

# Evaluation of the Universities Performance

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**Abstract:** The higher education sector is nowadays facing times of profound transformations and many challenges, and Portugal is no exception. In this competitive environment the quality assurance system is a crucial piece to increase the institutions performance. Portugal at this moment does not have an operational quality assurance agency and is lagging behind other European countries, like the Netherlands that has a system based on accreditation, or the United Kingdom that is based on an audit approach. However, it is also important that the institutions measure their own performance to increase their own levels of quality. The balanced scorecard is a management tool that allows the institutions to measure their performance under four different perspectives, customer, internal, innovation and learning, and financial respectively. The balanced scorecard has numerous advantages when compared with other instruments, for example, it increases the requirements for accountability and allows the institutions to improve the performance continually. An application of the balanced scorecard to the DECivil shows that the department needs to improve its performance in some areas, like the research and development activities or the internationalization of its students and activities.

**Keywords:** Higher education, quality assurance, performance evaluation; balanced scorecard.

## 1. Introduction

In the last decades of the 20th century, the participation on higher education had an enormous growth, with many and different consequences to the institutions. One of the main results was the diversification of the sector, with polytechnics, universities and the technological institutes offering many different educational programmes. As a response to the fast growth, the governments and the institutions themselves started a set of reforms with the main purpose of developing a quality assurance system that leads to a continuous improvement of the educational programmes, and increases the levels of accountability.

In Europe, the Bologna declaration is one of the major reasons for the recent transformations. However, the main issues of discussion do not end in the Bologna process, and the institutions are facing many pressures from all the stakeholders. The students are paying high tuition fees, and as a result they are demanding more from the institutions. It is very reasonable to say that they are starting to behave more like clients and not like students. The employers argue that they pay their taxes, and consequently demand more quality not only from the graduates, but also from the research and development (R&D) activities without the support of the higher education institutions. On the other hand, most of the governments are decreasing the public funds, which leads to the increase of competition of the resources available between the different institutions and also demands more accountability from the institutions. Furthermore, the governments also have the necessity of collecting information about the institutions performance to know where to allocate better the public funds. The pressure of the international league tables has also increased the competition between the higher education institutions, which are compelled to perform better than their peers, in a very competitive environment (OECD, 2008). The Portuguese higher education is no exception to these disturbed times, and very recently the government started a set of new reforms, not only in the quality assurance system, but also in the governance and the management of the higher education institutions. The objective of these reforms is to improve and modernize the entire system, creating a culture of quality and improvement. The results of these reforms and, of the current policies will only be known at long term.

The main goal of this research is to study how the quality of the higher education sector is measured by the stakeholders, with especial relevance to the government and the institutions themselves. Therefore, the main purpose of this thesis is not only the analysis of different quality assurance systems, but also to study the instruments for evaluation of the performance of the higher education institutions, including the balanced scorecard, ultimately the balanced scorecard methodology is applied to the Civil Engineering and Architecture Department of the Instituto Superior Técnico (DECivil).

## 2. Regulation of Quality in the Higher Education Sector

### 2.1 The regulation of Quality in Portugal higher education

The Portuguese quality assurance system was under the responsibility, for several years, of the National Council for the Evaluation of Higher Education (CNAVES), created by the Law 205/98 of 11 June. The evaluation of the programmes was carried out by evaluation councils under the supervision of CNAVES. The evaluation councils have the responsibility of proposing the composition of the peer review panels, the guidelines for the self-evaluation process, and of publishing the external evaluation report with the suggestions and the recommendations to the higher education institutions with the main goal of improving the quality of their services. However, recently the Portuguese government requested to the European Association for Quality Assurance in Higher Education (ENQA) a review of the quality assurance system. This report was very polemic in Portugal and had enormous consequences to the future quality assurance system, a crucial element for the future system.

