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Entrepreneurship, Entrepreneurship Education, and the Role of the Regional University

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Abstract

Regional colleges and universities are integral to providing economic and workforce development resources that support local and regional economies. Similarly, nascent entrepreneurs create economic opportunities and build enterprises through deliberate planning and risk taking. This paper contributes to a growing body of academic literature on the role that universities play in the development of the economy. However, it adds a new dimension by articulating the role that entrepreneurially engaged regional universities may have in regards to improving their regional communities.

Keywords: entrepreneurship, entrepreneurship education, colleges, regional universities, outreach, education, economic development

The Regional Need for University Entrepreneurship Engagement

Colleges and universities have long been important components to regional economic and workforce growth and development. Academic program offerings, faculty engagement and consultation, and professional development and support for small business have characterized much of this support. Lately, there has been a growing body of academic research on the role of universities in regional development. Much of which has been primarily concerned with two issues: economic analyses of the direct employment effects associated with staff and student spending in the local economy and technology transfer, particularly through the creation of spin off companies and the establishment of "industrial" and "science parks" (Goddard, J.B., Charles, D.R., Pike, A., Potts, G. and Bradley, D. 1994). However, recent research has shown that universities have not as been successful in creating sustainable environments that enhance technology transfer and the commercialization of intellectual property from the university (Bok, 2003; Slaughter and Leslie, 2001; Wright, M., Birley, S., and Mosey, S., 2004). In contrast, research universities have been able to capitalize on generating revenue from their research projects resulting in patents and other methods of technology transfer (Slaughter and Leslie, 2001). Furthermore, as a result of bias that exists in academia, regional universities may be viewed as institutions that repress the growth of human and social capital and they have not been able to capitalize on the large funding models (Wright, 2004).

More recently, the role of universities in regional development has been seen as transcending this narrow technical and economic approach to embrace the role of universities in enhancing human capital within a region. Examples include certificate and degree programs in entrepreneurship, workshops and seminars, technical and administrative assistance, and resource referral, but also including recruiting students from outside the region and placing them with local companies through internships, co-ops, and part-time employment; programs of continuing and professional development to enhance the skills and knowledge base of local managers; embedding international businesses by targeted training programs and research links; providing a gateway to the broader and international knowledge base for small and medium enterprises (SMEs); and providing strategic analysis and leadership within local civic society. The fact that expectations of and opportunities for colleges and universities is rising can be traced to fundamental shifts in the organization of production and the related

regulation of the economy reflected in the processes of globalization and localization. Effective engagement in regional economic and workforce development processes requires that institutions of higher education have an understanding of these dynamics.

Rethinking Regional Development

Profound transformation of regional U.S. economies since the mid-1970s, have had major implications for economic and workforce development strategies. The stability of production systems, product markets and national corporate relations have been undermined by the rate of technological change, most notably through the widespread effects of generic or carrier technologies such as ICTs (information and communication technologies). Technological innovation and access to resources for innovation (skills, knowledge, and information) have become necessary and central to the competitive strategy of business and industry (Kanter, R.M., 1995). Many states have recognized the need to embrace, support, and sustain technology if they are to maintain employment and growth. As a result, there is a corresponding need to develop and implement policies and practices in the support and promote R&D, innovation and technology transfer. Notwithstanding this orientation, the diversification and internationalization of finance and of the organization of production allied to innovations in ICTs that permit the flexible reshaping and reconfiguring of investment and resources, has weakened the bargaining power of smaller, rural, businesses. Global bodies have encouraged greater freedom in the flow of goods and information such that now it is the nature of the production locality as much as national market characteristics that determines investment decisions.

