EDITORIAL

The strategic challenges for the research management into university at the knowledge society[1]

Knowledge Society is evolving from the domain and positioning of information and communication technologies, in the most diverse and wide fields of work of the community, organizations and individuals. In the new society, information and communication technologies are united in a greater process of technological convergence, in which nanotechnology, biotechnology and cognitive sciences must be added, to configure –in an integrated manner– new potentialities for social relations and human development.

In this context, the traditional barriers of space and time are broken, making possible the incorporation of multiple institutional or individual actors from different parts of the world, in a digital world of interaction that progresses and develops uninterruptedly. At the same time, the knowledge society is expanding the hope and quality of life of people through the design and application of nanotechnological devices that may face some of the most relevant diseases with extensive possibilities of success.

In addition, nano-biotechnology linked to computer sciences will provide the elements to address climate change, global warming and/or food scarcity, with better opportunities for humanity. No less important is the recognition that new technologies will continue to have an impact on learning and on cognitive development, which in combination with the strengthening and growing development of the cognitive sciences makes it possible to predict that people's intellectual development will reach levels far in excess of the current ones, advancing significantly in the recognition of the potential limits of the human development.

In the new society, knowledge becomes a structural determinant of the progress and development of nations. Moreover, at the level of organizations knowledge becomes an essential source of competitive advantage, since –precisely– organizations with a higher level of knowledge, are able to coordinate and combine their traditional resources in new and different ways, creating innovations that have a differentiating value for society.

Thus, universities have a preponderant role in an environment of technological convergence and the management of research into universities, that is, their creation, use and diffusion is a fundamental driver of the development of these higher education institutions.

Therefore, the management of research in universities requires visualizing a set of awns –at least three– to fully meet their expectations in the knowledge society.

The first point is to recognize is that research is an indispensable task for a university and that one cannot give up performing this function that is consubstantial to its essential or natural condition as an institution of higher education. Without research there is no possible university in the knowledge society, although –of course– there may be different institutional approaches to achieve this task, from the extremes in which all academics in a university conduct research, to other models in which teaching is predominant, but there are specific niches in which it is investigated.

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Research management has the challenge or imperative to achieve a balance between the freedom to think and to accomplish the results required for the institution and for the society, in a reasonable time. Without freedom of thought and an area of freedom to create and research, it is very difficult to make meaningful state of art contributions; but –in turn– without relevant academic results, there is simply no sustainability to advance the research work.

Consequently, under this first arris, the management of research in universities must consider the academic talents inserted in the institution and those that can be added in a determined time horizon, defining multi-year models of resource allocation, considering reasonable goals for the national and international systems, respecting times allocation and standards of each discipline.

The second arris is to recognize that research must permeate society. Of course, there are natural spaces for basic and applied research and –certainly– not all research will lead to development and innovation. The intrinsic nature of each line of research can not be forced; however the university –as a whole– does have the imperative to consider that –at least–a part of its research work must go as a direct contribution to society and not only the scientific community.

It can not be ignored that society –including local communities– demands, with increasing insistence, an investigation capable of solving the problems of territorial development in the different spheres and areas such as health, education and industry, among other equivalent spaces of regional development. Universities can not close their doors to these requirements, which can be derived not only from regional or community governments, but also from the productive sector.

Therefore, under this second feature, the management of research in universities must consider a link with the vigorous environment, together with the possibility of long-term strategic alliances with the private sector and regional or local governments, for which requires qualified research teams able to meet the high demands of actors working with a sense of urgency, at rates and times that are restrictive and within a framework of global or –at least– national competence.

The third arris is to recognize that in the knowledge society, the creation of advanced knowledge must go hand in hand with the formation of advanced human capital both at the undergraduate and postgraduate levels. These are essentially complementary dimensions and which it is possible to generate valuable synergies. Naturally, Doctorate training goes interwined with researchers training, since the doctoral students –for definition– must demonstrate their ability to carry out research–autonomously– with relevant state of the art results.

In fact, synergies are likely to be achieved both in the training of graduates, Master and Doctor of Philosophy, but this potential for obtaining synergies is not exclusive of this postgraduate level. Nurturing undergraduate and postgraduate research training is as vital as nurturing research amongst young people eager to learn, with intellectual potential, and with sufficient preparation to contribute to a vital university task.

Accordingly, the articulation between research and undergraduate or postgraduate teaching can not be overlooked. Certainly, the challenge of research management into universities consists basically in combininge the talents, resources and institutional capacities, responding with intellectual energy to the demands and requirements of the society of knowledge.

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