The ENQA report "Quality Assurance of Higher Education in Portugal – An Assessment of Existing System and Recommendations for a Future System" identified several problems in the Portuguese system, and defended a profound reorganization. However, the panel praised some aspects of the past organization that should be pointed out, for example, the culture of self-evaluation, the equity of representation of all sub-sectors and the processes of evaluation. Unfortunately for Portugal, the conclusions of the report were very clear and the disadvantages of the Portuguese quality assurance system were in a large number, and demanded deep reforms in all the system, such as the creation of a new accreditation and evaluation agency. One of the main problems pointed out by the ENQA (2006a) was the limited independence of the evaluation process, not only from the government but especially from the institutions. There was a strong presence of staff related to the institutions in CNAVES, and an excess of reliance in the Portuguese experts. The organizational structure of the process in a two-tier was referred to as complex, and as a consequence, all the organization suffered from a certain level of operational inefficiency and inconsistency. The report also referred that the organization's structure level was leading to a system of bureaucratic control and is time consuming. Finally, it pointed out the lack of consequences or follow-up to the evaluation reports, which is a crucial element for the success of the system and cannot be ignored. The ENQA identifies the government passivity to the bad evaluations as one of the main points for this negative aspect. However, the lack of CNAVES activity is also pointed out as a decisive factor. The final reports were frequently vague, with no clear and precise recommendations. The Portuguese XVII constitutional government, in accordance with its programme, established the Evaluation and Accreditation Agency for Higher Education called "*Agência de Avaliação e Acreditação do Ensino Superior*", (AAAES), through the Law 369/2007 of 5 November. The future Agency will have the full powers not only of evaluation but also of accreditation of all higher education institutions and their programmes. The Agency can also participate in other type of evaluations, especially of scientific nature. It is expect that the Agency participates with other international organizations similar to AAAES, and if requested to evaluate other international higher education institutions.

The new evaluation standards are defined in the recent Law 38/2007 of 2007 February. The standards to measure the quality of the universities are divided into two groups. The first group is related to the performance of the higher education institutions. In this group the law has defined the following standards to measure the programmes: teaching quality, staff qualifications, internal quality assurance, research activity, international cooperation, institutional cooperation, organization and management, facilities and equipment, and finally the social support. The second group of standards is connected with the outcomes of the institution activities, as the services to the community, the incomes produced by the university, the success rates, the employment, and the public information about the institution and its students work.

The accreditation decision is based on the evaluation report, and is presented in three different categories of decision, favourable, unfavourable, and favourable but with conditions. If the decisions are unfavourable the institution is not authorized to maintain the educational programme in operation. In case of a favourable decision, but with conditions the institution will have an improvement period to perform the agency recommendations. Later the agency confirms if the programmes meet all requirements that lead to a favourable or not favourable decision. The accreditation decision cannot be longer than eight years. The new law also innovates in an important point. It compels the institutions to collect and published all important information, with special attention to the careers of their students. However, the most polemic issue about the new legal framework of the higher education evaluation system is the presentation of the external evaluations results into a grade, or the creation of a ranking between the universities.

## **2.2 The regulation of Quality in Holland higher education**

Since 2000 the Netherlands and the Flanders intend to establish a joint accreditation organization that would be in charge of the accreditation of higher education programmes in both the Netherlands and Flanders. In 2000, with the creation of the Netherlands Accreditation Organization (NAO), the first step was taken and three years later, in 2003, the two governments signed the treaty for the establishment of the Accreditation Organization of the Netherlands and Flanders (NVAO). The accreditation system is three tiered, the first is the institutions, the second is the external quality assessment agencies and finally NVAO is the third one (ENQA, 2007b). The main purpose of this system was to establish an open system of quality assurance agencies that is a free market. Every year NVAO draws up a list with the quality assurance agencies that meet the requirements demanded to produce reliable assessment report. In the Self Evaluation Report that NVAO has produced to the ENQA they identify some “tensions” between the quality assessment agencies and the NVAO. The ENQA panel reported two solutions for this problem. One is to remove the second tier and give all assessment responsibilities to NVAO, and the second is to position the agencies clearly as part of the accreditation system through a certification given by NVAO.

The accreditation process is divided into three steps. The first step is the self-evaluation report. This report is not public and is not included in the accreditation report. It should contain self-critical and reflective aspects in a way that the panel may be able to form balanced judgements. The second step is the external assessment, the evaluation panel should be composed by experts in specific areas and always have members from the students. Finally, the last step is the accreditation decision, if the decision is negative the institution will be granted an improvement period and it can appeal after the final decision is taken (Faber and Huisman, 2003).

