

Regional Competitiveness, Innovation and Entrepreneurship
Economic Development and the University of Missouri-Columbia
Working Paper No. 1: Framing the Debate

September 2005

Brian Dabson, Rural Policy Research Institute & Truman School of Public Affairs

Introduction

This is the first in a series of working papers on the role that the University of Missouri-Columbia (UMC) can and should play in economic development. The series is intended to provide focus for concerted action across the UMC campus. This paper sets out to provide a general framework and some definitions based on current best thinking on economic development policy and practice across the country and on the contributions that universities are making.

The President of the University of Missouri System has described economic development as the fourth mission alongside research, teaching, and service, and has recently announced a new senior position to oversee and promote economic development across the system. The UMC Chancellor and Provost have both accorded economic development a high priority as they chart out the future direction of the university. At the end of 2004, a Council on Economic Development was created as a cross-campus initiative chaired by the Vice Provost for Research. There was widespread interest from leadership and faculty across the university and there followed considerable debate on the nature and scope of UMC involvement in economic development, but no consensus was reached largely because there was no clear framework in place for such an initiative. Indeed, there were as many different definitions of economic development as there were members of the Council.

At the same time, there has been much evidence of increasing interest in a particular facet of economic development – entrepreneurship – on campus. This was partly sparked by the awarding of two grants to UMC by the Kauffman Foundation to stimulate both entrepreneurship-related research and entrepreneurship education on campus, and partly by a growing national focus on entrepreneurship as an economic development strategy, particularly in rural America. The endowment of Chairs of Entrepreneurship in the College of Agriculture, Food & Natural Resources and in the College of Business, and the launch of a Missouri rural entrepreneurship initiative by University of Missouri Extension and the Truman School are further indicators of this interest.

The Economic Development Pyramid

Economic development is often equated with the process of persuading companies in other counties, states, or countries to locate new or expanding ventures or even relocate their plants in a community. Over time, this activity, known variously as **attraction**, “smokestack chasing,” or “buffalo hunting” has evolved from simple presentations of an area’s business-friendly assets to frenetic bidding wars using tax breaks, financial incentives, and infrastructure investments. These can be expensive, risky, and undermining of local economies, but they have retained favor across the country because when successful they have the potential to yield significant impacts on jobs, economic activity, and tax bases.

After a period where corporations were routinely fueling competition between states to provide the most lucrative incentive packages, or threatening to relocate elsewhere unless governments promised to provide tax breaks of some form, there has been a trend towards insisting on higher standards of reporting and accountability in the provision of incentives to ensure better returns on public investment. One aspect of seeking better returns has been a growing emphasis on recruiting “good jobs” – those which pay family-supporting wages and benefits – and targeting companies that might be a better fit with existing or potential clusters.

Another economic development strategy, usually called **business retention** is the process of looking after businesses already in the community. Data has shown that in aggregate most real job growth comes from such companies. As a strategy it implies that the community and the authorities will do what they can to integrate their companies into the civic infrastructure, provide support when needed, and generally “show they care.” Retention efforts include company visitation programs, brokering of training and technical assistance, providing investment grants and loans, and problem-solving in connection with land acquisition, traffic access or workforce development. When rewarded by new investments and expansions, this is very effective strategy, but as many states such as North Carolina have experienced, business retention strategies cannot compete with the massive restructurings, layoffs, and closings forced by shifts in global trade, technology advances, and changing consumer preferences.

The strategy that has attracted most attention in recent years has been that of **homegrown development**, variously known as economic gardening, or entrepreneurship development. This is the process of encouraging and supporting people to create their own jobs and income. The strategies include training and technical assistance, access to equity and debt capital, incubators, entrepreneur networking, and entrepreneurship education. This is a strategy that will be explored in more detail later in the paper.

