

ENGAGED UNIVERSITY AS OPTIMAL OPEN SYSTEM. AN OVERVIEW OF RECENT APPROACHES IN THE LITERATURE

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Résumé

Cet article propose une analyse du rôle de l'université dans le développement territorial, en termes de coopération avec d'autres acteurs institutionnels, tel qu'indiqué dans la littérature spécialisée. L'accent est mis sur la perspective systémique, sur la manière dont les institutions académiques contribuent à l'amélioration de l'insertion au milieu professionnel à travers les résultats générés par la transformation de leurs ressources par un mécanisme spécifique et ceux générés par l'interaction avec d'autres acteurs institutionnels.

Mots-clés : université engagée, système, intervenants dans le développement territorial, coopération.

1. Introduction

In the context of the knowledge society and emphasizing more increasingly the importance given harmonious regional development and reducing intraregional / interregional disparities, both at U.E and national level, authorities reconsiders more the role of universities as actors involved in the local / regional development. As competitiveness is dependent on knowledge production, many local and regional authorities are pursuing similar strategies of knowledge-based development (Hospers, 2006), being increasing recognition that successful strategies require the attraction and retention of global investments, and universities provide a variety of mechanisms to help local authorities attract such investments (Arbo, P. și Benneworth P., 2007 p. 49). In this way, more and more authors emphasize that the higher education institutions stand out as interesting partners because they are resourceful actors located in the region, because they operate on all scales, and because they link up with so many realms of society and strands of activity (Arbo și Benneworth, 2007, p. 18). Gerry Boucher *et al.* (2003) show that it makes sense that universities should be identified as significant institutional “players” in

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knowledge-based regional development given that studies of economically successful regions suggest that success partly depends on 'institutional thickness' (Amin and Thrift, 1994) where institutions engage in the sharing of knowledge and expertise to promote cooperative activity (Gerry Boucher *et al.*, 2003, p. 888).

In the new position of "Regional development actor", The University engages in a virtuous process of exchanges with business and the local community (Russo A.P. *et al.*, 2007, p. 203), turning to advantage its resources to transform them through defined mechanisms in outputs that bring added value development process (Charles D., 2003). In this context, as shown E. (2002), The University can be seen as an open system which interact with the other actors involved in territorial development. In this way, The University contributes to the emergence and expansion of networks in which all her components and of the city/region are interrelated, as an effect of competitiveness environmental insertion (Chatterton P, J & Goddard, 2000).

2. The Role of Engaged University in Local and Regional Development

Engaged university is seen as enablers or "animateurs" of regional development, embedding a stronger regional focus in their missions within broad-based coalitions of state and non-state actors (E. Uyarra, 2010, p. 1238). Rather than this type of university considering knowledge transfer processes and strategies to valorize existing university research for regional growth, the focus is on "regional needs" and adaptive responses by universities. This includes the contribution of higher education to social, cultural and environmental development, by means of formal and informal participation and external representation as an institutional actor in regional networks of learning, innovation and governance (Boucher *et al.*, 2003, p. 889)

Charles & Conway (2001) have revealed in Higher Education Business and Community Interaction Survey the increasing consideration that universities have given of the local and regional area as significant to their mission. Engaged university is perceived as focusing its activities towards local industry and society and actively shaping regional identity (Breznitz and Feldman 2012, p.155). In this context, higher education institutions play an increasingly important role in regional networking and in building institutional capacity, representing one of the few actors involved in the governance of local civil society (Chatterton, P., J. Goddard, 2000, p. 490) with administration and business.

In this respect, there are relevant the results of an extensive study of Russo A.P. *et al.* (2007) in which they were involved nine European university cities (Birmingham, Eindhoven, Helsinki, Lille, Lyon, Munich, Rotterdam,

Utrecht, and Venice). This study demonstrated that through their involvement in the development of insertion environment, universities have become "interested party" of local development, engaging in a virtuous cycle of exchanges with business and the local community. Different stakeholders are affected in various ways and have specific vested interests in the development of higher education in a city. These interests may be partially contrasting and need to be reconnected to a comprehensive vision of a sustainable university city, in which both the university and the local community must accumulate long-term benefits. The challenge for local policy is thus to balance the needs and ambitions of every group with a stake in higher education.