The consequences of a negative accreditation decision are different to the Netherlands and to Flanders. In Flanders the institutions have an improvement plan for the programme and three years later they can apply to a new application for accreditation. In the Netherlands the consequences are harsher. They also have an improvement plan, but as long the programme is not accredited the institution will not receive public funds and cannot enrol new students.

The Netherlands does not have any official ranking system for study programmes or educational institutions, but the assessment agency uses a scale for their assessment of standards listed in the assessment framework. The scale has four points: “excellent”, “good”, “satisfactory” and “unsatisfactory”. In order that the programme receives a positive final assessment the agency panel must award each theme with a satisfactory score. A positive decision can only be based on positive judgements of the themes in the assessment framework. The evaluation of a theme in the assessment framework is done on the basis of the measurement of separate standards leading to the conclusion concerning that theme. In other words, the panel has to clarify how the assessment of a theme is based on the assessment of the underlying standards (NVAO, 2003).

## **2.3 The regulation of Quality in Spain higher education**

The new law was an enormous step to the new quality assurance system in Spain. The article 32 of Organic Law 6/2001 authorised the establishment of the National Agency for Quality Assessment and Accreditation (ANECA) which was set up as a public trust by the Spanish Ministry of Education and Science on 19 July 2002. However, the law does not specify any regulation about the process of evaluation to apply by the new quality agency which leads to a commitment by the governing bodies of ANECA to organise the process of evaluation on the quality in higher education in accordance with the Standards and Guidelines for Quality Assurance (ESG) in the European Higher Education Area (ENQA 2006b).

The main role of ANECA is to monitor, by means of evaluation, the promotion and quality of both private and public universities and their integration in the European Higher Education Area. The Spanish system has also 11 regional agencies for quality evaluation (ENQA 2006b). The Spanish agency is a relatively young organisation, it only started working about six years ago and for that reason some of its evaluation programmes are new and have never been carried out before. ANECA has a crucial role in the Spanish quality assurance system and performs it through several evaluation programmes. From all the programmes, the Institutional Assessment Programme distinguish from other, and despite the name it assesses degrees rather than institutions, and it was created with the main purpose of improving quality of the educational programmes through an improvement plan as the result of the evaluation with public criteria, identifying their main strengths and weaknesses. The criteria used in the institutional assessment programme are divided in different themes. Each theme is then split into criteria and then into sub-criteria to facilitate the evaluation. The scale used to evaluate the sub-criteria has four points: A – “excellent”, B – “good”, C – “satisfactory” and D – “unsatisfactory”.

With this scale for the sub-criteria the institutions will exactly know what they are doing right and which areas they need to improve in their programmes (ANECA, 2007b).

ANECA is also, at this point, launching new programmes of assessment, whose objectives are to improve the quality of the Spanish higher education and enlarge the role of ANECA in the quality assurance system. The new programmes will have an important role in the Spanish system, like the ACREDITA programme that has the main objective of establishing standards and guidelines for the accreditation of recognised undergraduate and master degrees.

## **2.4 The regulation of Quality in the United Kingdom higher education**

In 1997 the Quality Assurance Agency (QAA) was established to provide an integrated quality assurance service for the UK higher education, replacing the HEQC. The agency is an independent body funded by subscriptions from universities and colleges of higher education, and through contracts with the main higher education funding bodies (QAA, 2003). It is the agency's role to provide public assurance that standards and quality within higher education are being safeguarded and enhanced. This is done mainly through a peer review process of audits and reviews. These are conducted by teams of auditors and reviewers, most of them academics. They have four different activities such as institutional audit, development engagements, major review and major review of NHS-funded healthcare programmes (QAA, 2003).