Not only has regional and local intervention and support from universities become more important to economic and workforce success, there has also been a qualitative shift in the form of local policy towards nascent entrepreneurship and innovation, and to providing a more sophisticated environment for mobile capital so as to maximize local value added (R&D and other high status jobs). The importance of this perspective for managing firms and localities has been promoted by Kanter in her recent book World Class: Thriving locally in the global economy. According to Kanter, future success will come to those companies, large and small, that can meet global standards and tap into global networks. And it will come to those cities and regions that do the best job of linking the businesses that operate within them to the global economy. Kanter argues that forces of globalization are so powerful that communities must connect the global and the local and create a culture conducive to attracting and retaining investment. The challenge is to find ways in which the global economy can work locally by unlocking those resources which distinguish one place from another. The basic argument presented here is that colleges and universities are uniquely positioned to provide technical, skills, and knowledge capital assets within the global economy – elements central to the success of regional entrepreneurial endeavors. Kanter posits that higher education faculty provide human capital elements that she has titled the “3 Cs” - Concepts, Competence and Connections. Kanter suggests that university faculty "can help grow these assets by offering innovative capabilities, production capabilities, quality skill, learning, networking and collaboration." (Kanter, R.M., 1995). The location of universities in regions is a powerful facilitator of these processes - concepts links to research; competence links to teaching and connections links to the transfer to and from a region of people and networks grown out of universities. In order to realize such policy shifts, local policy has needed to be innovative and entrepreneurial itself, drawing on a wider network of resources, negotiating and building alliances between local and state government, universities, private sector interests and non-profit organizations.

Regional economic and workforce success has been characterized by a variety of explanatory models, but with a common agreement as to the factors underpinning success: agglomeration economies, economies of scale and network effects, economies of scope, trust, networks of small firms and supportive institutions. Central to successful innovation are the structures and modes of interaction between knowledge producers, disseminators and users. Since technologies embody both people and ideas as well as tangible products,

transactions involving extensive interaction and iterative communication are widely believed to be necessary as a means of facilitating exploitation. This 'organized' method of exchange can encompass both physical technology and/or employees - including producers, disseminators and users - moving between institutions while maintaining close linkages for instance, between universities and linked 'spin-off' companies.

Defining the Entrepreneurial Learning Region

In the context of the role of universities in economic development, the most helpful approach to operationalize these ideas can be found in the concept of the learning economy which emerges from studies of innovation (Lundvall, B-Å., Johnson, B., 1994). Lundvall stresses the importance of interactive learning as a basis for innovation and change in local and regional developed economies. The learning economy is defined as an economy where the success of individuals, firms and regions, reflects the capability to learn; where change and transformation is rapid and old skills quickly become antiquated and new skills are in demand; where learning includes skills and the building of competencies, not just increased access to information; where identifiable and measurable learning is occurring in all aspects of the economy, not just high-tech sectors; and where net job creation is in knowledge intensive sectors (high R & D, high proportion with a university degree, and job situation worsens for the unskilled).

Within the learning economy different modes of knowledge can be identified. First, **know what**, that is facts and information. Second, **know why**, - principles and laws necessary to reduce trial and error; third, **know how** - the skills and capability to do something, skills that are traditionally acquired within the workplace; and finally **know who** - information about who knows how to do what and the social capability to establish relationships to special groups in order to draw on their expertise. Each of these different forms of learning employs different channels for information exchange. In the case of know what and why, formal learning in school and universities is the normal channel. Know how depends on practical experience through tacit learning (for example, through apprenticeships) but also increasingly through network relationships with industrial and commercial partners. Finally, know who is learned from social interaction via professional associations, day to day dealings with customers, sub-contractors and a wide range of other actors and agencies.

Focusing on network knowledge, this is a hybrid form of knowledge that is neither completely public nor completely private. It depends on trust and is characterized by reliability, honesty, and co-operation. Network knowledge refers not only to the skills of individuals but the transfer of knowledge from one group to another to form learning systems - the institutional infrastructure of public and private partnerships. Because network knowledge is highly dependant on interpersonal relations, it can most readily be developed within a particular region. Florida (1995) argues, 'To be effective in this increasingly borderless global economy, regions must be defined by the same criteria and elements which comprise a knowledge-intensive firm: continuous improvement, new ideas, knowledge creation and organizational learning.

