E-Governance of Universities: A Proposal of Benchmarking Methodology

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Abstract

This paper aims to provide a benchmarking proposal related to the area of e-governance of universities. An e-governance tool is proposed in order to disseminate both the mission and the institutional culture of each University into a formal scheme of benchmarking tools. A brief review of the literature related to e-governance models is made in order to justify the importance of e-business practices in universities. Some studies developed in the field of benchmarking in the universities were also selected, using different methodologies. Through the analysis of the most relevant studies, a set of indicators was built in order to evaluate the benchmark related to e-governance. In what concerns the electronic governance of universities the benchmark comes from the development of a manual of benchmarking that comprises new evaluation and control areas of the performance of universities, in terms of their contribution for the development of the regions where they are located. The creation of a manual of benchmarking applied to universities, is proposed. In order to validate, or even to improve the manual, it's necessary to test it not only in universities, but also in other related stakeholders that take part of the institutional networks of universities. Once implemented, the proposed benchmark provides a better way to evaluate the current practices and to identify the best practices. It could also improve the performance of universities in what concerns the e-governance systems.

Keywords – Benchmarking, E-Governance, University.

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INTRODUCTION

The present economic, social and global competitive context has caused important changes at the competitive base of the countries. These changes led to the creation of different governmental functions, in terms of external and internal relationships. For its turn, this global conjecture has reinforced the demand for conditions and new skills, in order to incorporate quick changes both in the organizations and in the society in general.

According to Goddard *et al*. (2006), the universities have played a strategic role in the economic and social development of the country and of the regions where they are located. The University is a relevant actor in the social system, in what concerns the development of human capital, through the supply of new professionals that have universalistic skills which provide a better identification of social and economic responsibilities.

In this sense, the universities should be able to give answers which are suitable to its social and public responsibility, through the prosecution of four main objectives: (i) Education and learning; (ii) Commercialization of the research; (iii) Cooperation and partnerships with the industry; and (iv) Cooperation with external institutions and centers.

This paper aims to reveal the importance of benchmarking for universities through its contribution both to carry out more effective evaluations and to detect organizational problems that should be subsequently improved and surpassed. We are now developing a framework about e-governance systems in order to propose some benchmarks that can be implemented by the universities.

ELECTRONIC GOVERNANCE

The concept of governance applied to the University is related to the exercise of controlling the power of different centers and departments which are part of the University.

This kind of exercise is based on the drawing of an adequate system which executes different levels of institutional and relational power. These are integrated in a model of electronic governance (e-governance), which is structured in different Internal Information Systems (IIS).

Those systems make use of data warehouses that consist of information that is extracted from the users' profile. The full operation of these new digital e-governance platforms implies the transposition of e-business models into the institutional organizational and relational networks of the Universities.

Traditionally, the effectiveness of the governance can be measured through the extent of the responsibility of the governments to the citizens. In what concerns this item, it should, however, not be neglected the way the power of the governance is exercised, as well as the way the citizens express their opinion, and the way the decision-making operates in different public fields (Keefer, 2004).

In this sense, the governance models embrace public institutions and processes of decision-making that not only include the citizens but also demand for a growing civil participation.

The exercise of a governance model must include independent but interconnected units, whose activities should be clear, accountable, responsible, and especially regular in order to reduce the inequalities in terms of access to the services that are made available by public institutions.

The most of the entrepreneurial governance plans of the Nations in general and public institutions in private should make use of the broadest spectrum of electronic platforms possible in order to guarantee greater levels of public services governance, taking into consideration the intrinsic potential of using Information and Communication Technologies (ICT).

An ideal model of e-governance can be executed by the implementation of four main dimensions (Leitner, 2003): (i) Adaptation and coordination of the public policies; (ii) Participatory democracy (of the most representative players in what concerns to the services supply); (iii) Creation of cooperative networks (for the implementation of public policies for development); (iv) Access to clear and open informative systems of governance.

According to Klazar *et al*. (2005), the users of e-governance services can be classified into five basic groups: (1) The non users of the Internet service (to obtain information or transact with the Government); (2) The Transactors (that make payments by credit card or banking transference); (3) The Suppliers (that supply personal information or household information to the Government); (4) The Information Seekers (that use Internet to obtain information from a website of the government); (5) The Consultants (that use Internet to express a point of view or to participate in a public consultation process).

In the opinion of Backus (2001) the formal mechanisms of e-governance should be more than the creation of an online presence. These mechanisms include the use of electronic tools that simplify operations and procedures according to the following aims: (a) to create interaction between the Government and the citizens; (b) to establish interrelations between the Government and the units of business; and (c) to manage internal operations of the Government in a more efficient way.