The process of institutional audit in England has been developed by the QAA in cooperation with the HEFCE, and the audit teams will focus their evaluation on six specific areas. The audit team makes a judgement to each area, not about the academic standards but about the way the institution ensures that its academic standards are being secured (QAA, 2006). If the audit verifies that the institution is managing the assurance of academic standards soundly and effectively the judgement will be expressed as "confidence". When the audit team has substantial doubts about the current, or future, management of academic standards the judgment will be expressed as "limited confidence", it is not a judgment of failure but indicates that improvements need to be made (QAA, 2006). Finally, if the audit team has serious concerns about the capacity of the institution to secure academic standards, the judgement will be "no confidence", which means that the evaluation of the institution is unsatisfactory. These cases are very rare in the UK system but when they occur all stakeholders know about them. At the institutional audit, in England, when the evaluation is finished the process ends with a report that will include recommendations for further consideration by the institution. These recommendations will be categorized as "essential" if the team believes that matters are putting the standards and the quality at risk and require urgent corrective actions, "advisable" if the recommendations refer to matters that have potential to put quality and standards at risk and require preventive action, and finally "desirable" recommendations when they refer to matters that have potential to improve the quality of the institution (QAA, 2004).

In 1999 the Performance Indicators Steering Group (PISG) was established by the HEFCE with the support of all funding councils and following the recommendations of the National Committee of Inquiry into Higher Education, with the main objective of developing suitable indicators and benchmarks of performance in the higher education sector (HEFCE, 1999). Since 2002/2003 the Higher Education Statistics Agency (HESA) has published the performance indicators on behalf of the HEFCE and, every year, the PISG oversees the production of these indicators, develops new indicators, and agrees amendments required to existing indicators. These performance indicators are composed by statistical indicators intended to offer an objective measure on the performance of the higher education institutions. They currently cover widening participation indicators, non-continuation rates (including projected outcomes), module completion rates, research output and employment of graduates (HEFCE, 2006b). The objectives of producing these indicators are to provide reliable information on the nature and performance of the UK higher education sector, allow comparison between individual institutions of a similar nature, enable institutions to benchmark their own performance, inform about policy developments and contribute to the public accountability of higher education. Because there are such differences between the universities, the benchmark should be used in two different ways, first to see how well an institution is performing compared to the higher education system as a whole, and second to decide whether to compare two institutions (HEFCE, 2006a).

## **3. Measuring the performance of higher education institutions**

### **3.1 The performance indicators**

A performance indicator is normally described as a range of statistical or non-statistical data with the aim of offering objective measures about how a higher education institution is performing. The

universities are complex organizations which have different goals. Therefore when the use of performance indicators is chosen, an explicit statement of objectives or goals is essential to provide reference points to the measures of a university performance over time, or to compare the performance with other institutions. If the performance of an institution is compared with the performance of a different institution, with different objectives, goals, or strategies, the conclusions of that comparison are unhelpful.

A coherent, concise and reliable group of performance indicators is essential to help not only the institutions, but all the stakeholders to assess and understand the performance of an institution. In short, the purposes of the performance indicators are to supply reliable information on the nature and performance of the institution, inform the students about the institution's performance, encourage comparisons between institutions wherever it is appropriate, allow institutions to benchmark their own performance, inform the policy developments, contribute to the public accountability of higher education, demonstrate the diversity of higher education institutions, contribute to public accountability of a large element of government funds and assist the future development of higher education policies, and provide an evaluation tool for the higher education institution activities (Murias, Miguel and Rodríguez, 2007).

The further aspect about the performance indicators is to benchmark the results of the institutions against their peers and competitors, or their past performance. The performance indicators should always have a comparison dimension, or some reference points. Only with the benchmark is it possible to make value judgements related to the university performance, policies and systems. These benchmarks appear from different sources, like the past performance of the institution, an objective, or like in many cases, from the comparison across other universities.

### **3.2 Academic Rankings**

The use of rankings in the higher education sector is a very controversial theme, and leads to many discussions about the benefits and the costs of their use. However, it is almost impossible to talk about evaluation of the higher education institutions without referring to the academic rankings. Generally the institutions do not like to be ranked or compared with others, but the truth is that the rankings are here to stay and they are unavoidable. It is very frequent to see that the objective of several universities is to belong to the top of a ranking. This happens because the world class rankings are very famous in the sector and give good reputation to the institutions. A good example was the Victoria University of Wellington when it went down several positions in the media ranking Asiaweek. Among its top goals for the coming decade, it chose to improve its position (AUQA, 2006). In a little while all the higher education stakeholders should have a serious discussion about this question, "Who should perform the higher education rankings"?

