processes such as internal quality assurance, student services, e-learning strategies, and research management. Quantitative indicators are gathered but above questionnaires focus also on qualitative data gathering related to management processes.

In the course of the benchmarking programme, participating higher education institutions produce self-evaluation reports and ESMU experts evaluate higher education institutions' reports against a set of good practices. Participating higher education institutions meet in work-shops to discuss and exchange good practices.

The approach is based on the Malcolm Baldridge National Quality Award approach (US), which also underlies the EFQM Excellence model (see above).

Without a clear **focus** of the benchmarking exercise and clear identification of the areas to be benchmarked, only limited results for implementation will be produced. This obviously applies when a 'functional benchmarking' is aimed at, but also in a more comprehensive strategic exercise, focus areas must be defined and prioritised. From our study it became clear that the main challenges of benchmarking are "managing the work alongside other commitments"; therefore it is "important not to take on too much in any one exercise".

The **choice of processes** should also be in line with the institution's profile, mission and organisational developments.

The institution might have a particular problem already clearly identified which it wants to solve. If this is not the case, then working towards a clear identification and narrowing down of processes for a benchmarking exercise through self-evaluation will be the first step. In all cases, it is crucial to have a clear understanding of problems and, based on needs, to prioritise them, so that a realistic benchmarking exercise with adequate resources can be launched.

> **The SPINE project – Benchmarking the management of engineering education**
>
> In 2002, the SPINE project, a partnership of 10 technical colleges and universities in the USA and Europe (Carnegie Mellon University, Ecole Centrale Paris, Ecole Polytechnique Fédérale de Lausanne, Eidgenös-sische Technische Hochschule Zürich, Georgia Institute of Technology, Imperial College London, Kungl Tekniska Högskolan Stockholm, Massachusetts Institute of Technology, Rheinisch-Westfälische Technische Hochschule Aachen, Technische Universiteit Delft) decided to focus their benchmarking exercise on comparing their vision, mission and goals. Through quantitative and qualitative questionnaires, site visits (including both academic and administrative leaders and staff), and alumni surveys, the project produced major inputs for future goal setting and identification of good practices such as on quality management systems to support engineering education, teaching methods, cooperation with industry and the practical preparation and competences of engineers. www.ingch.ch/pdfs/spinereport.pdf

The report **Benchmarking in Australian Higher Education: A thematic Analysis of AUQA Audit reports** (2007) lists six case study universities that have carried out a benchmarking project. We mention two of them.

The **Royal Melbourne Institute of Technology** focused its benchmarking project on fostering relationships with the regional and local communities in which it has a presence throughout the State of Victoria with its 'Centre for Community and regional partnerships'. The Centre focused on developing performance-based indicators for these relationships which the benchmarking project helped to identify.

At **Monash University**, the focus of the benchmarking project was on student admission and student complaint processes, relevant due to the size of its student population and a high proportion of international students.

CHOOSING THE RIGHT BENCHMARKING APPROACH FOR YOUR PURPOSE

At the level of individual institutions, increasingly a shift occurs from close cooperation to increasing competition, and therefore more reluctance in the sector to share some types of information due to the obvious concern that sensitive data may be misused. This was evident in the beginning of the project as desk research only produced formal information of 18 collaborative benchmarking groups on university management. However, many more higher education institutions are engaging in various types of one-to-one benchmarking approaches. In the project we were fully aware that much more benchmarking is taking place in the higher education sector, which is not advertised to a larger audience. We advocate that both one-to-one and collaborative approaches have their value in carrying out systematic and comparative data gathering and the further steps in benchmarking. In both cases issues of trust, confidentiality and information sharing must be dealt with in a careful manner. More on this can be found in the section 'Conducting a benchmarking exercise'.

At its simplest, one-to-one benchmarking can be initiated through active institutional and desk research within the institution looking at public data available on one or several other institutions as a comparative exercise to produce reports for improvement.

In one-to-one non-collaborative approaches, both higher education institutions enter their data in a database which already contains data from other higher education institutions, or those external data are contributed by the professional association/consulting company which coordinates the benchmarking exercise. Once the data have been entered, higher education institutions receive a report of their scores and information on where they are positioned against the competition. They then have the option to obtain expert advice from the database owner which will help them progress and achieve higher levels of performance.

THE MAXIMIZE TOOL – Benchmarking marketing strategies

UK-based consulting company The Knowledge Partnership, offers the MAXIMIZE tool (www.maximize.ac.uk), an evidence-based system to benchmark the quality of the processes in higher education institutions to be successful in their student markets. The tool allows benchmarking against a good practice model through a database of evaluation scores achieved by other higher education institutions. The tool comprises 142 indicators of excellence, each representing a process.

Free material is available for self-assessment and facilitation by an independent external evaluator is provided.

Good practice resources on the website include case studies and references. They are based on the elements of the model which looks at core strategic processes (values of the organisation, management vision and culture, systems, etc.) and core marketing processes (e.g. marketing strategy and organisation for marketing; portfolio management, branding-reputation management and branding), impact on students from applicant to alumni status (commitment to systematic evaluation) and institutional performance (in relation to own objectives and compared with the competition).