The most common mechanism of e-governance includes three fundamental kinds of interrelations: G2C, G2B and G2G (Figure 1).

Take in Figure 1

According to Backus (2001) the implementation of a model of e-governance can include four interaction phases: (i) Information; (ii) Interaction; (iii) Transaction; and (iv) Transformation.

The initial informative phase is based on the creation of a web presence, through the availability both of the information that is considered relevant for citizens (G2C), and the units of business (G2B). At an internal level, the first phase allows the creation of e-governance mechanisms (G2G) that are directed to the dissemination of information through dynamic electronic tools.

The second interactive phase is related to the establishment of interactive relations and intake processes between the Government and the citizens (G2C) that are established between the Government and the units of business (G2B), through the availability of e-mails, search engines, forms, and documents for downloading. In terms of internal relations (G2G) the Governments implement intranets that are intended to be both internal communication and exchange data networks.

In what concerns to the third transactional phase, which is related to transaction, the keywords are complete transactions, which means that the value given by the users of the service (G2C and G2B) is progressively higher. In this phase, a higher degree of complexity arises. This is essentially due to security and personal issues that are associated with the supply of electronic services (for example, the use of digital signature and the implementation of e-procurement systems with units of business). At the internal level, the redesign of the offering of electronic services (G2G) is also performed. This procedure requires adequate legislation and a higher simplification of the internal activities of the Government.

In what concerns the fourth transformative phase, the key-terms are integration and change. It corresponds to the full integration of the information systems that provide the supply of services (G2C and G2B) by making the access to an available virtual corner.

The basic idea is to provide a point of exclusive contact that is centralized for the totality of the users. Furthermore, the rhythm of drastic changes should be intensified in terms of culture, processes and responsibilities of e-governance of the institution (G2G). It must also be stressed that this last phase should provide greater levels of efficiency through the establishment of relational networks which should be characterized both by the reduction of costs and by the increase of the utility to the users.

BENCHMARKING METHODOLOGY

Reference Manuals

According to Jackson and Lund (2000, p. 6) «Benchmarking is, first and foremost, a learning process structured so to enable those engaging in the process to compare their services/activities/products in order to identify their comparative strengths and weaknesses as a basis for self-improvement and/or self-regulation».

In terms of literature review, it was possible to find some research projects that were developed in the field of benchmarking in the universities by the use of different methodologies. The most relevant manuals were developed by Mckinnon *et al*. (2000), Charles and Benneworth (2000), and Garlick and Pryor (2004).

McKinnon *et al*. (2000) developed a manual of benchmarking for Australian universities. In their perspective, the benchmarking for the University attends both to provide to its alternative forms of administration in order to evaluate the performance of the institution and to implement improvements in its different activities. It can also be used to compare performances and to evaluate its competitive position comparing to other universities. This manual seems to provide a template-driven approach to assess rather than to improve the performance of the University.

For its turn, Charles and Benneworth (2000) presented a benchmarking approach in order to evaluate the regional impact of a higher education institution in the United Kingdom. According to these authors, the benchmarking goal is to provide an analytical tool to evaluate the regional impact of the University, in terms of number of new firms, development of entrepreneurship, formation of human capital, innovation and preservation of the territorial and cultural identity.

Methodologically, the main challenge of this tool is not to point out the linear relations between a University and its region, since it comprises a broader set of strategic interactions. The strategic priorities for the regional development should result in the development of processes that connected, for example, to the economic and cultural development, or both to the regeneration of the community and to the creation of new firms provide value added to the activities that are developed inside the university departments (Charles and Benneworth, 2000).

Taking the Australian case as a reference, Garlick and Pryor (2004), have pointed out that the main aims of the benchmarking tools are related to the evaluation of the global quality and performance of the organizational practices. The benchmarking must be seen as a learning process, which should be structured in a way that makes it possible to evaluate the products/services and the strengths/weaknesses of an organization. Therefore, it corresponds to a systematic and continuous process that provides the measurement and the comparison of the working processes of an organization with the ones that are implemented by the reference organization.

According to Garlick and Pryor (2004), the benchmarking tool provides a better evaluation of the quality and performance of the organizational practices. The proposed methodology is based on learning, collaboration, revision and leadership processes that are subject to a continuous improving process.

In this revision work about the reference manual, other applications of benchmarking methodology can also be mentioned. For example, Endut *et al*. (2000) develop some researches that are related to the topic of benchmarking institutions of higher education. They studied the existence of similarities between the universities in study, by comparing their missions, objectives, critical success factors and the best practices.