Regions must adopt the principles of knowledge creation and continuous learning; they must in effect become "knowledge-creating or learning regions.' Key to such a learning region is the human infrastructure and the institutional mechanisms that foster interactive learning, and a central part of this infrastructure, in terms of the reproduction and adaptation of human resources, are universities. In the case of human capital, universities have traditionally produced new graduates for a labor market dominated by large employers, with little concern for SMEs or graduate retention in local labor markets. This traditional model often fails to respond to changing patterns of employer demands such as the decentralization of large corporations into clusters of smaller business units and the greater role of smaller businesses as sub-contractors, suppliers, franchisees etc. with subsequent implications for the skills required of graduates and the location of the recruitment decision. At the same time regional agencies are promoting graduate retention initiatives as a way of upgrading higher level local

skills. This demand side changes the expansion of service provided by higher education with rising numbers experiencing the need to change career later on in life is leading to a growing supply of local students for undergraduate and graduate programs.

Notwithstanding these developments, little is known about the flow of students through higher education into local labor markets and how this relates to the overall economic performance of regions. Yet a key characteristic of the learning region is the way in which knowledge is transferred from one group to another to create learning systems. In terms universities this includes knowledge of the appropriate skills and competencies required of the workforce. What constitutes "appropriate skills" will depend on the overall regional development strategy, be it indigenous development based on local enterprise, exogenous development based on attracting inward investment, or a combination of the two, for example by upgrading local suppliers to support and "embed" inward investment. In this context, the analogy between regions and organizations is one where the shift from personnel management based around handling individual employment contracts and personal development shifts to human resource management which harnesses people development to the strategic objective of the organization.

The key question here becomes: "Does the region include human resource development as part of its overall strategy?" The question raises specific challenges concerning the type of training programs, the qualification of institutions best placed to provide the program, and where within the region should this provision occur. An obvious requirement of a regional human resource strategy is information about future labor market needs. Given the long time lag between the identification of needs and the development of the necessary skills, one of the fundamental requirements of a learning region is the sharing of intelligence between higher education and training and human capital development programs and employers. Because of the inherent difficulties of forecasting future demands, the inevitable priority will be to ensure that education and training systems produce people with the flexibility to respond to stronger changing circumstances alongside specific skills and competencies required by particular industries and/or occupations.

Although research has focused on the direct contribution of universities to the economic success of the regions in which they are located, a further question concerns the indirect contribution of universities to the social and cultural basis of effective democratic governance and, ultimately, economic success. For example, Putnam (1993) has shown the strong relationship between a civic culture and institutions (understood as "norms of reciprocity and networks of civic engagement") and wider socio-economic performance. Regions are rich in such networks 'encourage social trust and co-operation because they reduce incentives to defect, reduce uncertainty, and provide models for future co-operation'. In so far as universities are by tradition classically "civic" institutions, they can play a key role in the development of the cultural and political determinants of socio-economic success. A key challenge is to enhance the role which universities, including their faculty and students, play in the development of such networks of civic and entrepreneurial engagement, and in the wider political and cultural leadership of their regions.

Implications for Colleges and Universities

The implications of many of the processes outlined here have yet to be successfully resolved by universities. Kanter refers to four aspects of globalization - simultaneity, multiple choice, pluralism and resource mobility. Simultaneity refers to the fact that we can no longer rely on spatial and temporal lags associated with the diffusion of new education products and services - universities can no longer hide behind the barriers of time and space. Multiple choice or by pass refers to the way in which local or regional monopolies are broken down, such that universities can no longer rely on local monopoly in education as new providers using distance learning techniques enter their realm. Pluralism is the process by which old centers of power are continually challenged such that many universities can no longer guarantee their dominant position as students and firms exert consumer choice. Finally,

mobility, particularly of the elite or so called “cosmopolitans”, are shifting their place of residence and business more frequently, and this applies no less in academia than in the private sector. In the face of these threats, universities have no option but to attempt to tie down the global within the local; in so doing they will find willing partners in the public and corporate sector where similar pressures are being exerted. Universities must reconsider their administrative structures and management processes and practices in the light of this challenge.