Collaborative benchmarking can be carried out in various ways. It can start as an *initiative from one university* contacting potential partner higher education institutions for a benchmarking exercise. The data will at first serve the university initiating the process while other universities will benefit in obtaining data from others, which may serve their own strategic developments. In addition, they will become part of a new network for exchange and possible new joint initiatives. Examples of collaborative benchmarking can be found in the many *European networks* of universities which have been cooperating for years on joint projects, and which have then decided to embark on benchmarking activities with some (or all) universities in the network. Some organisations have launched *national, European or international benchmarking programmes* which they offered to interested universities.

CHE benchmarking

Since 1995, CHE, the Centre for Higher Education Development (www.che.de) has been facilitating the Benchmarking Club of Universities of Technology in Germany. The Club has among others worked on data analysis, internal budgeting, research funding, patents and the implementation of Bachelor and Master degrees. The Club works nationally, using both quantitative and qualitative methods, and comprises universities having similar and comparable problems.

Since 2001, CHE has also facilitated the benchmarking club of Fachhochschulen (universities of applied sciences) which focuses on university administration (student services, personnel and administration of funding). Key to all these activities is the improvement of university governance and management.

The advantage of collaborative benchmarking approaches is that they offer possibilities for further networking and professional development between peers from different institutions, thus reinforcing the learning dimension of the benchmarking exercise towards improvement and higher performance.

In the US, large-scale collaborative benchmarking exercises have been carried out by NACUBO, the National Association of College and University Business Officers.

The NACUBO benchmarking activities

NACUBO (www.nacubo.org) started benchmarking of endowment management in 1971 and has been running annual exercises on this theme since then. In 1990 a second benchmarking exercise was launched on institutional aid. The Benchmarking exercise on endowment currently comprises about 750 institutions and the exercise on institutional aid 425 institutions.

NABUCO maintains an online benchmarking tool to help colleges and universities compare management strategies with a peer group and industry norms. The first online application of the benchmarking tool on institutional aid (tuition discounting strategies) was launched in 2007. The tool allows NACUBO members to access the evaluation of conducted surveys online, and to compare critical information against self-selected peer groups. A multi-dimensional analysis can be effected using the reporting, analysis, score card and business event management functions of the tool. The aim is to identify the strategies that best suit the needs of each higher education institution.

GAINING COMMITMENT

The perspective, nature and scale of the benchmarking exercise will determine the degree of commitment needed and at what level in each higher education institution to seek commitment. However, in all cases senior level commitment is vital to ensure sustainability of the benchmarking exercise over time. If benchmarking is taken seriously as a tool for strategic change, senior management must be involved to give strategic directions and support to the implementation of change.

A benchmarking exercise needs both **top-down** and **bottom-up interactions** between decision-makers and staff at various levels. This will ensure both ownership of the process and consensus in terms of implementation.

Staff engaged in the actual data gathering and daily management of the benchmarking exercise need to demonstrate commitment to change, reviewing processes and implementing new modes of operations.

The Aarhus Benchmarking Network – The Northern European Benchmarking Project

In 2006, Aarhus University initiated a benchmarking exercise (www.au.dk/benchmarking), inviting the four universities of Kiel, Bergen, Gothenburg and Turku to join. All are multi-faculty higher education institutions, with a broad range of science and teaching, and all are located in the second largest town in their country.

The benchmarking exercise was launched for an initial three-year period focusing on research management, management of international Master's programmes and PhD studies. Aarhus coordinates the initiative.

Annually, the universities' Rectors meet. In addition, the partners organise two to three face-to-face meetings every year and engage in intermediate communication by email and by telephone.

SELECTING PARTNERS AND FORMING A BENCHMARKING GROUP

Guidelines - Benchmarking partners should:
- *Be selected based on a shared understanding of the benchmarking goals, fields and comparisons, which may or may not rely on existing inter-institutional contacts*
- *Have a clear and communicated understanding of the expected degree of involvement (time, human and financial resources) from the start*
- *Ensure a high level of trust within benchmarking networks, as sensitive data will be exchanged*
- *Obtain commitment from senior management of all partner higher education institutions*

Once the focus of the benchmarking exercise has been decided, the next stage is the identification of potential partners, Given the project's approach, this section takes the point of view of individual higher education institutions searching for several partners. But although it does not look explicitly at one-to-one benchmarking approaches, the same principles apply.

Comparing between higher education institutions with similar characteristics in terms of profile, size and type of activities as a rule will be more profitable than comparing with totally different higher education institutions. To identify higher education institutions with similar profiles to one's own or a highly performing higher education institution in a particular area, institutions will need to use desk research, personal contacts (for example gained through joint projects or long-standing relations with other institutions) and memberships in European networks.

There is currently no database or European tool to support partners search for such exercises. However, attention should be paid to the development of the classification project of higher education institutions CEIHE (in a later phase called UMAP) (http://www.utwente.nl/cheps/research/projects/ceihe/). This project aims to develop an instrument to make the diversity of higher education institutions more transparent. Such a tool will have multiple purposes, and will among others be of great support in identifying partner institutions for benchmarking purposes. Higher education institutions have also formed smaller networks with similar institutions to progress together with joint actions. Examples are ECIU (http://eciu.web.ua.pt), the Coimbra Group (www.coimbra-group.eu), UNICA (www.ulb.ac.be/unica), the IDEA League (www.idealeague.org) and LERU (www.leru.org); some of these networks are more open to new members than others.