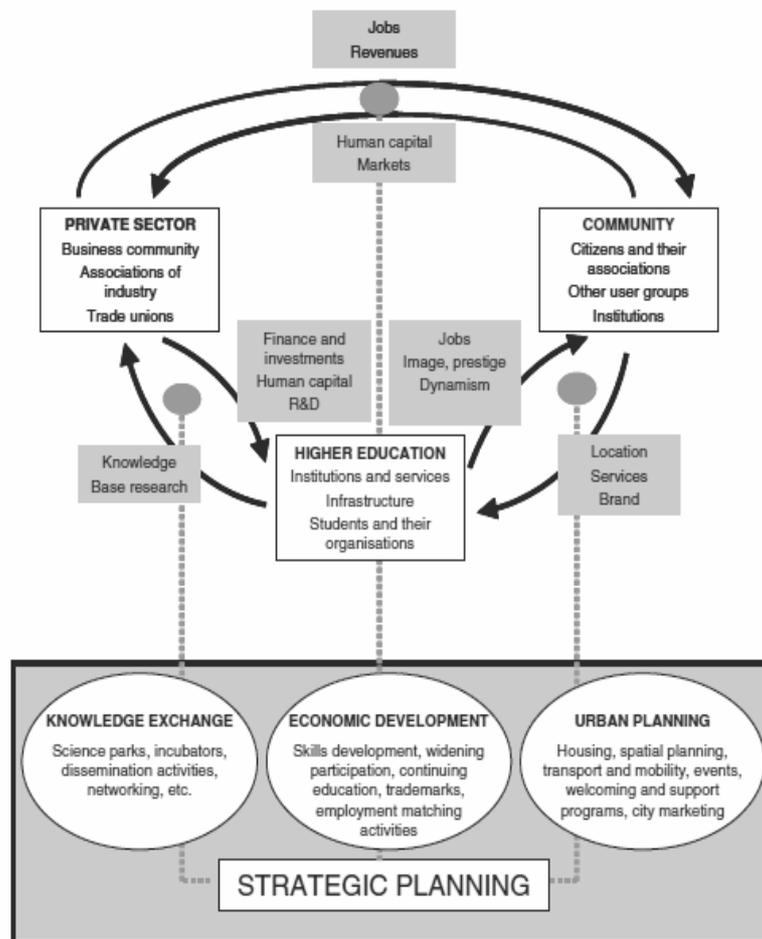


Fig. 1. Model of sustainable city-university relationship
 (Source: Russo, P.A., Van den Berg, L., Lavanga, M., 2007, p. 203)

As it can be seen in *Figure 1*, between the university, the private sector (business) and the local community sets a triangular relationship that highlighting a virtuous cycle of development, in which an attractive city works like a magnet for higher education and research, and this fosters an even more attractive environment for citizens, investors, tourists. In the end, higher education may truly be a sustained growth factor for the regional economy and society.

At the top left of *Figure 1* are shown the direct links that the University supports the local business sector.). Universities transfer their knowledge to the private sector through partnerships, research contracts, and training programs. The financial resources fed back in to the universities are used to expand educational supply, for instance, to build new facilities and to fund core research programs. At the same time, the academy may involve private-sector practitioners in teaching, integrating practical expertise into the student curricula, which is increasingly sought after in the labor market. By developing lifelong education programs and training courses, higher education institutions contribute to the companies human resource development and come to upgrade the city's potential as an innovative business location (Russo, A.P., *et al.*, p. 202). Hence, it may be argued that there is a dual-tiered dependency between the academy and the business sector (Poyago-Theotoky, Beath, and Siegel 2002, 13-14).

Higher education institutions are also tied to their host communities (see top right-hand side of *Figure 1*), as they are physically located in a given place, generally a city, possibly of medium-to-large size. They generate jobs and revenues, as any other urban industry, and in exchange, they express a demand for services and infrastructure that the local governments should deliver and finance. Exchanges between higher education institutions and host community also take place at a less tangible level, as universities may benefit from "city brands," and in return they offer their reputation and dynamism to the city, contributing to its competitiveness.

Higher education is not only important as an urban industry; it is also the lever for a stronger, more competitive, and local economy (see bottom centre of the *Figure 1*). Upgraded human capital available locally influences not only the location decisions and the productivity of the companies but also the magnitude of the impacts that trickle down in the local society.