Yorke (1999) developed a benchmarking study about the academic standards that are observed in the United Kingdom. The main results have revealed that in this academic specific context benchmarking needs to be approached differently from benchmarking in industrial and commercial contexts, since it requires combining comparative studies and professional judgments, in order to validate the results in an adequate way. The author also reveals that the complexity associated to academic standards makes it difficult to propose new standards that should be adequate to a set of international and national institutions of higher education.

Benchmarking Manual for Universities: A Proposal

The elaboration of the present "Benchmarking Manual for Universities" is integrated in one of the execution phases of the international research project OBSEREGIO. This research project involves two Portuguese universities, the University of Beira Interior and the University of Évora, and two Spanish universities, the University of Salamanca and the University of Extremadura.

According to the “Programme on Institutional Management in Higher Education” (OECD, 1999), the higher education institutions should design and implement strategies in order to better engage with this influence region.

This benchmarking manual[1] has the generic aim of evaluating the impact of the University on the reinforcement both of the competitiveness and the territorial identity. In terms of the specific aims, it intends to evaluate the impact of the University on the influence region including the following areas: (A) Competitiveness of the regional influence area; (B) Development of the human capital; (C) Development of entrepreneurial activities; (D) Activities of research, development, innovation and transference of knowledge; (E) Governance of the university for sustainability; and (F) Social support, re-conversion and cultural development of the region.

Taking into consideration the manual that was developed by Charles and Benneworth (2000), the methodology proposed in the Manual includes five phases: (i) the identification of the study areas; (ii) the formation of the team; (iii) the identification of the partners; (iv) the collection and analysis of data; and (v) the action.

According to Ribeiro (2004), the beginning of a benchmarking model that is defined as an evaluation model of the performance of the higher education institutions is based on a structure of indicators that is developed in order to evaluate the performance in terms of a set of critical factors. Thus, the first step, which corresponds to the development of the model, consists in the selection of the areas that will be studied, and that should be

[1] A broad set of benchmarks, grouped in six areas, is presented in the benchmarking manual titled “Manual de Benchmarking para as Universidades - Instrumento de Reforço da Competitividade e da Identidade Territorial” (Raposo *et al*., 2006). This manual was developed in the ambit of the OBSEREGIO project.

characterized in terms of: (i) the current practices; (ii) the critical factors; and (iii) the evaluation practices procedures. In this case, we design a set of indicators to describe and evaluate each proposed benchmark.

BENCHMARK PROPOSAL: CREATION OF E-GOVERNANCE SYSTEMS

The example of benchmark that is included in the present article belongs to the area *(E) Governance of the University for Sustainability*. It considers the participation of the University in the creation of e-governance systems. This area assumes a great importance since the long term institutional development strategy should be based on processes that aim to reach the sustainability. Thus, we consider a set of indicators grouped according to the following layout (Table I) for each benchmark that is presented in the benchmarking manual.

Take in Table I

We describe and evaluate the benchmark that is proposed in Table II and Table III, respectively.

Take in Table II

Take in Table III

CONCLUSIONS

The mechanisms of e-governance assume a special importance in terms of developing governance strategies that are oriented to the sustainability of public institutions, in general, and of University, in particular.

This growing importance is justified by the creation of digital platforms that offer distinct services. On the one hand, they make the internal relations (G2G) more efficient and, on the other hand, they contribute to the establishment of new kinds of external relations (G2B and G2C).

The existence of this kind of platforms should be integrated in an institutional information system in order to facilitate the adoption and the subsequent control of the best institutional practices, both at internal and external level. Additionally, these platforms should be adequate to the proposal of benchmarking tools that are now presented and applied in the University.

These benchmarking tools help the University to identify both their strengths and weaknesses at an internal level, and to face threats and opportunities at the external level, in order to improve the global quality of services and of the efficiency. This will contribute to the improvement of the global performance of the institution, through the adoption of best practices.

The use of benchmarking tools also provides a means of assessing the regional impact of the University, namely in what concerns the business creation, entrepreneurship, human capital and innovation processes.

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Table I. Set of indicators for each benchmark

Profile

The role played by the University will depend on the nature of the benchmark and on the degree of participation. It may result in assuming simultaneous roles:

- *Leader*: commanding and coordinating the parts which are involved in the implementation of the benchmark;
- *Partner*: congregating the parts which are interested in the consecution of common objectives and joint work;
- *Promoter*: fomenting or determining;
- *Propellant*: transmitter of movement.

Justification

Adequate description of the reasons why that element is important and what is really being evaluated.

Data Sources

Kind of data source (it must be credible and reliable).

Good Practice

Precise and observable description of the good practices. In this way, the universities will be able to evaluate the implementation of good practices.