To become familiar with benchmarking approaches, as well as to identify benchmarking partners, it is advisable to explore existing benchmarking programmes offered by national or European associations and groupings with open membership that benchmark themes in line with the interest expressed by their members. This gives the chance to gain experience with benchmarking concepts and practices in a monitored group of institutions. In existing groups, the choice of partner institutions is given from the beginning. Through experience, gradually the most similar institutions among the group may be identified, who would make good partners for future benchmarking exercises.

ECIU's benchmarking activities

The benchmarking initiative of the European Consortium of Innovative Universities, ECIU (http://eciu.web.ua.pt) was established in different phases: the first phase began in 2004 with the project Administration of innovative universities; the second in 2005 with the project International Mobility of Students; and the third phase started in 2006 with the Difuse Project: Driving Innovation from Universities to Scientific Enterprises (www.difuse-project.org).

A professional consultant is in charge of the coordination of the International Mobility of Students, whereas the coordination of the other parts is carried out by the consortium itself. The benchmarking programme currently comprises four universities in phase I, four universities in phase II, and seven universities in phase III. The universities have similar missions and characteristics, and are spread geographically across Europe.

The benchmarking exercises used a mixture of quantitative and qualitative methods and peer reviews. Questionnaires were used for the Administration and Mobility projects. Regarding the administration benchmarking project, a series of qualitative indicators and quantitative questions were analysed. In the Student Mobility Project no qualitative indicators were used. The task of the peers consisted in answering questionnaires, from which the Steering Committee chose best practices.

In particular in the benchmarking exercise on administration overall, ECIU used Burton Clark's book on entrepreneurial universities (1998) as a starting point and benchmarks against which to identify how some ECIU universities were performing in developing administrative processes to support fully their mission of being innovative universities.

Ultimately, the choice of partners will depend on the perspective taken, either to compare against higher education institutions that are generally similar but that show high achievements in the focus area, or with peer higher education institutions (i.e. considered to perform broadly at the same level but from which new ways of operations can be learnt). Inviting one higher achiever in a group of peer higher education institutions may help raise the level of performance and set new benchmarks. When focusing the bench-marking exercise on internal management processes, choosing partner institutions showing a broad mix of profiles may also result in finding good practices and benchmarks, but the comparative nature risks being impaired by the diversity of the institutions.

Size matters when it comes to target and strategy setting in benchmarking exercises. Large initiatives usually apply an open access policy, without any recruitment strategy. Most large-scale benchmarking initiatives publish the results both institution-wide and to the general public, obviously in different formats and with different content. In smaller benchmarking groups it will be easier to define common goals and targets that are sufficiently precise to allow for in-depth benchmarking. A smaller initiative also means less invest-ment in organisational terms. When initiating a benchmarking exercise, our advice is to start with a group of 10 to 15 universities, which seems to be the most effective in terms of operating a partnership, communications, collect-ing the data and producing effective results. Trust between partners in terms of sharing data is crucial.

Selecting and contacting potential partners

→ Draw up a list of 10 to 15 potential partners based on desk research and personal contacts
- Carry out initial research on the size, profile, and mission of higher education institutions
- Activate personal contacts (networks, projects, understanding of similar issues)

→ Contact selected higher education institutions with clear information about the benchmarking exercise:
- Your intentions (data gathering, establishing a network for further dialogue)
- The purpose of the exercise
- Timeframe and expected results

→ Make contact either at senior management level or unit level

→ Establish the benchmarking group

→ Decide on the membership policy of the group (i.e., whether it will be an open or closed group of institutions

5.4 CONDUCTING A BENCHMARKING EXERCISE

RESOURCING AND MANAGING THE BENCHMARKING EXERCISE

Managing a benchmarking exercise – Some general advice
- Decide whether to use existing pre-standards/benchmarks as starting point
- Develop an action plan for the data gathering, review it with higher education institutions in the partnership
- Appoint the benchmarking team, staff and the moderating institution
- Carry out the data collection (internally and externally) – question-naires, site visits, peer reviews
- Develop an action plan with targets for improvement
- Implement the action plan and set new areas for benchmarking

To carry out a benchmarking exercise effectively, resources are needed, in particular **staffing** to carry out the data collection, the analysis and the im-plementation phase of the benchmarking results.

Decide on a clear action plan and task allocation (who processes the data, who prepares the reports, etc.), a timetable with milestones, numbers of meetings (internally and with partners). All these will determine the volume of staff time needed and the **budget**. Successful planning is key for the exe-cuting of the benchmarking exercise. Staff **travel** becomes an important item in particular in transnational benchmarking exercises. Some staff **training** in benchmarking concepts and practices might also be required. The overall investment in the exercise will very much depend on the size and scale of the benchmarking exercise.

For a collaborative benchmarking exercise involving several partners, it will be necessary either to appoint one university to act as **coordinator** for the whole exercise or to hire a consultant (or another type of organisation) to act as external moderator for the partners. The external moderator can remain an outsider (i.e. not being a member of the benchmarking group but only be used for facilitating discussions, processing data and providing analysis).

Inside each partner higher education institution, we recommend appointing one person to act as **project manager** to coordinate the inputs from various people, lead the team involved in the benchmarking exercise and liaise with senior management. The project manager must ensure that the team involved in the benchmarking exercise has clear understanding of expectations, the tasks, is committed and willing to work on change processes for continuous improvement. Staff should have access to the appropriate resources in the university for data gathering.