It should be noted that such triangular relationships between higher education and the local environment exists not merely between institutions but also between stakeholders who establish relationships of mutual interest: students and the academic community, entrepreneurs, and citizens.

By planning for optimal services (accessibility, quality of the campus site, adequate housing) and an attractive social and cultural environment, the integration of the academic community is facilitated, and the regeneration role of the university can be sustained, while conditions for mutual synergies in economic development strategies can be established.

Finally, through the development of skill-enhancement programs, labor-matching facilities, and widening participation, the local market conditions for companies may improve.

By providing shared facilities and programs, and promoting local academic-business partnerships at many levels, local governments may “tie” businesses and universities, enhancing knowledge transfer and the mutual dynamic relationships (Russo, A.P. și colab., 2007, pp. 202-205). These relationships between the three categories of institutional actors may evolve into a structure similar to that developed by Etzkowitz and Leydesdorff, 1997, and further developed, known as the Triple Helix Model (*Figure 2*). In this model, the authors emphasized the role of universities in regional economies, anticipating the complex relationships between university, industry and administration, involving multiplication of resources and capital formation projects such as science parks development and training firms. This model conceptualised a non-linear, interactive approach to innovation as a recursive overlap of interactions and negotiations among universities, industry and government – the three helices conceptualised in the model (Gunasekara Ch., 2006, p. 102, citing on Etzkowitz and Leydesdorff, 1997). Triple Helix III is generating a knowledge infrastructure in terms of overlapping institutional spheres, with each taking the role of the other and with hybrid organizations emerging at the interfaces (H. Etzkowitz, L. Leydesdorff, 2000, p. 111).

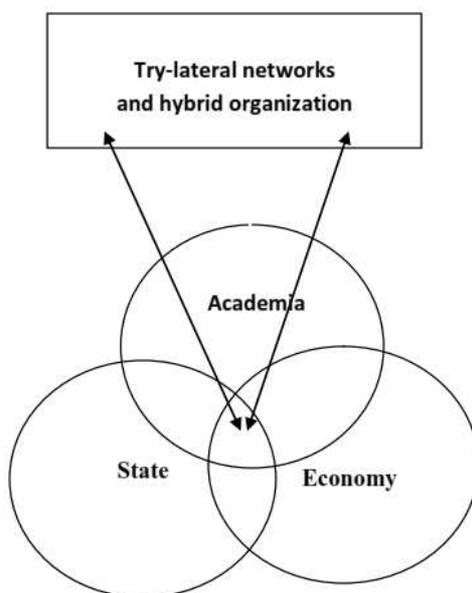


Fig. 2. The Triple Helix Model of University–Industry–Government Relations
(Source: Etzkowitz, H., Leydesdorff, L. 2000 – with changes)

The most countries and regions are presently trying to attain into this model evolved of Triple Helix. If previous the institutional spheres of the state, the university and industry were formerly separate entities that interacted across strongly defended boundaries, in the present increasingly, individuals and organisations within the helices are taking other roles than were traditionally ascribed to them (Gunasekara, Ch., 2006, p. 102, citing on Etzkowitz & Leydesdorff, 1997, 1999, p. 113; Sutz, 1997). The common objective is to realize an innovative environment consisting of university spin-off firms, trilateral initiatives for knowledge based economic development, and strategic alliances among firms large and small, operating in different areas, and with different levels of technology, government laboratories, and academic research groups. These arrangements are often encouraged, but not controlled, by government, whether through new "rules of the game", direct or indirect financial (H. Etzkowitz, L. Leydesdorff, 2000, p. 112).

The development of such strategic partnerships between universities and other actors with decision-making in local and regional development must be based on a correct diagnosis of reality. In this way, higher education institutions will have offer support in creating the strategies for territorial development. It is obvious that this implication calls for a correct evaluation of the university's own forces, to respond to the trust that the local or regional community invested in it (Ianoș, I., 2008, p. 19).

3. Territorial Impact of the University as a System

The University may be seen as an open system (E. Gibert, 2002) that interacts with the insertion environment and with institutional actors local / regional. In this way, there are developed networks in which all components of the University and the city/region are interrelated, contributing to environmental competitiveness insertion (Chatterton, P.J. & Goddard, 2000). Under this system there are introduced a number of resources, that through clearly defined mechanisms, there will be transformed by University into outputs. This "circuit" may be observed in figure number 3.

