

Understanding different perspectives of postgraduate education in the international arena

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Executive Summary

This project was set up to investigate the short term opportunities in international markets (focus on Portugal and Brazil) for the OU's postgraduate offerings in ICT&Computing (with a focus on software engineering). It aimed at finding out the the gaps in traditional postgraduate provision (in countries like Portugal and Brazil) that could present an opportunity for the OU.

It became soon evident that:

1. there was a very strong interest in distance education in Brazil, not in Portugal;
2. there was a strong need of professional development and professional masters in IT&Computing in Brazil, not in Portugal;
3. there was a debate on these issues in Brazil, not in Portugal; and,
4. the Brazilian government was investing in international collaborations, not Portugal.

Therefore the focus of the project became postgraduate education at a distance in Brazil, more specifically in the area of ICT&Computing.

It also became clear from early on that countries like Brazil are not open to just buying whatever offerings the OU may have. They are, instead, interested in ongoing collaborations, in learning from the experience the OU can offer in distance education, in adapting this experience to the local situation, and in developing their own resources.

The main outcomes from this project are:

1. a clear understanding of the situation of higher education in Brazil, in particular at postgraduate level;
2. an appreciation of the needs for postgraduate education in Brazil, in terms of distance and open education for professional development in ICT&Computing;
3. an understanding that the opportunities for the OU in this context are for continued collaboration and share of experience and expertise in distance education, and not for direct sale of courses;
4. a contribution from the OU experience to an ongoing debate in Brazil about the future of both postgraduate and distance education;
5. a presence of the OU in this scenario in terms of an established partnership and contribution to future developments.

This research was triggered by the visit of a Brazilian colleague to the OU for the period of 2/2011 to 2/2012. Prof. Itana Gimenes is a professor in Software Engineering interested in models for postgraduate education at a distance that are applicable to the demands of the Brazilian context.

Aims and scope of the project

This project was set up to investigate the short term opportunities in international markets (focus on Portugal and Brazil) for our postgraduate offerings in ICT&Computing (with a focus on software engineering). It aimed at finding out the gaps in traditional postgraduate provision (in countries like Portugal and Brazil) that could present an opportunity for the OU?

The initial assumption was that there were demands made by governments and employers on postgraduate education in ICT&Computing (software engineering) (in Portugal and Brazil) that were not being met by the current provision. In particular, it was expected that there was a demand for part-time and distance education which was not being met by traditional institutions in those countries.

Although the project was focused on two countries and on a specific subject, it was expected that some of the findings could be applicable to other areas, in particular, understanding the general picture of postgraduate provision in those countries

The project aimed to understand different demands put on postgraduate programmes in different international contexts; it wanted to compare the UK model of postgraduate education, and the OU's model of distance education with the corresponding models in two other countries, one in Europe and another in South America. The focus was on ICT&Computing (in particular, Software Engineering).

In some countries, distance and part-time postgraduate education is still seen with mistrust from within higher education institutions where postgraduate students are viewed primarily as contributors to research outputs of supervisors and departments. I believed that to be the case both in Brazil and in Portugal. However, even in these contexts, there is recognition of the need to develop human resources that match the needs of industry and the markets. Understanding this balance, between researchers and industry is important for the OU in extending our postgraduate provision to the international market. This will help identifying gaps in the provision of postgraduate education (at an international level) where the OU may find opportunities, but also understanding how our postgraduate provision will have to adapt to these opportunities.

The intended outcomes of this project were: a feasibility study for, and report on, the opportunities of internationalisation of the OU's model of postgraduate education at a distance based on comparison with a Portuguese and a Brazilian case studies, and a better understanding of postgraduate curricular demands from these case studies.

This project was prompted not only by the visit, for one year, of a Brazilian colleague who was working on a complementary project, but also by the discussions at Programme Committee/Faculty level of the internationalisation of our postgraduate provision.

I was also chairing a small working group (under the Postgraduate Programme Committee) who were looking into the internationalisation of the Computing and Technologies postgraduate programme. I had been involved in other work on internationalisation of our postgraduate programme.

This project fitted within the eSTeEM international priority area; new conversations about international markets to be developed, but also different models of teaching and learning to be contrasted. There was outcomes of this project will have impact on the definition of the international strategy for OU postgraduate provision, in particular in Computing and Technologies.

Activities

The main activities consisted of:

- Comparison of postgraduate programmes in Computing (Software Engineering) at the OU and in Brazil (postgraduate programmes in Brazil are uniformly regulated by a national funding council, CAPES).
- Analysis of models of postgraduate distance education in use in Brazil.
- Analysis of demands made by professionals (in the area of Software Engineering), in Portugal and Brazil, on postgraduate education;

- Recommendations to Programme Committee/Faculty/University on opportunities in the postgraduate international market, and on any adaptations required of current programme.

Findings

The main findings of this project are a better understanding of the scenarios of postgraduate and distance education in Brazil. The recent economic growth in Brazil has resulted in a strong demand for postgraduate qualification. A recent study carried out by Brasscom¹, pointed out a need of 78,000 professionals whereas the education sector will only provide half of this demand. There is a mismatch between the academic provision and industry's demands in the number of professional qualifications and in the skills required. The Brazilian government's plan for postgraduate education 2011-2020² recognizes professional education as a "State Policy" and a key issue for development in Brazil. It puts also a strong emphasis on the need to develop professional education. State education, with the exception of professional qualifications, is free in Brazil but far from satisfying the demands. The state sector in higher education, is widely recognized of high quality.