Benchmarking exercises take **time**. The timeframe depends on the nature and scale of the benchmarking exercise. Some benchmarking exercises are established as a one-off activity to look at one specific issue for a very limited period of time. In some cases these are then extended to look at other issues. But overall, benchmarking is most effective as a management tool when it is carried out on an ongoing basis. Therefore it requires close cooperation between the staff/the users and management to sustain efforts placed in the data collection, analysis and implementation.

Overall, a clear mode of operations to which partners abide must be agreed. This should include how to assure confidentiality and trust. A good practice is the Code of Conduct of the American Productivity & Quality Center (APQC) which addresses all sectors of business, education and government.

The APQC Benchmarking Code of Conduct
The APQC International Benchmarking Clearinghouse service has adopted a Benchmarking Code of Conduct for efficient and ethical benchmarking. The Code of Conduct can be found on the website www.apqc.org. The code is constructed around eight principles, i.e.

1. Principle of Legality of the benchmarking exercise and data collection
2. Principle of Exchange
   - Be willing to provide the same type and level of information that is requested from the benchmarking partner
   - Be honest and complete
3. Principle of Confidentiality
4. Principle of Use
   - Use information obtained through benchmarking only for purposes stated to the benchmarking partner
5. Principle of Contact
   - Respect the corporate culture of partner organisations and work within mutually agreed procedures
   - Obtain an individual's permission before providing his or her name in response to a contact request
6. Principle of Preparation
   - Be prepared prior to making an initial benchmarking contact
   - Provide a questionnaire prior to benchmarking visits
7. Principle of Completion
   - Complete each benchmarking study to the satisfaction of all benchmarking partners as mutually agreed
8. Principle of Understanding and Action
   - Understand how the benchmarking partner would like to be treated

APQC further advocates that benchmarkers should :
- Know and abide by the Benchmarking Code of Conduct.
- Have basic knowledge of benchmarking.
- Prior to contacting partners, have determined what to benchmark, identified key performance variables to study, recognized superior performing companies, and completed rigorous self-assessment.
- Have a questionnaire developed, and share it in advance if requested.
- Possess the authority to share and are willing to share information with benchmarking partners.
- Work through an agreed upon schedule.

The Benchmarking Code of Conduct also includes guidelines for partners in benchmarking exercises in which (potential) competitors are involved. In this case, it is advisable to establish specific ground rules in advance. It is important not to ask competitors for sensitive data or put pressure on partners to provide such data. An ethical third party could help to assemble and remove competitive data. In any case, APQC advises that information received from benchmarking partners should always be treated as internal communications.

Guidelines - Procedures/operations should:
- *Be clearly documented using a transparent methodology which is communicated both inside the institution and among benchmarking partners*
- *Be supported with adequate human, financial and other resources to carry out the benchmarking exercise*
- *Where appropriate, be implemented by carefully selected and trained experts in assessment/evaluation work*
- *Be established so as to process data in a well-structured way*
- *Ensure a periodical monitoring/review of the effectiveness of the benchmarking process and its value in implementing changes at the relevant level within the participating institutions (measuring outcomes)*

DATA GATHERING

CHOOSING A METHODOLOGY FOR THE DATA COLLECTION EXERCISE
Data gathering first starts internally with a **self-assessment**, clear under-
standing and documentation of internal processes and what to measure for
what purpose, before engaging in an exercise to generate comparative data.

The type and volume of data to be collected will very much depend on the
focus of the benchmarking exercise. In any case, the amount of data collection
should be realistic for best results. Measure only what needs to be measured
(rather than measure what is measurable) and select or develop the best
possible indicators which will make it possible to define short and long term
targets and benchmarks. Targets should be as precise as possible. A clear
distinction should be maintained between indicators of performance and de-
scriptions/indicators of processes and conditions. The latter may help an un-
derstanding of how performances came about and may be highly relevant for
learning processes. Indicators should be sufficiently linked to the context of
an institution to capture its core features while at the same time sufficiently
general to allow for appropriate comparisons with benchmarking partners.

Once the focus of the benchmarking exercise is clear it is worth carrying out
some desk research into existing performance-based indicators, standards
and benchmarks for the area you wish to benchmark.

For the data gathering, the methodology will very much depend on the focus
and expected outputs of the benchmarking exercise. Quantitative data, qual-
itative information, focusing on management processes or a mix of these, all
are viable options. The benchmarking groups in our study that claimed to use
only quantitative indicators tended to focus on sub-units rather than whole
higher education institutions, and often exclusively focused on administrative
aspects or output measures.

Some examples follow from the ESMU Benchmarking programme.

If the focus is on **benchmarking the human resource management**, background material will be needed such as the institution's mission statement, a strategy document, and an organisational chart to understand clearly how the HRM strategy is related to the overall strategy. Benchmarking HRM will for example look at what mechanisms are used to measure the HR strategy's implementation and effectiveness (e.g. in terms of attracting top scholars, or improving the gender balance), who has responsibility for ensuring that the HR policy complies with legislative requirements, and the level of staff and trade unions' involvement in determining policies and procedures. Central to benchmarking HRM will also be issues such as the balance between central and devolved HR activity and how to ensure implementation of HR policies (nature of control or support mechanisms to deal with variations in local management performance and capability), how the university identifies its overall requirements for staff development and matches this with the needs of individuals, how training and development (induction programmes, coaching, individual study, personal counselling, on the job learning) are provided and how their effectiveness is reviewed.