It is not uncommon for these strategies to be known as the “three legs of the economic development stool” but this analogy is not particularly helpful as it implies that the three strategies are equal, when in fact, in most parts of the country, recruitment remains the dominant strategy in terms of resources and effort. Moreover, it also suggests that the strategies are largely separate when in reality they are, or should be closely inter-related. A more useful analogy is that of a pyramid, where the most effort and resources are spent at the base, on entrepreneurship, creating an environment of encouragement and support for initiative and creativity; this in turn improves the ability of regions and communities to retain and expand existing businesses; which in turn makes the same regions and communities attractive to incoming businesses and investment. Where the assets of a region or community are the least well-developed, the emphasis of policy should be on building and capitalizing upon human entrepreneurial assets, rather than on seeking to attract firms from elsewhere.

The New Global Context

This framework, useful as it is for understanding the prevailing policy and practice across the United States, has to be set in a broader context. The past decade has seen a major shift in thinking as the impacts of globalization and the application of new technologies have been felt in every community across the country. As the debates have raged about the costs and benefits of

global trade, it has become apparent that the distribution of its consequences and opportunities is not evenly spread, and that approaches to economic development must reflect this new reality. The essence of these new approaches is that:

- Economic regions are now the basic unit of global competitiveness
- Competitiveness is founded on the identification and leverage of a unique combination of regional assets, and
- Innovation and entrepreneurship are the keys to translating these regional assets into global competitiveness.

A 2001 Council on Competitiveness report¹ suggested that thinking on regional competitiveness was undergoing a significant transition. In many regions, the emphasis was still focused on holding down wages, reducing taxes, and recruiting new companies using financial incentives. This emphasis, the Council argued, was self-defeating as cheap labor and natural resources are widely (globally) available, low wages do not yield competitiveness but hold down the standard of living, and financial incentives are easily matched by competing regions and only serve to undermine the tax base needed to invest in education and infrastructure. If the aim is to increase regional prosperity, the focus needs to be, according to the Council, on sustained productivity growth, which is at the very heart of competitiveness. Sustained productivity growth requires an understanding and adoption of five principles:

- Productivity does not depend on *what* industries a region competes in, but on *how* it competes – the challenge is not to pick winners but to upgrade the sophistication and productivity of its industries.
- The most important sources of productivity are *created* not inherited – competitiveness is not the exploitation of location, natural resources, or low cost workers, but in converting these assets into intellectual capital and added value.
- Regional prosperity depends on the productivity of all its industries and assets – even local services and infrastructure can have considerable impact on the performance of exporting industries.
- Productivity is based on continuous innovation – innovation is more than scientific discovery but about the transformation of knowledge into commercial products, processes, and services of all kinds.
- There are no low-tech industries, only low-tech firms – innovation can drive productivity in any industry so a sole focus on high tech companies misses major opportunities to increase regional competitiveness.

An Advisory Committee appointed by the U.S. Secretary of Commerce recently reported its findings on the federal role in economic development. The Committee's review of the evolution of economic development over the past half century and of the forces that are currently shaping national and local economies concluded that "In the 21st century, America's communities will derive economic strength by acting regionally to compete globally. Innovation and entrepreneurship are the new engines for job creation, productivity, growth, economic prosperity, and healthy

¹ Porter, Michael E. et al (2001) *Clusters of Innovation: Regional Foundations of U.S. Competitiveness*. Washington DC: Council on Competitiveness, pages 5-7.

communities.”² The Committee also proposed a succinct and useful definition of economic development: **the process of influencing growth and restructuring of an economy to enhance the economic well-being of a community**³.

The work of Michael Porter has been central to the development and dissemination of this new thinking economic development, particularly the perspectives that⁴:

- While national fiscal and monetary policies are intended to boost the overall level of economic activity, it is innovation at the regional level that infuses the economy with new ideas, products, services, and technologies that enhance competitiveness.
- Strong and competitive clusters of inter-related industries in any given region are the driving force behind regional innovation and rising productivity, the prerequisites for a high and rising standard of living for regional residents.