Operational Mechanism

The way how the benchmark should be implemented.

Generic Indicators

Indicators that will serve as reference to the benchmark evaluation.

Evaluation:

Retrospective:

An evaluation based on the past performance, which is measured by several indicators.

Qualitative:

In this item, we usually ask users to identify its performance, taking as reference a five points scale.

Evaluation Scale:

1	2	3	4	5

Levels of the scale:

1 – No participation

2 – No substantial participation

3 – Internal participation

4 – Internal participation and no external substantial participation

5 – Substantial participation, both at external and internal level

External:

Evaluation carried out by a panel of external specialists.

Table II. Benchmark: Creation of e-governance systems

Profile

Promoter.

Justification

Electronic governance implies the use of Information and Communication Technologies (ICT), which can assume the form of local nets of computers, the internet, the mobile computation and the wireless networks. The University electronic governance systems aim to simplify and improve the supply of services to its publics, through the use of new technologies. Furthermore, it aims the simplification and transparency in the relationships, the economy of costs, and the development of a modern service directed to the customer.

Data Sources

Primary sources of data (evidences of the electronic governance system and databases of the University).

Good Practice

- Creation of mechanisms that facilitate the obtaining and share of several kinds of information and knowledge, from any place and in the most convenient way;
- Availability of all basic services, in an online basis;
- Availability of search mechanisms to all agents that interact with the University;
- Use of ICT in e-learning systems of the University in order to increase the quality of the education and the information flows;
- Availability of virtual corners for teachers, members of staff and students, with the aim of simplifying academic and administrative processes;
- Implementation of an account information system based on a digital platform that provides search mechanisms about economic and financial information in order to support the strategic decision-making of the University;
- Training for the use of ICT for teachers, staff, and students of the University in order to increase the penetration rate of the e-governance systems;
- Creation of adequate conditions for the development of telematic work and long distance education format at a postgraduate level.

Generic Indicators

- Number of virtual corners;
- Number of Internal Information Systems (IIS) of the University;
- Number of e-learning platforms;
- Index of simplification of the administrative and academic service (Number of documents used in e-governance systems/Number of documents used in traditional governance systems);
- Number of activities of telematic work;
- Number of post-graduations supplied in a long distance education format;
- Number of national and international research projects related to the development of systems or components to support the e-governance of the University.

Table III. Evaluation form of the benchmark proposal

Evaluation

Retrospective:
- Number of virtual corners;
- Number of Internal Information Systems (IIS) of the University;
- Number of e-learning platforms;
- Index of simplification of the administrative and academic service (Number of documents used in e-governance systems/Number of documents used in traditional governance systems);
- Number of activities of telematic work;
- Number of post-graduations offered in a long distance education format;
- Number of national and international research projects related with the development of systems or components to support the e-governance of the University.

Qualitative:

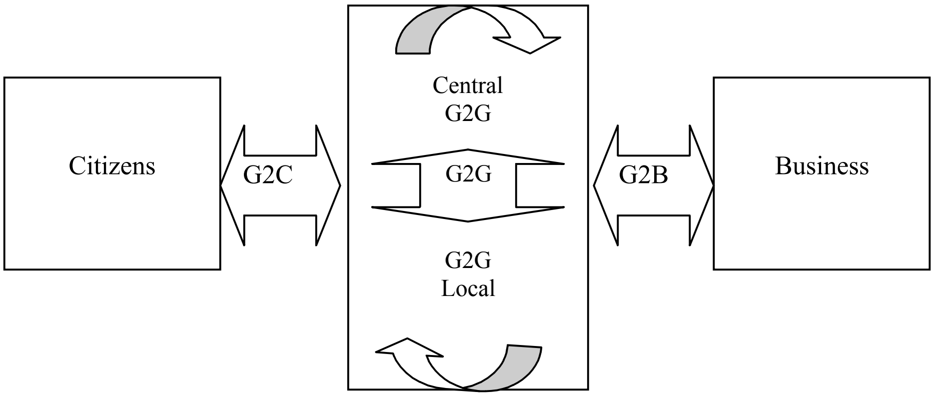
Evaluation Scale

1	2	3	4	5
No development of e-governance systems		Internal development of e-governance systems oriented to internal users		Internal and external commitment with the development of e-governance systems oriented both to external and internal users

Levels of the scale:
1 – No participation
2 – No substantial participation
3 – Internal participation
4 – Internal participation and no external substantial participation
5 – Substantial participation, both at external and internal level

External:
Evaluation carried out by a panel of external specialists.

Figure 1. Inter-relations in the field of e-governance



Source: Adapted from Backus (2001, p. 2)