A **benchmarking exercise on external funding** will look at the culture developed throughout the institution to actively seek appropriate ways of increasing income, the professional expertise needed to develop such activities (intellectual property, fund raising, patenting, risk capital, market intelligence gathering), adopted policies for the distribution of income generated through these activities, or reward structures and contract terms for commercial activity.

Looking at **student services**, a benchmarking exercise will address, for example, the aims and objectives of the support services relating to the university's mission statement, how the provision of support services is organised, the structural relationship between the various services, the range of services available to meet identified students' needs (housing, disabled students, child care, financial help, international students).

Guidelines - Indicators should:
- *Not only include inputs but also outputs and/or processes*
- *Be quantitative as well as qualitative, as most issues are best compared by using a mix of quantitative and qualitative methods*
- *Be selected according to the relevance for the purpose, not solely on existing data*
- *Measure outcomes in relation to inputs*

Evaluating the regional contribution of higher education institutions
A Benchmarking approach
In 2002, HEFCE published a report on the regional contribution of universities. The purpose of the benchmarking approach was to provide a way to assess the regional impact of higher education institutions in order to improve their position, help set strategic priorities and support joint strategic development.

The HEFCE report proposed both quantitative data gathering (e.g. how many jobs are created) and qualitative data (e.g. how well the process of graduate placement is performed).

HEFCE advocated that good practices depend on context, so the relative success of one approach may be difficult to judge. It defined both what it called 'practice indicators', i.e. the way in which higher education institutions seek to interact with the region (doing the right things, putting good processes in place, etc.) and performance indicators (i.e. assessing past actions to see if strong outputs have been achieved).

Benchmarks for regional development were defined with themes and sub-themes, with the intention to score higher education institutions on their performance.

A **quantitative data gathering exercise** will use indicators and hard data to set future targets and benchmarks for improvement, for example the number of spin off companies or the proportion of research contracts (in the case of a benchmarking exercise on research), or the number of international students and academic staff, the number of (active) agreements with other higher education institutions, joint programmes and the proportion of the budget allocated to international activities for a benchmarking exercise focusing on internationalisation. A more detailed template is provided here as an example of quantitative data gathering on external funding.

Tab. 2 – Template - External funding (in thousands of euro)

ACTIVITY	Gross Income	Direct costs	Overheads	Net income	FTE Staff (Academic & support staff)	
Contract research Research council European funds Private sector funds Government funds Others						
Commercialisation Patents & Licenses Private companies Consultancies						
Full cost student fees						
Teaching & training activities Continuing education courses Short courses Specialised courses Summer schools Private company staff courses Others						
Alumni activities						
Fund raising						
Endowments						
Partnership funding for Capital projects						
Others / specify						
TOTAL						

Since the aim is to collect objective hard data for objective measurement and goal setting, clear definitions of the type of data required are necessary to avoid misinterpretations. Misunderstandings easily occur, in particular in transnational benchmarking exercises, due to national differences even in basic concepts e.g. 'staff member', 'student', 'government budget'.

Benchmarking Italian Universities
A benchmarking initiative was established in Italy in 1999, following preliminary work in 1998. There have been six Good Practice projects of which the first three were financially supported by the Ministry for Higher Education. Since 2003 the programme has been self-financed by the participating universities. In total 36 Italian public higher education institutions have been involved in one phase or another, growing from 10 institutions in 1999 to 21 at present. The coordination is in the hands of a research group at the Politecnico di Milano; however the design and implementation are highly participative, involving both top managers and officers in each participating university.

The aims of the benchmarking initiative are related to the area of administration, and intended to improve its performance. First viewed as a one-off activity, it became a permanent activity due to its success. A replication of the study is under discussion with Spanish universities.

The benchmarking activity focuses on the sub-units of the higher education institution, such as the central services with a particular focus on administration. The areas currently covered comprise student services, human resource management, logistics and procurement, as well as accounting and research support. The main focus of the benchmarking initiative lies both on inputs and outputs. A time-line approach was chosen since it enables comparisons between institutions over several years. In the benchmarking exercise both quantitative and qualitative methods are used.
See http://papers.ssrn.com/sol3/papers.cfm?abstract_id=528357

The Higher Education Information System (HIS) benchmarking activities
In Germany, HIS (www.his.de) offers two kinds of benchmarking: a process-oriented approach and an indicator-oriented approach for higher education institutions.

The process-oriented benchmarking was established in 2004. Since then, different Quality Circles started. Their aims relate to administration, more specifically to Student and Academic Matters, Human Resources, Estates and Facilities, Information and Communication Technology, Finance etc. The programme currently comprises several groups varying between 3 and 12 institutions, usually only in Germany and in the same regions.

The indicator-oriented benchmarking aims and activity areas are the same areas as for the other HIS benchmarking initiative. Viewed as a one-off activity it was ended after completion.

The benchmarking exercise uses quantitative methods which lead to an intensive qualitative discussion of processes. The type of quantitative indicators depends on the area, but in general terms are linked to efficiency parameters.

COLLECTING THE DATA

Self-assessment is the first step for effective benchmarking in which higher education institutions will gain a more accurate understanding of their own policies and processes. The EFQM Excellence Model can be an excellent tool in this respect to map the institution, make an inventory of indicators and set targets for improvement.

