

# ECONOMIC DEVELOPMENT AS A UNIVERSITY MISSION

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Since their inception, land grant and many other public universities have had a long-standing commitment to engaging and serving citizens of their state and to developing programs consistent with this priority. In fact, many such universities, including Iowa State University, have incorporated “engagement” as one of the key elements in their strategic plan during the last decade. The enactment of the Bayh-Dole Act in 1980 offered universities a new opportunity for engagement: the opportunity to contribute to economic development in their state and region. As a consequence of this legislation, universities were able to develop and own intellectual property derived from the discoveries in their laboratories for more than two decades. The objective of this legislation was to move the scientific achievements of the university into the public domain. As a result, many new businesses were established based on university technology, and many others grew substantially. This process had a remarkable impact on economic development. However, this process was an indirect one: the universities passed the responsibilities related to economic development onto the private sector through the licensing of technologies. Furthermore, in general there were no incentives for the universities to be involved in programs related to community entrepreneurship.

In many states there was a significant change in the expected role of universities in economic development during the late 1990's. Many states began to view their universities not only as a generator of intellectual property on which to build businesses but also as a primary driver of the states' economic development efforts. In my view, this tendency was stimulated considerably as a consequence of the recession that followed the travesty of September 11, 2001. This new framework has resulted in many legislators and many governors advocating new programs and incentives to promote the role of state-supported universities in economic development. As a consequence, several states, including Iowa, are undertaking specific programs in which universities are key components to their overall economic development strategy. Some states have taken this a step further. In order to develop a comprehensive plan for incorporating the universities into the state's economic development program, they have hired Battelle to generate a roadmap. These roadmaps contain a plan for enhancing economic development based specifically on areas (referred to as platforms) of specialization and expertise within the universities.

This intense interest in the universities as drivers of economic development has resulted in defining this area as a new mission for several institutions. I contend that this extends well beyond previous expectations

regarding the universities' contribution to the economy of their state. This trend offers new challenges to university administrations. First, they must retain control of defining their own objectives and missions while responding to the directives of the states' legislative leadership regarding economic development. Second, institutions must firmly maintain funding priorities for their mainstream programs.

Two very significant funding problems can develop as a consequence of this new priority. Universities may be asked to reallocate funds from established university programs in order to adopt initiatives targeted toward economic development. In addition, there may be pressure to accept unfunded mandates. In this era of tight budgets and small staffs in many administrative offices, accepting such a mandate can be very demoralizing, since the lack of funding virtually ensures that the desired objectives cannot be met. Universities must develop strategies for meeting these challenges.

Once these strategies are established, the focus on economic development offers some new opportunities for public institutions, especially land grant institutions. For example, the economic development mission can be promoted as a new basis for establishing the university's relevance among many stakeholders, including legislators. This mission also provides an excellent context in which to "sell" and illustrate the importance of the educational and research programs of the universities. Furthermore, economic development is an excellent framework for productive interactions between the university, the community and state. Finally, a commitment to this area enables the institution to market itself as an entrepreneurial university, a niche that is considered very important and appealing to many students interested in ensuring that their college education will enhance their success in the job market after finishing their degree. Iowa State University has developed two programs with this focus. A formal minor in entrepreneurship was recently instituted and has become very popular with undergraduate students. In addition, a learning community focused on entrepreneurship has been established. This provides approximately 35 students with the opportunity not only to live together with students having similar professional goals but also to access programs and tutorials developed specifically for this learning environment.

In general this new focus on economic development has been easily adopted into the priority system at Iowa State University. ISU has always had a very strong commitment to outreach as well as applied research, consistent with its motto "Science with Practice." In brief, Iowa State has developed a "System for Innovation." In addition to having the traditional components of sponsored research and tech transfer offices, the university has an affiliated research park as well as an on-campus incubator system. In addition, it has developed shared instrumentation facilities available not only to faculty but to companies in the research park and throughout the state. To facilitate research in the pre-commercial phase, pilot (scale-up) facilities also have been developed. Finally,

Iowa State has developed a very strong system of entrepreneurial centers. These include centers which provide advice to new and existing companies regarding business management practices. Iowa State University also has developed several business support centers that are responsible for providing technical support and advice to Iowa businesses.