The most important resources are human resources, financial resources and material resources. Human resources considering teachers and administrative staff, with expertise in various fields and has to become more flexible and to possess knowledge and abilities that can make him compatible with the place and region in which he lives (Ianoș, I., 2008, p. 19) and the students. A particular importance for the optimal functioning of this system they have the material and the financial resources. The latter may come from the national budget, tax and consultancy activities provided by the University to the various partners.

In order to exploit its resources, the University has at hand a number of mechanisms – the type of policies and strategies, partnerships with public

institutions / business, science parks and incubators developed in partnership, and so on – through which entries in the system will be transformed into outputs. These will contribute to the improvement of the insertion environment of higher education institutions (Arbo, Benneworth P., and P., 2007).

Synthesizing previous research, Goldstein, Maier, and Luger (1995) show that, using entries in the system, higher education institutions provides to the insertion environment eight types of outputs or products of modern research university, namely: (1) Creation of knowledge, (2) human-capital creation, (3) transfer of existing know-how, (4) technological innovation, (5) capital investment, (6) regional leadership, (7) knowledge infrastructure production, (8) Influence on regional milieu. Because some of the outputs identified by Goldstein, Maier, and Luger are less well-defined and straightforward than others, it is worth specifying them in more detail (Goldstein, H., și C.S. Renault, 2004, p. 735).

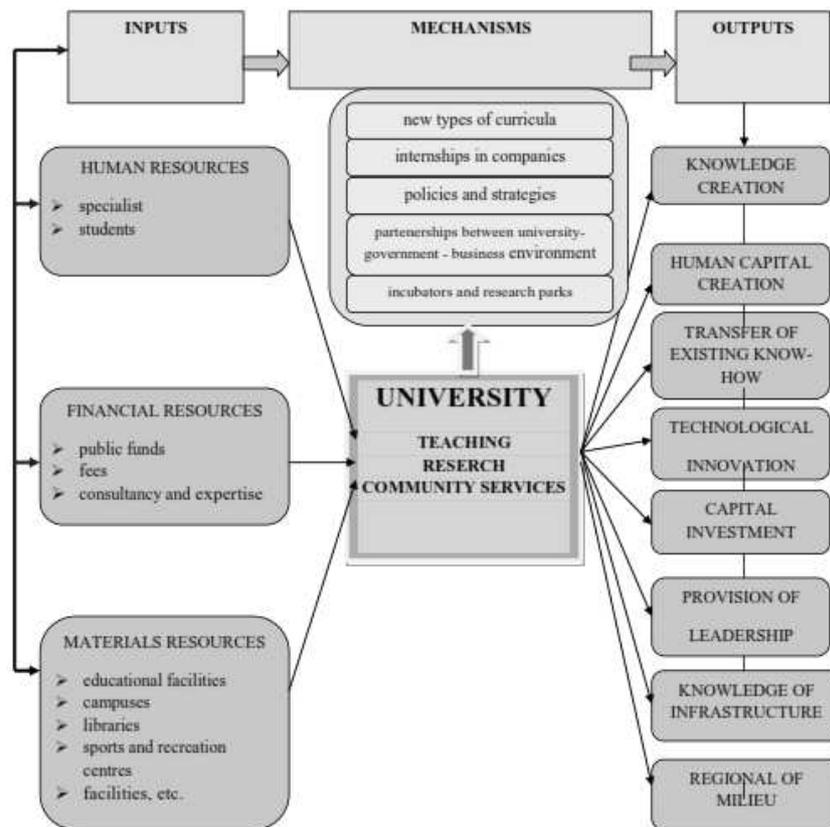


Fig. 3. The University as optimal open system
 (Source: Goldstein et al., 1995 – with major changes)

Creation of Knowledge

One of the fundamental functions of the university is the generation (creation) of knowledge. The university presence in this area is felt in the production of knowledge that is sold to export markets or that will help local firms and services become more competitive. This can be via university – industry links (joint Research & Development, trouble-shooting and analytical services offered by the university). Another area of university involvement is via resource utilisation. In this instance, the university is instrumental in harnessing underutilised resources (human, financial and physical). The downside of this process is represented by the out flow of ideas and technology. As intellectual property diffuses easily, the local cost imposed by the university can be expressed as the opportunity cost of the funds used to support the development of the know-how that later diffuses (Felsenstein, D., 1996, p. 1570).