Which data-gathering methods are used depends on many factors (see above); research methods handbooks can give all the necessary insights and skills. However, a common approach identified is as follows:

First, design a template for a questionnaire or survey, either in the form of open or closed questions to collect information. Make sure that the definitions are clear to the partners in all partner universities. A preliminary meeting with all partners will bring added value in terms of commitment and understanding.

One option for the next step is that the templates/questionnaires are sent to all partners with a return date for completion. The coordinating institution should have staff available to clarify matters. You may wish to add telephone interviews or site visits in the process for qualitative aspects of the data gathering exercise.

Alternatively you may wish to collect qualitative data purely through site visits by two/three experts/peers who will use a questionnaire and checklists. Validation of information with partners for accuracy is vital.

Gathering all data in a standardised format/database is of paramount importance for further use in benchmarking and other exercises.

To assess the performance of higher education institutions against a set of benchmarks Scoring systems are often used. The MAXIMIZE tool for marketing strategies uses a score of 1 to 6. In the ESMU benchmarking programme scores are given from 1 to 5 to assess where higher education institutions rate in comparison to others. In the ESMU programme, each framework or process contains a number of sub-topics, and during the assessment, three aspects of each are examined by assessors in terms of:

(1) the underlying **approach** adopted by the university (i.e. is it simply event-oriented or is there a robust systematic approach with evidence of refinement and high-level integration),

(2) the **application** of that approach (i.e. how widely and consistently it is being applied) and

(3) the **outcomes** which are being achieved (i.e. from the non-existence of data to positive trends in most areas with good monitoring procedures in place and leading-edge outcomes when compared to others).

REPORTING RESULTS

The next stage will be to process data and produce **comparative, structured and transparent reports** on the results, which are clearly understandable to all those involved.

> *Guidelines - Reporting results should:*
> • *Be carried out in an effective way (internal/external)*
> • *Produce well-structured, transparent and comparable information (qualitative/quantitative) with a view to identifying good practices and gaps in performance which can lead to future target-setting*
> • *Apply measures to enhance the credibility and the visibility of the benchmarking exercise*

Documenting the results of the benchmarking exercise is key to its success. Two types of reports can be produced for internal use inside one institution and within the partnership:
(1) detailed results of the data gathering exercise
(2) summary reports focusing on good practices, performance and target-setting, for senior management.

Public dissemination of results will enhance the reputation both of the higher education institutions and of the benchmarking exercise itself among stake-holders. The issue of communicating results to the outside audience must be addressed carefully. Results of the benchmarking exercise will produce new benchmarks for the sector, so public reporting will be valuable, but obviously paying close attention to the confidentiality issue. Some benchmarking exercises have compiled results in an anonymous way for some aspects of the exercise where sensitive data were at stake.

Comparative tables with quantitative data on e.g. staff costs, student mobility, number of spinoffs will be useful to provide a quick view on performance but have limitations and can provide a biased view if taken out of their context. Data and tables are always more valuable when accompanied with qualitative background information and analysis.

Once the data have been collected and compiled into comparative reports, the analysis of gaps in performance and differences between institutions will serve as an objective basis on which to improve processes, either at the level of individual higher education institutions or as a collective exercise within the partnership. Depending on the level and focus of the exercise, there will be different implications for strategic goal setting and actions plans to achieve superior performance within higher education institutions. It is important to bear in mind the different national and cultural contexts which will affect results.

In the context of quality assurance in Australia, **Benchmarking: A manual for Australian universities**, McKinnon (1999) identified important aspects for university life and ways to benchmark them, providing 67 benchmarks in 9 areas of university activity, i.e. governance, planning and management, external relationships, financial and physical infrastructure, learning and teaching, student support, research, library and information services, internationalisation and staffing. The manual identified good practices and how to assess achievements in terms of outcome, i.e. lagging, drivers and learning.
See http://www.dest.gov.au/archive/highered/otherpub/bench.pdf

In 2006, the DentEd IIII EU-funded thematic network under the auspices of the **Association for dental Education in Europe** produced a report and series of toolkits to assist dental schools in developing appropriate internal quality assurance systems in line with existing faculty/university QA systems, as a way to respond to the Bologna Process and the harmonisation of dental education in Europe.

The toolkit provided guidelines to work with programme auditors, self-assessment templates (curriculum, faculty staff, students, facilities and linking to professional associations) and examples of good practices for quality assurance. See under "downloads" on http://www.adee.org

5.5 CONVERTING THE RESULTS OF A BENCHMARKING EXERCISE INTO NEW APPROACHES AND MODES OF OPERATION

Once the results of the benchmarking exercises have been produced and analysed, the final step concerns the design of a **clear framework, a precise action plan** and to **convert the results** and benchmarking efforts into **improved processes** and **organisational change**.

The owner of the benchmarking exercise (i.e. either a group or one person inside an institution) will have the responsibility to oversee the effectiveness of the implementation with **goals, targets, milestones and deadlines** and appropriate resources for the change process to take place effectively. Prioritising projects for implementation and allocating appropriate resources for their effective implementation is essential.

Plans for changes should be realistic and include clear steps over time. Obviously while the focus of the benchmarking exercise will determine the immediate and long term action plan, short and long term goals to improve performance should be identified, and detailed action plans agreed upon to adopt good practices found in other higher education institutions.