The scale of the challenge should not be underestimated. Developing and evolving the curriculum to rapidly changing needs of employers and labor markets provides a good example. In terms of Lundvall's description of the learning economy, universities have been good at the know what and know why aspects of education, and are improving on the know how aspects through integration of the tacit learning acquired via work placements into teaching programs, the know who dimension is altogether more problematic. Progress on this front implies a deep relationship between research and teaching based on the sharing of the network knowledge of the research endeavor with students at all levels. Additionally, there is a need for a paradigm shift in the academy that will allow for human and social capital to be cultivated within the walls of the academy and encourage economic development within the region (Binks M., Starkey, K., and Mahon, C. L., 2006).

Further research has shown that by modifying their curriculum to meet the needs of the labor market, universities are able to cultivate human and social capital with greater skill-sets and they create value-added networks for current students and alumni as well as faculty members (Sager B., Fernandez, M. G., and Thursby, M., 2006; Westhead P. and Matlay, H., 2006; and Mosey S., Lockett, A., and Westhead, P., 2006). Universities should move away from their traditional approach and utilize a more constructivist approach which would build their core curriculum around entrepreneurship education (Binks, M., Starkey, K. and Mahon, C. L., 2006). Graduates of an entrepreneurship based education would have the relevant skill sets (human and social capital) that would allow them to support and leverage economic development in their local communities and build a sustainable competitive advantage for their region. Schumpeter offered the insight that economic development is a result of entrepreneurship (Schumpeter, J. A., 1934); hence, in order to promote economic development universities must provide a service to their region by promoting and sustaining entrepreneurial education.

When considering their relationship with industry in a regional context universities should consider themselves as being located at the head of a supply chain, devoted to the creation, provision, and application of knowledge. The distribution channels for this knowledge are through students (projects and placements), graduates and post-graduates, as well as through published and contract research and consultancy that leads to new and improved technologies and management processes. But unlike a business enterprise situated in a similar supply chain position, universities devote relatively little resources to marketing their products in the form of graduates or to responding to signals about what the market wants. They simply have a sales department, in the form of the career placement offices, which have limited ability or mechanisms to match output (quality, quantity or specification) to customer needs.

The market place is, of course, extremely complex because it is composed of the totality of organizations that currently, or might in the future, employ graduates. At one end of the spectrum are tightly regulated vocational markets like medicine, architecture, law and engineering. (Arguably universities have been overly responsive to this segment of the market to the extent of having been 'captured' by some professional bodies). At the other end of the spectrum are the largely unarticulated demands of SMEs. If universities are to play a more active role in economic development, it is vital that they understand the market segment and inform their teaching activities by its needs. This means not simply responding to currently expressed wants but actively researching the dynamics underlying changing employer needs and treating students as clients and employers as the end customer.

In some countries the fact that this approach is far from universal can be partly attributed to the student funding regime which currently rewards "production" but not "sale". In consequence the marketing function is often poorly developed. If universities were in part rewarded for the delivery of graduates into employment, including local employment, they would clearly have an incentive to put more effort into marketing and economic development. But becoming a market led organization requires a major change in university culture. It implies a strong sense of institutional purpose whereas universities remain dominated by academics whose principle professional loyalty is to their national or international invisible college rather than their parent institution. The new production of knowledge involving partnerships with the users and beneficiaries of research also transcends institutional boundaries and is difficult to integrate with formal institutional planning and resource allocations. New patterns of strategic alliances between academic groups based on complimentary competencies may occur but not between institutions within a region. In short, improved integration of universities with regional development will not be readily achieved by top down planning mechanisms at either the institutional or regional level but by ensuring the various stakeholders in the regional development process - education and training providers, employers and employers organizations, trade unions, economic development, labor market agencies and individual learners - have an understanding of each others role and the factors encouraging or inhibiting greater regional engagement. For example understanding that universities and labor market agencies work in the context of national higher education policy and labor market training targets, employers of global competitive pressures to downsize, outsource etc. and students of personal financial constraints on investment in learning.

While local and state governments may seek to increase the engagement of universities with economic development, the means of achieving this goal is far from clear, particularly in the context of the value universities attach to individual autonomy. Such autonomy is associated with a diversity of institutions, often on a regional as well as a national scale that has evolved historically. For those universities with a strong research base, regional issues may be of minor concern. Such institutions see themselves as serving the region by attracting students from outside with those who remain adding to the local stock of human capital. They also contribute to attracting inward investment and possibly embedding that investment through training and research links. Such institutions thus contribute to exogenous regional development. Nevertheless, even within research based universities, certain departments, degree programs and research activities have strong regional linkages.