As a consequence of this program, there have been 57 new companies started in Iowa based on technology developed at Iowa State University. In addition, the university has received many accolades for its technology transfer activities. Most notably, Iowa State is first among all universities in the number of licenses and options executed per year on its intellectual property. Furthermore, its faculty have received a total of 27 R&D 100 Awards, second among all U.S. universities. Most recently, ISU was designated one of the top three U.S. universities in the development of patentable biotechnology.

With this system in place, Iowa State University has become progressively more and more involved in the economic development activities sponsored by the State of Iowa. In fact, the Regents' university system as a whole has made a new commitment to this area. A subcommittee of the Board was established recently to coordinate activities across the three Regents' universities and to provide a mechanism for coordinating interactions with the legislators and Governor in this area.

The recent Battelle study, performed at the request of the Governor of Iowa, established a plan by which the state, industry, and the Regents' universities could partner in generating a significant growth in economic activity in the state. The final report outlined six platforms based on the expertise of the Regents' institutions. If this plan is implemented, Iowa State could experience a very exciting period of growth in the areas to be emphasized in this program.

The growth of activity in areas related to economic development poses new challenges to the traditional practices in the university environment. If faculty contributions in applied research are going to be supported and encouraged, approaches must be developed for the inclusion of IP development among the factors addressed in the promotion and tenure proceedings. In addition, entrepreneurial activity among faculty can lead to significant conflict of interest problems both for the individual as well as for the institution. Universities must generate the administrative infrastructure required to address these challenges proactively.

A successful university program focused in economic development also must address challenges related to interactions with business and industry. Because of the expectations and requirements of the Bayh-Dole Act and the extrapolation of the regulations associated with the Act to research funded by non-federal sources, the issue of IP ownership often becomes contentious in discussions with industry. These problems can be compounded by the

complexities related to the participation of certain foreign nationals and publication restrictions that often enter discussions in some research contracts. Furthermore, the use of space for industry-sponsored programs in buildings funded through tax exempt bonds can also pose a problem. For example, the restrictions related to research in buildings funded in this manner can impact the possibility of assessing company products if in fact it can be argued that the research is not being performed in the public interest. In addition, laws related to unrelated business income tax can relate to fees accepted for the use of instrumentation facilities or for the evaluation of specific products manufactured by industry partners.

Very interestingly, the university's participation in economic development also has resulted in new parameters for measuring the university's performance. Who would have anticipated 20 years ago that a Board of Regents would be interested in performance indicators such as jobs created in the research park, number of new start-ups per year, number of invention disclosures and patents per year, and the number of licenses and options executed?

Evolving a win-win situation for the university through its activities in economic development requires adherence to some important guidelines. First of all, it is very important to educate the state legislators with regard to the university's role in economic development activities, including issues related to setting objectives and establishing funding priorities. It is only through this process that the university can ensure that its own needs and requirements will prevail! Recruiting the State Department of Economic Development as a partner in the economic development activities of the university is also very important. This practice will ensure that the activities of the university are pursued consistent with the overall economic goals and objectives of the state. The failure to engage this agency in this process may result in the establishment of expectations that the university cannot meet. Finally, as emphasized above, public universities need to be very cautious about the impact of state economic development initiatives on the funding of university programs. The economic development initiatives of the university must be funded from new money; they cannot be derived from funds reallocated from core university programs. For a university to thrive, it must maintain its excellence in academic programs and facilities. This can only occur if the university programs and faculty salaries are funded adequately. Without an excellent faculty and excellent academic programs, the development of sophisticated technology required for the development of the state's economy will be curtailed significantly. In addition, universities must adamantly reject any unfunded mandates!

In summary, the area of economic development can be viewed as a new era in defining the relevance of a university to its region and state. Depending upon the degree of entrepreneurial culture on the university campus, the participation in this area can result in an enhanced relationship with the state government and state agencies as well as a level of economic growth that can

more effectively support the university system. The engagement of industry is key to this process and ensures that the university will have knowledgeable and effective partners both with regard to the execution of programs as well as in the generation of highly credible advocacy at the state legislature. Through these effective partnerships, the involvement in economic development activities, rather than serving as a challenge to the university's priorities, can become an integral part of its primary mission.