Human-Capital Creation

Research universities have long recognized the creation of human capital as a second component of their mission. The development of human capital is intrinsic in the process of establishing new knowledge as faculty, students, and researchers develop their own intellectual and technical skills and also occurs through activities such as distance learning, industrial extension, and community education programs (Drucker, J., Goldstein, H., 2007, p. 22).

Contributing to raising the average level of human capital locally, the university increases productivity of all labour in the metropolitan area. This is because the skill composition of the labour force will affect the technology used, thereby indirectly up-grading all labour (Bluestone, 1993). In addition, the human capital effect can also have an effect on business location decisions. The existence of a university-generated, skilled-labour pool can attract existing firms from other places and can also lead to an increase in local new firm formation rates (Felsenstein, D., 1996, p. 1568).

Universities can also be major players in human resources policy planning when they channel students and professionals into economic sectors that need to raise their competitiveness, or towards new companies with the potential to replace old productive sectors or create new business nuclei (Fernández-Esquinas, M. și Pinto, H, 2011, p. 7). However, the negative side of this process is that this total effect will only be felt if some of the students attracted to the university stay on in the area after their studies. If the university functions as a "stepping-stone" or "entrepot" with (local and nonlocal) students owing in and out of the area, then an opportunity cost occurs which is equal to the income foregone over the period in which local students were studying (Felsenstein D., 1996, p. 1570, citing on Beck *et al.*, 1995).

The presence of a university often has an impact on the population dynamics of the city in which it is located, especially in the case of medium-size cities. The demographic composition of a large university includes a disproportionate number of younger people with a relatively high level of educational attainment. The university population also tends to be diverse in its cultural and geographic origins. Additionally, this population is characterised by having a greater propensity for both spatial mobility and social mobility between classes. It is generally considered that the benefits of education and social mobility are important in so far as higher education helps enable higher rates of entrepreneurship and to create higher value added jobs with better working conditions, which in turn can provide a stronger tax base for the local coffers (Fernández-Esquinas M. și Pinto H, 2011, p. 7).

Transfer of Existing Know-How

The transfer of technology and know-how is analogous to the creation of human capital but focuses on applying existing knowledge to solve a specified problem, typically improving a product or enhancing a process (Luger and Goldstein 1997). The universities are specialized institutions in generating and transferring knowledge, and so have the potential to be key institutions in shaping new patterns of learning and knowledge generation. University campuses already have a range of infrastructure and systems associated with learning and Research & Development in place (J. Allison and R. Eversole, 2008, p. 104). Recipients of technology-transfer activities tend to be businesses, civic or nonprofit organizations, government agencies, or individual citizens rather than university students or employees (Drucker J., Goldstein H., 2006, p. 22). Knowledge transfer may be direct through licensing or may be less direct through partnerships with local companies, through consulting or simply as a result of conversations (Shiri M. Breznitz și P. Feldman, 2010, pp. 140-141).

Association of University Technology Managers show in 2005, the importance of technology transfer: Academic technology transfer – the licensing of innovations by universities, teaching hospitals, research institutes and patent management firms – adds billions of dollars to the U.S. economy and supports hundreds of thousands of jobs. It contributes to the spawning of new businesses, creating new industries and opening new markets. Most important, technology transfer from universities to the commercial sector has led to new products and services that improve our quality of life (Association of University Technology Managers, 2005).

Technological Innovation

Technology transfer is distinguished from technological innovation, which refers to the creation and commercialization of new products or processes at the university itself and often leads to patenting or licensing the results of university-based researchers to commercial interests (Drucker, J., Goldstein, H., 2007, pp. 22-23). Innovation is defined as a collective regional learning process emerging from interactions between two regional subsystems of knowledge generation and exploitation. Universities are part of the system of knowledge generation, whose relationships with the region are systemic and manifold, for example through research-generated knowledge, interactions with firms and other local institutions, and part of the regional institutional context characterized by culture, norms, trust and established patterns of interaction (Cooke, 1998). In this context, Universities are considered as important knowledge generating institutions that may play bridging roles in the innovation-production spectrum. Higher education institutions are also seen as coordinators of local innovation network, which is the basis of knowledge, supporting the cohesion of local industry, innovation and global knowledge (M. Trippl și colab., 2012, p. 4).