Integrating benchmarking into strategic planning, **conducting benchmarking exercises as a regular practice** and introducing new topics for benchmarking will support on-going organisational evaluation and retaining a competitive edge. The EADTU online tool on benchmarking e-learning has this objective in mind.

Such a change agenda depends crucially on **strong leadership** to set clear directions and ensure their implementation. Highly-performing higher education institutions use a variety of tools, including benchmarking, to better understand their operations and progress towards increased performance.

The EADTU online benchmarking tool on e-learning
E-xcellence, a two-year project (2004-2006) of the European Association of Distance Teaching Universities (EADTU) produced a web-based instrument focusing on e-learning in higher education (www.eadtu.nl/e-xcellenceqs).

The online tool **Quickscan** allows higher education institutions to bench-mark their courses and programmes in relation to e-learning aspects. The **Quality Manual** for E-Learning in Higher Education provides a set of benchmarks, critical factors, performance indicators, and assessors' notes. It covers the six areas of Strategic management, Curriculum design, Course design, Course delivery, Staff support and Student support.

A full assessment also includes an **on-site visit** by an e-learning expert. In this case, the online tool forms the input for the self-evaluation report which institutions write for the visiting expert. At the end of the full assessment the expert delivers a report on overall performance and recommendations for improvement. Universities develop an action plan for improvement and have the experts' support and feedback for this.

The next step is **Excellence+** (www.eadtu.nl/e-xcellenceplus), where EADTU provides support to introduce the tool both in national quality assurance frameworks and at institutional level inside higher education institutions.

With a commitment to go through the E-xcellence assessment every two years, universities obtain the 'E-xcellence' Associates label which is a recognition of their continued improvement of e-learning.
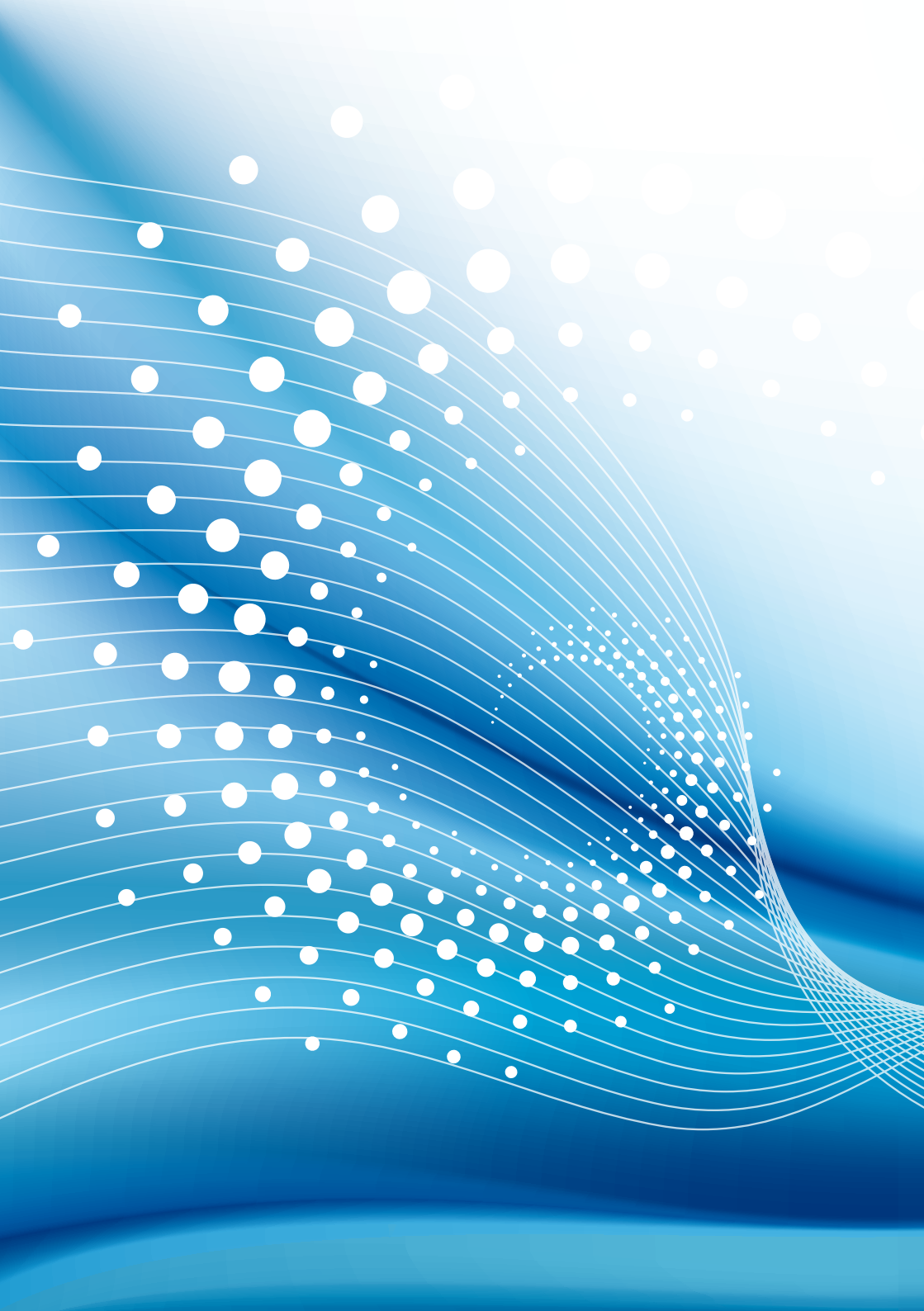
IN SHORT
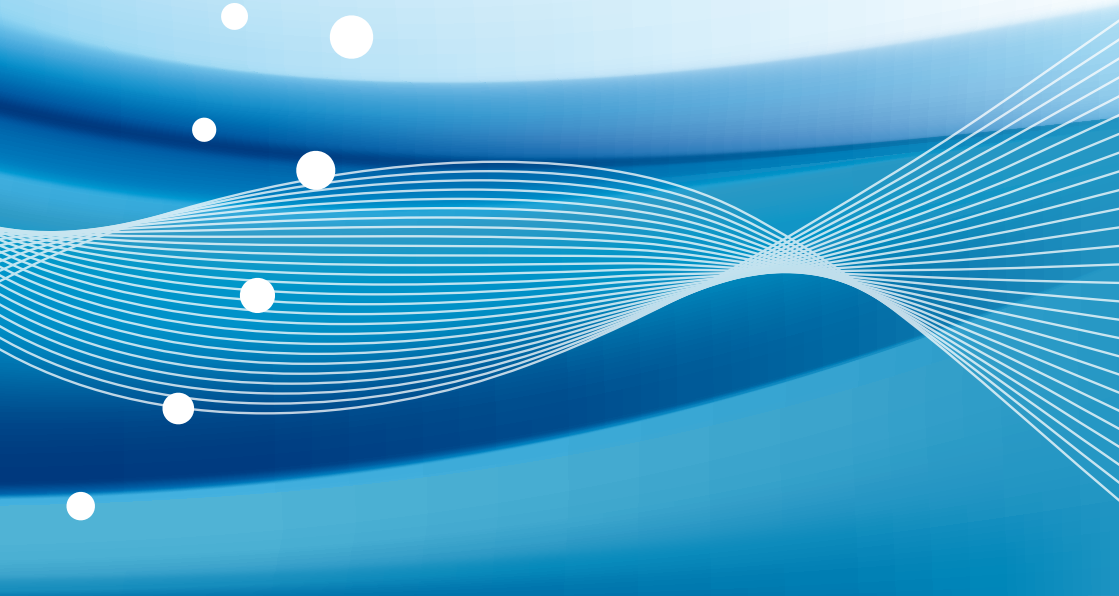
6. IN SHORT