According to Porter, clusters are “geographically close groups of interconnected companies and associated industries in a particular field, linked by common technologies and skills”⁵ – they are usually “contained within a geographic area where ease of communication, logistics, and personal interaction is possible.”⁶ Although clusters vary considerably in their focus, composition, and intensity, Porter argues that clusters enhance competitiveness in three ways⁷:

- Clusters improve productivity because firms have ready, efficient access to specialized suppliers, skills, information, training, and technical assistance.
- Clusters foster innovation by increasing the ability to recognize new opportunities, encourage knowledge creation and stimulate experimentation.
- Clusters facilitate the commercialization of innovation by easing the creation of start-ups, spin-offs, and new business lines of established firms.

Although both the Council on Competitiveness and Michael Porter have emphasized the point that competitiveness, productivity and innovation are issues for all industries and firms, there has been a strong, understandable tendency for efforts to be primarily focused on science, technology, and engineering. The work of Richard Florida has served to broaden the possibilities for the engagement of other areas of the economy by underscoring the vital importance of creativity to competitiveness. Florida’s⁸ main arguments are:

- The most successful regional economies are those which have a combination of assets that attract creative talent.
- These assets include the presence of other creative people, access to technology and technological advances, and the tolerance of the community to diversity and difference.

² Report of the Strengthening America’s Communities Advisory Committee, July 2005 as submitted to Carlos M. Gutierrez, United States Secretary of Commerce, page 8.

³ Ibid, page 14.

⁴ Porter, Michael E. et al (2001) *Clusters of Innovation: Regional Foundations of U.S. Competitiveness*. Washington DC: Council on Competitiveness, page 1.

⁵ Ibid, page 7

⁶ Ibid, page 53

⁷ Ibid, page 54

⁸ Florida, Richard (2002). *The Rise of the Creative Class*. New York: Basic Books.

- Place matters and those places which offer a quality of life – both urban and outdoors – sought by creative people will become the new centers of economic competitiveness.
- The ascendancy of certain professions and occupations associated with the “new economy” has given rise to a “creative class” that now drives the competitive economy. The core of this class includes the fields of computers and math, architecture and engineering, the social sciences, education, arts, design, entertainment, sports, and media.

A critical strand in all of this work on competitiveness and innovation is the importance of entrepreneurs as the vectors between innovation and commercialization, and between a region's assets and its ability to be competitive.

Entrepreneurs and entrepreneurship having been attracting considerable attention from policymakers, practitioners, and academics over the past decade. Much of scholarship has tended to focus on the individual characteristics of entrepreneurs or on the role that they play in the high technology innovation process, but more recent work has begun to see entrepreneurship in a broader community and economic development context.

For instance, there is a spectrum of entrepreneurial motivations that dictates the role that individual entrepreneurs play in the local and regional economy.⁹

- **“Survival entrepreneurs”** who resort to creating enterprises to supplement their incomes because there are few other options available. Sometimes called “entrepreneurs by necessity” these are often associated with areas undergoing substantial economic dislocation such as plant closings, or with areas that have long-term economic disadvantage like many inner city neighborhoods or remote rural regions.
- **“Lifestyle entrepreneurs”** are people who chose self-employment because they no longer want to work for someone else, or because it provides a better way of balancing work and home demands, or because it enables them to stay in communities to which they have great attachment. The focus is usually on providing a living for the entrepreneur and her or his family. They are often called “Mom and Pop” businesses, can be found in every sector of the economy, and are by far the most common form of small business.
- **“Growth entrepreneurs”** are those who are motivated to grow their businesses so that they can create wealth and jobs in their community. From a policy viewpoint, these tend to be an attractive target, but only a proportion is likely to be founded on a product, process or service innovation, with many perhaps being better categorized as business operators than true entrepreneurs.
- **“Serial entrepreneurs”** are people who enjoy the process of business creation and over their lifetimes will create several businesses, often selling their ventures in the process. These are the high-flyers in any community and a rare breed – they represent the hopes and ambitions of most regions when they embark on entrepreneurship development.