Capital Investment

Universities are also important regional actors simply for their volume of investment in physical capital: constructing and maintaining buildings, laboratories, research parks, and additional types of facilities along with associated transportation and other infrastructure (Drucker, J., Goldstein, H., 2006, p. 23). Manuel Fernández-Esquinas și Hugo Pinto evidence in 2011, that Universities have traditionally been considered a social amenity and attraction for population because they encompass a type of infrastructure that is often unique and difficult to obtain from other organisations. In this type can be included the following aspect:

- gentrification of areas in decline by organizing and improving the urban areas where campuses are located , for example such as: The gardens, roads and access ways, adequate energy supplies, togetherwith the communications technologies, the construction of new buildings and accesses, or the conversion and reuse of old buildings (such as industrial buildings or military barracks) into university infrastructures;
- Providing cultural and sporting facilities: the infrastructure designed for students and researchers can provide a service to communities, especially hospitals, sports facilities, libraries and telecommunications, which are particularly difficult to build and maintain when they are

intended for use by small neighbourhoods; when some cities achieve high levels of social and economic development, these cultural and sporting facilities can serve as factors attracting new groups of people to move into the area;

- provision of infrastructure and ‘knowledge spaces’ such as services for science and technology parks, knowledge infrastructure access;
- the universities take in their hand the role of agents of urban planning, contributing to development of urban facilities, especially when the infrastructure is located in critical locations that help change the social and demographic dynamics of declining areas (Fernández-Esquinas, M. și Pinto H., 2011, pp. 5-6).

Regional Leadership

Regional leadership signifies the capacity of a university and its employees to serve the region through direct participation on local committees and boards, the provision of technical resources and support, and the exercise of moral authority, and in some cases, political clout to help establish consensus and resolve conflicts (Drucker, J., Goldstein, H., 2006, p. 23). J. Allison & R. Eversole posit the idea that universities have enormous potential to take a leading role in regional development processes. Despite tensions and issues to be resolved, universities possess a range of institutional features and characteristics that position them well to act as regional development catalysts. Most centrally, these revolve around their identity as knowledge-mobilizing institutions. As institutions specialized in knowledge creation and diffusion (research) and knowledge transfer (teaching), universities are well placed to “join up” and mobilize complex knowledge in specific geographical settings (regions) to achieve desired outcomes (J. Allison & R. Eversole, 2008, p. 103). Universities have involved themselves with institutions and activities directed towards local and regional sustainability. A number of universities work very closely with local authorities’ own sustainability groups and officers, to ensure that their plans and policies are contributing to wider social and physical regeneration efforts. Universities have also become involved in a number of regional-scale activities seeking to design sustainability into regional planning and business competitiveness activities (Arbo și Benneworth, 2007, p. 53, citing on Goddard, 1999).

Knowledge Infrastructure Production and Influence on Regional Milieu

The last two university outputs are decidedly less well-defined than the six described above. The concept of knowledge infrastructure refers to the

contribution of the university to create a regional system of innovation and learning, which envisages connecting within a network of firms, employees and institutions (Drucker, J., Goldstein, H., 2006). *Knowledge infrastructure* can be defined as the stock of knowledge together with the institutional and organizational components that support its growth and application (Smith, 1997). On the regional scale, knowledge infrastructure extends beyond public and private knowledge-producing institutions to the innovation and learning capacities of firms, workers, and institutions and the network of connections among them. So many elements of knowledge infrastructure exist even in regions devoid of major research universities.

Finally, the notion of a university influence on regional milieu encompasses the range of distinctive contributions that universities deliver to their surrounding areas, be they intellectual, social, cultural, or recreational, by attracting a concentration of highly educated and creative professionals and establishing a particular locational dynamic (Luger and Goldstein, 1997). These effects are usually imparted unintentionally as a side product of university presence and activity, with such externalities often valued highly by residents, businesses, and other regional stakeholders. Negative externalities may also arise, such as labor-cost increases that may accompany growth in university employment (Drucker J., Goldstein H., 2006, p. 23).