The rankings are pointed out as having many critical aspects by the universities. The main point is that the universities are different and we cannot compare two institutions with different goals and missions. In addition, the universities are internally different, and it is very hard or impossible to be measured as a whole (Bonden, 2000). The choice of the performance indicators is also very controversial. Very often most academic rankings indicators are based on what can be measured rather than what is significant and important. In 2005 seven out of ten rankings did not include any indicator related to the teaching quality, because it is very hard to obtain an objective measure (AUQA, 2006). The weights are very controversial in the higher education rankings. Some experts argue that the choice of the weights is sometimes subjective and arbitrary, with no theoretical basis. The challenge is how to report results without assigning the weights (Clark, 2002). One of the most complicated aspects of doing an academic ranking is the danger that the results become a popularity contest, and not a serious discussion about which institutions are performing well. The same conclusions can also be applied to the statistical data or validity. If the data used to perform the rankings are not uniform the results cannot be conclusive. Sometimes the difference between the score of two institutions is statistically insignificant, but the methodology grades them in different positions. For example, the difference in quality between two institutions could be minimal and the gap between them has several positions, which means that there is a risk that the community in general interprets it wrongly. Finally, one of the most criticized aspects about the academic rankings is that they produce an unhealthy competition between the higher education institutions. The danger of the institution competes to improve their ranking position may lead to the decrease of cooperation with other institutions, with losses to students and to the higher education in general (Dyke, 2005).

The use of rankings in higher education is a very appealing subject, and the number of organisations that issue rankings is now considerable, as well as the experts on this theme. In 2004, in a meeting in Washington DC a group of experts formed an International Rankings Expert Group (IREG) with the purpose of advising Unlimited Export Services Corporation – European Centre for

Higher Education (UNESCO-CEPES) and the Institute for Higher Education Policy (IHEP) on this area. Two years later the IREG met again in Berlin and developed the Berlin Principles on Ranking of Higher Education Institutions. The Berlin Principles introduced something new in the production of rankings. It did not focus on the problems of the rankings, but rather on their benefits, and it also included a collection of recommendations about what should be done when an organization produces a ranking. These recommendations were divided in four groups, the purposes and goals of rankings, the design and weighting of the indicators, the collection and processing of data and finally the presentation of rankings.

The most famous and respected higher education rankings are the THES (Times Higher Education Supplement), the Shanghai Ranking (Shanghai Jiao Tong University) and the CHE Ranking (Centrum für Hochschulentwicklung). The THES methodology contains two criteria based on peer review, and the more relevant are the academic opinions that are worth 40% of the total score available (THES, 2008). In the Shanghai Ranking the universities are ranked based on several indicators of academic and research performance, none of them is based on surveys. A weight is given to each indicator, and the highest scoring institution is assigned a score of 100. To the other institutions the score is attributed as a percentage of the top score, (Shanghai Jiao Tong University, 2008). The CHE ranking is different from the other rankings because it does not have an overall point score. They justify their choice arguing that there is no “best higher education institution”. Therefore, instead of the traditional rank positions, it was decided to offer a multidimensional ranking and always specifically about the different fields of study. The final results are not present in “league positions”, but in league groups (CHE University Ranking, 2008).

### 3.3 The balanced scorecard

Along the years the higher education institutions have always looked for new ways to evaluate themselves. In 1992, Robert S. Kaplan and David P. Norton brought a new methodology called the balanced scorecard, which is probably the best tool that the institutions have to measure their performance.

At the time, managers around the world were disappointed with the traditional financial performance measures that worked well in the industrial sector but that were inadequate to the new challenges of the market. The key to the new approach was that “what you measure is what you get”. The main objective of the balanced scorecard was to provide the top managers with a set of measures that would lead to a fast and comprehensive view of the business. The authors used an example of an airplane cockpit to better explain the balanced scorecard. To perform the tasks of navigating and flying the pilot needs detailed information about many aspects of the flight, and the reliance in one instrument would be fatal. Therefore, the balanced scorecard is a tool that provides answers to the following questions: “How do customers see us?” (Customer perspective), “What must we excel at?” (Internal perspective), “Can we continue to improve and create value?” (Innovation and learning perspective), and “How do we look to shareholders?” (Financial perspective).