Alongside such institutions in most regions are those where serving the local and regional communities remains a central component of their mission. Regional universities also have national and international links that can provide gateways for local firms and students to the wider world. Finally, between these extremes there may be universities which are trying to develop their research base in selected fields and in the process devoting considerable resources to "going global". Determining which particular mix of institutions and more importantly mix of teaching and research programs would best underpin the economic development of a region is a key challenge. With the right form of incentives in terms of university assessment procedures and leadership development programs, it might be possible to ensure that the appropriate signals reach and are embedded into the programs of individual universities.

With regards to assessment, in addition to the inclusion of regional criteria into national teaching and research assessment exercises, a strong case can be made for establishing a regional assessment process undertaken by universities themselves. Such assessments could be done with the aid of consultants with expertise in economic development and higher education management. These assessments would cover institutional organization, teaching, research and other services actually or potentially relevant to regional needs. The outcome of the assessment could be linked to a development fund for pump priming initiatives and which aims to enhance the university's contribution to economic development. Institutions would be free to participate in such a scheme and/or confine it to those parts of their activity that they deem to be regionally relevant. Alongside such assessments it would be necessary to have a

program of human resource development targeting those individuals inside and outside of universities that have boundary spanning functions relevant to joint working on economic development. One of the key factors of success in regional partnerships merely act as gatekeepers between different organizations/networks. A small number of staff in universities, labor market and economic development agencies and dynamic businesses hold positions in which extra-organizational networking is a central feature of their job.

Those people who hold such position will do so by virtue of their personal and professional competency; they nevertheless require developmental support for their own professional improvement, and moral support from individuals and groups around them. For the most part the necessary skills and attributes are intuitive and learned through practice; however the growing need for such people suggests that some more fundamental training and support is required. Relevant skills include: networking; facilitation; working with alternative cultures; setting up projects; planning and contract management; raising financial support; personal organization; supervision and personal support techniques; insight into organizational policies and dynamics. The establishment of such a development program for individuals engaged in the university/regional interface would be a further small positive step towards its improved management. Furthermore this interface would allow for an "entrepreneurial development system" to be created that would be regional in scope and systematic in approach (Lyons, T.S., 2003). As a result economic development in the regions would be enhanced due to these sustainable partnerships. Similar strictures apply to other stakeholders concerned to raise regional competitiveness.

Conclusion

Technological innovation and access to resources for innovation (skills, knowledge, and information) have become vitally necessary and central to the competitive strategy of business and industry. Not only has regional and local intervention and support become more important to economic and workforce success, there has also been a qualitative shift in the form of local policy towards nascent entrepreneurship and innovation, and to providing a more sophisticated environment for mobile capital so as to maximize local value added (R&D and other high status jobs, successful and therefore growing firms).

The location of universities in regions is a powerful facilitator of these processes - concepts links to research; competence links to teaching and connections links to the transfer to and from a region of people and networks grown out of universities. As a result, the academy will need to undergo an elemental paradigm shift that will allow for human and social capital to be cultivated within the walls of the academy and encourage economic development within the region (Binks, M., Starkey, K. and Mahon, C. L., 2006).

The distribution channels for this knowledge are through students (projects and placements), graduates and post-graduates, as well as through published and contract research and consultancy that leads to new and improved technologies and management processes. Regional universities should take the lead in creating economic development in their regions by supplying the knowledge chain that will produce the human capital and by increasing the quality of life which will provide the social capital.

By fostering entrepreneurship, regional universities provide the catalyst for new businesses and a flexible, creative, motivated, and well-educated workforce that will enhance the economic development of the regions they serve. In essence, the expectations of and opportunities for colleges and universities is rising and can be traced to fundamental shifts in the organization of production and the related regulation of the economy reflected in the processes of globalization and localization. The 'ivory tower' of traditional academe has to continue to move forward and embrace the concept of leading their regions to become more entrepreneurial and competitive in this global economy.

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