Richard I.D. Harris (1997), highlights the importance of relations between the university and other organizations in local economic growth and development, arguing that production and service sector activities in the local economy are increasingly knowledge dependent, and universities are in a unique position to diffuse the knowledge gained from basic and applied research back into the local business community. Put another way, economic growth is not only dependent on current levels of efficiency and cost effectiveness in production; rather, quality-increasing activities are becoming more important, as well as an ability to keep abreast of the latest technological developments affecting industry, and it is here that a local university can influence growth in the region.

Citing on Smilor *et al.* (1993) Harris R. shows that universities have begun to pay far more attention to their part in establishing and improving network links in the local economy. The hypercompetitive nature of the economy has led to external and internal forces that are altering the university's research, teaching and service missions. This is facilitated through new and innovative linkages between the university and local organisations, with the outcome being various benefits both to the external community and internally (Harris, R, 1997).

4. Benefits of University Involvement in Territorial Development

Developing partnerships between universities and other actors with decision-making role in local and regional development, based on territorial commitment of universities, have beneficial effects for both higher education institutions and for communities of which they are part from.

From a HEI perspective, regional engagement is an outward and visible sign of the third task or public service role of higher education, through which the institution can demonstrate its contribution to civil society. Through such endeavours higher education institutions are able to provide concrete evidence of the value that higher education and research add to public investment in it (OECD, 2007, p. 30). In this respect, it is noted that regional development and promotional organisations are increasingly looking towards higher education institutions to provide leadership, analysis, resources, and credibility. In this sense, higher education institutions contribute to the less tangible aspects of the development process by building social networks that link key actors in the local community and feed intelligence into these networks. The participation of a university or college can inject an element of unbiased and informed realism into such networks (Chatterton, P. & Goddard, J., 2000, p. 490).

From a city and regional perspective, higher education institutions, particularly in highly centralized states, can be key local agencies able to bring together within the territory different national interests in science and technology, industrial performance, education and skills, health, social inclusion and culture. Higher education institutions are increasingly engaged with the cities and regions in which they are located. At the same time, these communities are seeking to mobilize higher education to support their economic, social and cultural development. The emerging partnerships arise from a growing appreciation of shared interests (OECD, 2007, p. 30).

At a basic level this shared interest is principally economic. In the face of declining national public resources for higher education HEIs are seeking: local support for their global aspirations in research and student recruitment; increased student enrolments from the local population; additional income from services provided to local businesses through; consultancy and professional training; the indirect benefits of a local environment that can attract and retain creative academics and motivated students.

For those agencies charged with city and regional development higher education institutions are: major businesses generating tax and other revenues; global gateways in terms of marketing and attracting inward investment in the private sector; generators of new businesses and sources of advice and expertise for multiple purposes including support for existing businesses; enhancers of local human capital through graduate retention and professional updating of the existing workforce and lifelong learning including distance and e-learning; providers of content and audience for local cultural programmes (OECD, 2007, p. 30).

In the context in which The University and other stakeholders involved in territorial development realize the importance to developing joint partnerships and come to intersect, it is essential that higher education institutions to be capable of understanding, generating, and mobilizing place based advantage and providing leadership in the knowledge-generating and knowledge-distributing processes.

Specifically, this involves a new approach to knowledge and learning and a regional relationships that must be characterized by mutuality interaction and territorial integration to able to foster and support networks of open innovation. It is also essential a new approach to regional development, characterized by strategic capability building and brokering, to enable innovation within and across institutions (Janelle Allison and Robyn Eversole, 2008, pp. 106-107).

All from the perspective in which the university and region intersects, Chatterton, P. and Goddard, J., (2000), performs a pattern, shown in Figure number 4, that focuses upon the processes that link together all the components within the higher education institution and the region into a learning system focuses upon the processes that link together all of the components within the higher education institution and the region into a learning system. The left hand side of *Figure 4* refers to the three conventionally identified roles of universities (teaching, research and service to the community). The right hand side summarises the three key dimensions to territorial development, namely innovation, skills and cultural and community cohesion, including environmental sustainability. Just as successful development requires drawing together these strands too a university's effective engagement with its city region must involve joining up teaching, research and service in a coherent manner and establishing effective mechanisms for bridging the boundary between the institution and the region/locality.