These four different perspectives allow the information in excess to be released, and the managers can focus only on the fundamental measures. The balanced scorecard is an instrument that puts strategy at the centre rather than control and in that way it keeps companies looking forward. The involvement of senior managers is crucial for its implementation, because they have the most complete picture of the company’s vision and priorities (Kaplan and Norton, 1992).

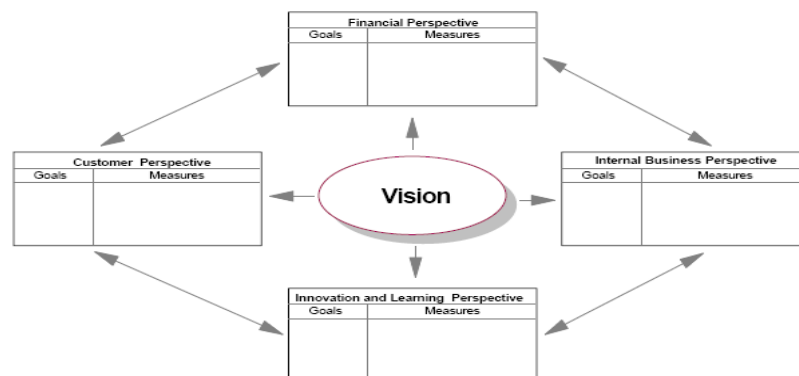


Figure 1 – The balanced scorecard organization

The balanced scorecard is an important communication and strategy tool. This tool is widely used by companies all around the world and is an excellent instrument used by the universities to measure their performance, define strategies, and provide a comprehensive measure of how the institution is achieving its strategic goals to the stakeholders. When compared with other instruments, the balanced scorecard has great advantages that make it a very used tool by the higher education institutions. It gives not only the financial measures but a major focus of all the key outcomes, increasing the requirements for accountability and enabling the policy makers to keep their concentration on what is more important. However, the balanced scorecard is generally chosen by the universities because it allows the institution to improve continually performance.

It is indispensable for the success of the balanced scorecard that the institutions do a serious reflection about their mission (what we do?), the vision (what we aspire to be?), the strategies (how do we accomplish our goals?), and finally the measures (indicators of the progress). The source of these different performance indicators may come from the strategic plan, and the items that they need to monitor related to key decisions or objectives, but always related to the institution vision (Bressiani, Renato and Massote, 2001). The performance indicators should be numerical representations, and the number of performance indicators should not be excessive. After the key performance indicators are identified, the following step is to set the benchmarks, the targets or the objective that the university proposes to perform. These objectives usually depend on the comparison with other institutions, and with the past performance, and should be related to the goals of the institution. The decisions makers need to see the comparisons between the goals and the real performance, to identify where the problems are and where to act.

The higher education institutions employ the balanced scorecard for many reasons. It is very simple to use and easily understandable, and it can be built in excel, a common software of simple use. Because it is based on vision and strategies of the institutions, one of the main advantages of the balanced scorecard is that it is a useful tool in the guideline plan development. The performance indicators also give a multidimensional vision about the institution's performance. The measures are qualitative and quantitative, and also present and future oriented. With these measures the institutions are able to identify which areas are performing below the targets and make improvement plans. The balanced scorecard is acknowledged by changing the people views on what is more important to the institution, increasing the internal alignment and consequently improve the institutional performance. The simple fact that the performance of the institution is clearly displayed and discriminated leads to a culture of evidence, and the myths about the institution performance have a propensity to disappear (Hafnar, 1998). According to Paul Niven (2003) the balanced scorecard serves as three things, a measurement system, a strategy management system and a communication tool.

#### **4. Application of the Balanced Scorecard to the DECivil**

The higher education institutions are nowadays seeking for new management instruments, and the levels of quality achieved by them are the central question of a University organization. Therefore, one of the main objectives of this thesis was to provide to the higher education institutions, with special relevance to the Civil Engineer and Architecture Department of Instituto Superior Técnico, Technical University of Lisbon (DECivil), a management tool to evaluate the performance, and consequently improve themselves.