This handbook for benchmarking aims to be a guide into practical exercises in benchmarking for higher education institutions. We distilled a number of precepts from the experiences gained in the two-year project *Benchmarking in European Higher Education*, which in abstract terms should be applicable (with all necessary adaptations) to all higher education institutions embarking on a benchmarking exercise. We focused on what seems to be the most common and probably most fruitful type of benchmarking: collaborative exercises among a number of higher education institutions aiming to make a strategic difference to the partners involved.

We first reviewed the cognitive environment of benchmarking: its emergence in relation to the quality movement in the business world, and how both quality assurance and benchmarking migrated to higher education.

Then, we presented a number of steps - and considerations in following these steps - that were derived from the project. Often, the derivation remained implicit, sometimes because our precepts are lessons that were drawn from far-from-perfect practices. After all, one learns most from others' failures.

The steps in a benchmarking exercise are:
Initiating a benchmarking exercise in your institution
- Contextual background: Institutional profile and experience with benchmarking
- Purpose, goals and perspectives
- What to benchmark?
- Choosing the right benchmarking approach for your purpose
- Gaining commitment
- Selecting partners and forming a benchmarking group

Conducting a benchmarking exercise
- Resourcing and managing the benchmarking exercise
- Data gathering
  - Choosing a methodology for the data collection exercise
  - Collecting the data
- Reporting Results

Converting the results of benchmarking exercise into new approaches and modes of operation

With the implementation of new approaches and new modes of operation, a new cycle begins: the new ways of working will need to be evaluated, once they have had time to have an impact, and be compared with the impacts achieved by the other partners' new approaches. In other words, a new round of benchmarking will naturally evolve.

We wish you luck in your continual efforts to improve the performance of your higher education institution! Meanwhile, we too aim for continual improvement: so please let us know your comments to this handbook, so that it may be improved for future users.

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TEN GOOD REASONS
TO USE BENCHMARKING
AS A MANAGEMENT TOOL

Benchmarking strengthens an institution's ability to successfully:

- **Self-assess their institution**
- **Better understand the processes** which support strategy formulation and implementation in increasingly competitive environments
- **Measure and compare** to the competition, i.e. how well are other higher education institutions in the sector performing, which higher education institutions are doing better and why
- **Discover new ideas**, looking out strategically; Learn from others how to improve
- **Obtain data to support decision-making** with new strategic developments
- Set **targets for improvement** of processes and approaches in order to increase performance
- **Strengthen** institutional identity, strategy formulation and implementation
- Enhance **reputation** and better position your Institution
- **Respond** to national performance indicators and benchmarks
- Set **new standards for the sector** in the context of higher education reforms

This handbook is the product of a two-year EU-funded project, Benchmarking in European Higher Education, which investigated the concepts and practices of benchmarking in higher education.

Designed as a practical guide, with a review of the literature on benchmarking, examples, templates and checklists, this handbook aims to promote the use of benchmarking as a modern management tool in higher education.

Education and Culture

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