Distance education in Brazil has the potential to address the geographic challenges and contribute to provide human resource qualification. In Brazil, its adoption has followed a slower path than in other developing countries; however, since the creation of Universidade Aberta do Brazil (UAB) in 2005, a range of different distance education experiences started being reported and it is now growing rapidly. Distance Education awards started to appear in the Computing area, within the UAB, like the information systems award at a distance given by Universidade Federal de São Carlos.

There is no will, from within the state sector, to start commercial links in the shape of buying offerings from the OU. Not only the price would be prohibitive, but also English is not the language of education. They are, instead, interested in learning from the experience the OU can offer in distance education, in adapting this experience to the local situation, and in developing their own resources.

Any collaborations established with the state sector will need to be in the shape of ongoing collaborations.

The main outcomes from this project are:

1. a clear understanding of the situation of higher education in Brazil, in particular at postgraduate level;
2. an appreciation of the needs for postgraduate education in Brazil, in terms of distance and open education for professional development in ICT&Computing;
3. an understanding that the opportunities for the OU in this context are for continued collaboration and share of experience and expertise in distance education, and not for direct sale of courses;
4. a contribution from the OU experience to an ongoing debate in Brazil about the future of both postgraduate and distance education;
5. a presence of the OU in this scenario in terms of an established partnership and contribution to future developments.

Project outcomes

- **A comparative analysis between postgraduate education in the UK and in Brazil** (publication 2).
- **A contribution to the debate in Brazil about postgraduate education.** There is an ongoing debate about the situation of postgraduate education in Brazil. The country in in rapid economic growth and development and postgraduate education does not match the needs of government and employers in the area of IT and Computing. Postgraduate education was designed to establish strong research standards and this has been

¹ Brasscom is the Brazilian Association of IT and Technology Businesses, <http://www.brasscom.org.br/>

² <http://www.capes.gov.br/sobre-a-capes/plano-nacional-de-pos-graduacao>

achieved. However, this strong research focus of postgraduate education does not address current needs for this education (publication 2, 7).

- **A contribution to the debate in Brazil about distance education.**Distance education is facing, in Brazil, a very rapid development after a long period of low uptake. It has, however, not reached IT& Computing postgraduate public education. There is small provision of entirely at a distance education with most models requiring some kind of attendance. There is also a poor tradition of learning pedagogies in distance education. Recent technological developments with the Web 2.0 have now created new opportunities for the adoption of distance education. The wide availability of open source tools is extremely appealing in Brazil where there is a strong open source movement (publication 2,6, 7).
- **A presence of the OU in this scenario in Brazil in terms of an established partnership and contributor to future developments** (publication 2, 6, 7).
- **Contribution to the project of a distance education postgraduate module on Experimental Software Engineering to be implemented in two high education institutions in Brazil (Universidade Estadual de Maringá and Instituto de Ciências Matemáticas e de Computação, S. Carlos, Universidade de S.Paulo).** (publication 5 and an invitation for a visit to assess this experiment)

Project publications

1. Gimenes, I., Barroca, L., Barbosa, E. F. International Workshop on Distance Learning Support for Postgraduate Programs in Software Engineering (e-gradSE) In: 24th IEEE-CS Conference on Software Engineering Education and Training, 2011, Waikiki. Proceedings of the 24th IEEE-CS Conference on Software Engineering Education and Training. Piscatay, NJ: IEEE, 2011. v.1. p.517 - 519
2. Barroca L., Gimenes I. (2012) Computing postgraduate programmes in the UK and Brazil: learning from experience in distance education, **Cases on Web 2.0 in Developing Countries: Studies on Implementation, Application and Use**, Azab N. (eds). Hershey, IGI Global, PA, USA
3. Barroca, L., Gimenes, I. (2012). Postgraduate IT & Computing awards at a distance: the case of Brazil. Poster In: HEA *STEM Annual Conference 2012*, 12-13 April, London
4. Gimenes I. Barroca L., Feltrim V.(2012) Tendências na educação a distância em computação (in Portuguese), XXXI Jornadas de Atualização em Informática (JAI), Sociedade Brasileira da Computação, Curitiba
5. Gimenes, I. M. S., Barroca, L., Barbosa, E. F. Learning design for distance postgraduate software engineering courses – a case study, under development, 2012.
6. Barbosa, E., Gimenes, I., Barroca, L. (2012). Towards the Development of Open Educational Resources. *CBSoft2012 – SBES, Grand Challenges in Software/System Engineering* 23-28 September, Natal-RN, Brazil
7. Gimenes, I., Barroca, L., Barbosa, E. (2012). The Future of Human Resource Qualification in Software Engineering *CBSoft2012 – SBES, Grand Challenges in Software/System Engineering* 23-28 September, Natal-RN, Brazil

Impact

The impact of this project is strategic. It can be evaluated by the publications it has generated but also by the presence the OU will have in the Brazilian scenario of open and distance education at postgraduate level in Computing&IT.

There is an ongoing collaboration with Brazil that will hopefully involve further publications and visits.

From the OU's point of view this has been a successful project that will hopefully have also impact in the future of international activity.