According to Kaplan and Norton (1996) the strategy and the goals should be translated into performance indicators through four different perspectives. However, the number of different perspectives is not a mathematical formula, and some organizations have adopted a system with more perspectives. This situation is more common in the public sector than in the private companies, because the organizations are more complex, with very specific objectives, and an extra perspective is added to the balanced scorecard, usually a social perspective. The performance indicators used in the balanced scorecard to the DECivil are translated into the four original perspectives of Kaplan and Norton. Some experts believe that the financial perspective is not relevant, especially in the higher education institutions. However, in times of financial constraints and decrease of the public funds by the national government, the financial indicators are an important element to be monitored by the Universities (Kaplan and Norton, 1993). The customer perspective is the key aspect in the process of developing a balanced scorecard, especially to the higher education sector. The success of any evaluation in the higher education depends on putting the clients at the centre, and look at the institutions from the client's point of view. From all clients the students receive a special attention, not only because they pay tuition fees directly to the institutions but also because they are the centre of all strategy to the universities, and can give an important contribution to the improvement of the higher education. The objective of the internal perspective is to measure the outputs of the results from the crucial processes to achieve the goals of the customer perspective and the financial perspective. The

internal perspective measures what the institution can do to improve the customer satisfaction and the financial indicators. This perspective is very important also from an improvement point of view. The innovation and learning perspective is crucial for the success of any higher education institution, and the sector should be an example for all organizations in other areas. In this perspective the academic staff has special relevance. And their qualifications, as well as the ability to improve and innovate are the main guarantee for the future of the institution and for its success. The technology, the information systems and the library resources are also a good indicator of any university capacity to improve their quality and provide better services. The financial strategy and objectives of a higher education organization are very different from those of the private sector. The financial performance indicators of a public university are more related to the management of the resources available than to the profits. Therefore, in the present context the financial indicators express more the competitiveness of the institution and the ability to attract private funds, which is especially made through the quality of their graduates and the R&D activities.

The DECivil does not have a public strategy plan that defines the goals and the objectives of the department for the future. However, the department is integrated in one of the best engineering schools in Portugal, and its educational programmes are very prestigious not only at the national level, but also abroad. Therefore, previously to the choice of the performance indicators it is important to know the main characteristics of the DECivil and its main goals for the future. The DECivil offers to its students several educational programmes, two of them with the Bachelor's degree, and four with the master degree.

The DECivil programmes have the reputation of producing graduates with a high capacity of work to different fields of the labour-market. One of the main objectives of the Department is to conciliate the education of graduates with high levels of adaptability and flexibility in their professional life with a good adjustment to the market needs, which should result in a high level of qualified employability rates after leaving the graduation. Other element of the DECivil strategy consists of attracting the best students, with the appropriate profile to engineering sciences. The R&D activities also represent an important part of the DECivil mission, which is organized in three different research units, the ICIST, the CEHIDRO and the CESUR. These organizations have a large number of activities with international partners, and generally the R&D units are recognized by the quality of their participations. The scientific production is formally evaluated by the FCT, and the units are systematically classified as the best at national levels, when compared with their peers. Therefore, it is in this context that the DECivil has the purpose of producing R&D activities with the best level of quality produced nationally and abroad. The Department states out that one of the most important objectives is to increase the number of PhD students, especially international students.

The Instituto Superior Técnico has a responsibility for the country that goes beyond the "traditional" programmes offered by other universities. Therefore, the DECivil feels that it has an enormous responsibility of providing the society the best services possible. The board of the DECivil states that a direct and strong relationship with the outside community is crucial to expose their students to the best professional experience, increasing their professional skills and also their integration in the labour-market. The DECivil also offers to the academic community (students and academic staff) a set of conferences and seminars given by the most prestigious and expert people in the field. The department activities has other strong component very important in the relationship with the community, the "Further Education", that is made through the "Fundação para a Formação Contínua em Engenharia Civil" (FUNDEC). The FUNDEC was created in 1995 with the main purpose of providing a continuous training in the scope of the civil engineering and of responding to needs of each economic activity where the civil engineering plays an important role. In the recent years the DECivil has increased the support to the participation of its students in the international exchange programmes. The department also receives every year a considerable number of international students. The performance indicators chosen to the DECivil balanced scorecard are in the tables above.

