EMERGING INDUSTRY-UNIVERSITY TRENDS IN LATIN AMERICA

Since the dawn of the present decade, an existing, entrenched, consensus has risen on the need for changing the role of universities, as well as the incremental demand for knowledgeable-high-tech skilled labor in emerging industries in Latin America. This role comes in addition to the traditional functions of universities as institutions of advanced education and research, to one more where entrepreneurship contributes to social and economic development. All these institutions are compelled to increase, develop, and raise their potential in terms of training qualified, so-called, knowledge workers, thus creating imminent direct innovation and industrial capacity building.

Since from a technological standpoint, sustainability and abundance will ever occur in a profit system, for it simply goes against the very nature of its structure, designed to maintain and promote innovative scarcity, this dyadic relationship of industry university relations must be seek new alternative resources, where the end result is a competitive indigenous technology that supports a resource-based economy. To accomplish it requires access to technological and financial resources, diverse capabilities, and markets, but, since rarely are all these available in one place or embodied in one person or organization, the role of networks in disseminating information and ideas and allowing access to such resources, has, consequently, become of critical importance. So much so, it could be argued, that the viability of network connections has become a critical determinant of economic competitiveness.

In less advanced economies, the circle of competencies is likely to be further from the knowledge frontier, and as a result the pool of considered options is limited. Both in developed and developing countries, industries have only inadequate knowledge of
relevant technological options, and research demonstrates that they generally look for
new solutions around their existing competencies (Fagerberg and Godinho 2005).
Moreover, the possibility of introducing new products and processes depends on research
and development (R&D) capabilities and skills that are often inexistent. Consequently, in
order to avoid being trapped on an inferior development path, technologically lagging
countries are in particular need of ‘institutional instruments’ that enhance access to
cutting-edge technologies, supply needed skills and strengthen local innovation networks.
For the most part, universities are well positioned to meet this challenge to the extent they
are at the knowledge frontier and may be trained to be responsive to the needs of firms,
but Latin American universities compose a major portion of all national innovation
systems acting as primary employers of researchers, and receiving the bulk of public
subsides for research. In countries such as Mexico, Brazil, Colombia, or Argentina, more
than 70 percent of all researchers are employed by universities. The absence of tradition
and incentives, give these institutions an unprecedented potential for putting this research
capacity to productive use. Technology-based industries could benefit prominently from
the university education and research interaction. Specifically, the mismatch between the
long-term horizon of institution, infrastructure, and capacity building, and the short term
and quickly shifting challenges of new technological paradigms, does provide the perfect
setting (Etzkowitz and Leydesdorff 1997).
This paper discusses trends and challenges within Latin American universities, as well as
policy options available for strengthening their contributions to social and economic
development. It does so by reviewing several articles from renowned professor Henry
Etzkowitz, who has advocated the Triple Helix Model for more than two decades now,
and reviews several separate chapters from major studies from the World Bank, ECLAC, UNESCO, and the IADB. While is not intended to provide an exhaustive analysis, it does focus on some of the key issues confronting universities in the region, such as the narrow Latin American definition of knowledge transfer as licensing and commercialization of research. It also proposes a revised role of universities in all aspects of academic practice in Latin America, including: advanced applied research; universities contribution to national innovation systems; production of advanced human capital in Latin America and its relation to industrial needs; and, challenges that commercial activity places on university governance structures and management. Finally, three key areas are explored: a) access to institutions and infrastructure for innovation, b) ownership and appropriability of knowledge and innovation, and, c) usability and transferability of capabilities.