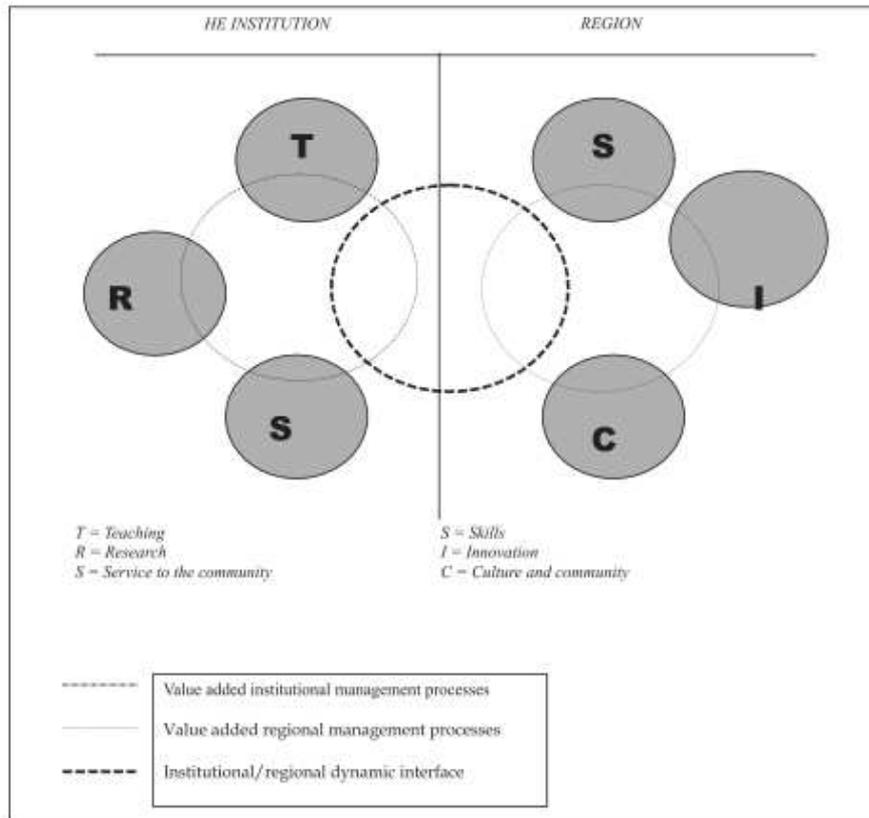


Fig. 4. The Institution/Region Value-Added Management Process
 (Source: Goddard and Chatterton, 1999)

Within the individual institution, the challenge is to link the teaching, research and community service roles by internal mechanisms (funding, staff development, incentives and rewards, communications etc.) that make these activities more responsive to regional needs. These linkages represent 'value added management processes'. Within the region, the challenge is to engage higher education in many of the facets of the development process (such as skills enhancement, technological development and innovation and cultural awareness) and link them with the intrainstitutional mechanisms in a 'higher education institution/region value added management process'. Put another way, the successful higher education institution will be a learning organisation in which the whole is more than the sum of its parts and the successful region will have similar dynamics in which the higher education institution is a key player.incentives (Chatterton, P. și Goddard, J., 2000, p. 482).

It appears that universities can make a significant contribution to addressing human capital market failures, and that as many of the contributions were made through the “research” as through the teaching elements. Arbo și Benneworth argue that for an ideal type of regionally engaged university where there are two virtuous cycles. Within the university, there are productive synergies between teaching, research and service to the community; in the region, there are connections between skills, innovation and community. If the interface between these two elements can be managed effectively, then each cycle can positively reinforce the other, with the university and region mutually benefiting (Arbo și Benneworth, 2007, p. 55).

Conclusions

Engaged university can be seen as an open system whose components interact with insertion environment the and with the institutional local/regional actors. The result of this interaction has beneficial effects for both higher education institutions and their partners, reflecting in the social, cultural and economic development of environment. In this respect, two aspects should be considered: adapting the roles of higher education institutions to "regional needs" and identifying the most effective means of communication and networking of universities with territorial actors (government, industry/business etc.) who have the ability to optimal harness the outputs which are generated by higher education institutions. In this way, it may be exploited the potential of universities to become one of the key elements that contributes to regional development and it represents also regional differentiating factor between success and failure.

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