**Table 1 – Performance indicators of customer and internal perspectives**

<b>Customer perspective</b>	<b>Internal perspective</b>
Drop out rate	Number of theses oriented per academic staff
Number of years needed to finish the programme	Number of courses, conferences, workshops or seminars to the outside community
Student's satisfaction	Student staff ratio
Quality of teaching	Research and development publications
Share of first preferences	Consultancy work
Average of first preferences	Patents per academic
Graduate employment	
Average of the first salary	
Employer's satisfaction	



**Table 2 – Performance indicators of innovation and learning, and financial perspectives**

Innovation and learning perspective	Financial perspective
Annual expenses with computer and library	Research income
Staff's satisfaction	Percentage of incomes from private sources
Percentage of international students	Costs with the staff per student
Percentage of national students studying abroad	Maintenance and operational costs per student
Academic staff rotation (inbreeding)	
Staff self-improvement	

## 5. Conclusions

The national quality assurance systems in Europe are much diversified and a reflection of the country's culture and history. The Dutch system is based on the accreditation approach, where the final decision has a direct relationship with the public funds. Spain is at this moment launching a set of new evaluation programmes, a situation very similar to Portugal, but with some years of advantage because the Spanish agency is already in operation since 2002. The Spanish quality assurance system in the future will be based in accreditation, combined with the audit in some regions. The United Kingdom system is based on the audit perspective, a reflection of the country's culture where the institutions also have a higher level of governance autonomy. The allocation of the public resources do not fund teaching provision based on quality, justified on that argument that only drives the extremes further apart. However, the analysis of the three different quality assurance system shows that the British is the one that provides more information about the performance of the institutions to the general public, especially through the performance indicators published by the HESA. The main conclusion about the Portuguese quality assurance system is that much time has been wasted, and the Portuguese government should put the new agency in operation as soon as possible, but not at any price. The government must guarantee that new agency is completely independent, especially from the institutions, and have a legal framework to protect its decisions. In addition, it is also recommended that the Portuguese quality assurance system establishes and publishes every year a set of performance indicators, in accordance with the national goals, similar to the performance indicators of HESA. We believe that this information will have a positive influence in the sector, creating a more open and transparent system for all the stakeholders, increase the levels of competitiveness between the institutions. The institutions will be able to see how well they are doing compared with their peers or past performance, and finally help the government to define its policies to the sector.

The main goal of this thesis is not to debate the value of the academic rankings. However, it is an unavoidable subject. The rankings can bring many positive aspects for the higher education institutions, but always associated with the risk of producing wrong conclusions about the institutions performance. However, the main conclusion is that the rankings are here to stay, and the discussion about this subject is "who should perform the academic rankings?" and "how can we make them more reliable?"

Many organizations in the world are using the balance scorecard to measure their performance, including world class universities. The advantages of using the balanced scorecard are numerous. The balanced scorecard provides not only the traditional financial measures but a major focus on all the key outcomes, increases the requirements for accountability, enables the policy makers to focus on what is more important, identifies the areas that are performing below the targets and made the respectively improvement plans. It is very simple to use and understand, and it is acknowledged by changing the people's view on what is more important, because the performance of the institution is clearly displayed, it leads to a culture of evidence, and the most important, it allows the institution to improve the performance continually. The Portuguese higher education institutions need to monitor their own performance, and the balanced scorecard can be the perfect tool to do that.

The main conclusion of this thesis is that Portuguese higher education institutions do not have a culture of accountability and evaluation when compared with other European countries. The Portuguese higher education institutions do not have a public strategic plan, with their vision and clear goals defined, and objectives to achieve in the future. It must be also referred that it is very hard to find information and statistical data about the institutions performance. The balanced scorecard applied to the DECivil can bring some important conclusions about the department. The department is performing very well in some specific areas, for example, it is certain that the DECivil courses are recruiting the best students in the country, and this has reflections on the programmes' employability, which is very high and opposite to the country's tendency. It is also clear that the DECivil has an excellent performance in the services to the community, through the conferences, or the FUNDEC. However, despite the good performance at national level, the department needs to improve its performance in some areas, such as to expand the number of R&D publications, increase the number

of international students and invest more in the qualification of the academic staff, through the decrease of the inbreeding levels and establish a culture of innovation. Only in this way can the department compete at an International level and not lose the best students to other European institutions.

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