According to Brian Dabson, entrepreneurship development strategies should have two main objectives ¹⁰:

⁹ Dabson, Brian and Jennifer Malkin (2003). *Mapping Rural Entrepreneurship*. Battle Creek, MI: W.K. Kellogg Foundation and Washington DC: Corporation for Enterprise Development, page 7

- To build a pipeline of entrepreneurs with the aim of creating “a large and diverse pool of people across the spectrum of entrepreneurial motivations, out of which there will be a steady stream of high achievers with an interest in creating businesses, jobs, and wealth in their communities.”
- To upgrade existing business service providers into “a seamless system that can deliver effective financial, technical assistance, and real estate services to entrepreneurs at different levels of development.”

The idea of seamless systems was further articulated in a Corporation for Enterprise Development (CFED) report for the Kellogg Foundation¹¹ and in the Kellogg Foundation/CFED *Entrepreneurship Development Systems in Rural America* initiative in 2004¹². Four key principles for effective entrepreneurship were articulated:

- **A focus on the entrepreneur** – systems thinking is essential to align the plethora of training, technical assistance, and financing programs so that they better meet the wide variety of needs of entrepreneurs and their different levels of education, skills, and maturity.
- **A focus on the region** – only through regional cooperation across multiple jurisdictions and through regional institutions can there be sufficient scale, resources, and expertise to enable individual communities to play their full role.
- **A focus on community** – local communities need the tools and resources to identify and build upon their assets, to make choices that appropriately balance economic, social, and environmental imperatives, to learn from the experiences of others, and to be open to experimentation and innovation.
- **Focus on continuous learning** – networks for peer support and learning are essential for entrepreneurs and for practitioners, community leaders, and policymakers.

The Kellogg projects were designed to have an impact on regions and communities generally outside the mainstream of the economy yet particularly vulnerable to the effects of globalization. However, in economic development discussions there is a pervasive assumption that the vanguard of regional competitiveness is to be found primarily within certain growing metropolitan regions. The technology transfer literature often refers to Silicon Valley, Route 128, and North Carolina's Research Triangle, and Richard Florida's leading centers of creativity are city regions such as Austin, San Francisco, Seattle, Boston, and Raleigh-Durham. This focus on high performing regions tends to produce one of two responses from the rest of the country.

The first is to try to replicate these examples, often without a full appreciation of the history or critical success factors. The formation of biotechnology clusters has been a priority for many regions; a 2001 survey of over 100 local and state level economic development agencies showed that 83 percent had targeted biotechnology as one of their top two targets for industrial

¹⁰ Dabson, Brian with Kent Marcoux (2002). *Entrepreneurial Arkansas: Connecting the Dots*. Little Rock, AR: Winthrop Rockefeller Foundation. Page 11

¹¹ Dabson, Brian, Jennifer Malkin et al (2003) op.cit. page 57

¹² Dabson, Brian (2005). *Fostering Entrepreneurship Development Systems in Rural America: First Review of the Results of the Request for Proposals – Report to the W.K. Kellogg Foundation*. CFED and Rural Policy Research Institute.

development. Yet a study by Impresa Consulting¹³ showed that only nine regions could be regarded as centers of biotechnology research and commercial technology, and that other regions would have to invest heavily over the long-term with slim chances of success in terms of jobs and prosperity.

The second response is to conduct a careful regional analysis to inventory critical assets and identify key economic clusters around which to build a competitive strategy. Such an approach permits any region to participate: the following are two examples. The Central Appalachian Network brings organizations from Kentucky, Ohio, Tennessee, Virginia, and West Virginia together to develop regional strategies for economic revitalization across one of the more economically challenged rural regions in the country. Their current focus is on sustainable entrepreneurship, and they have concluded¹⁴ that there are five factors that interact to create a dynamic region economy: asset-based entrepreneurship, entrepreneurial communities, investment in innovation, regional markets, and regional catalysts.

- **Asset-based Entrepreneurship** – the sustainable use of natural capital including organic and niche crops, ecotourism, secondary wood products, non-timber forest products; and the drawing upon traditions, crafts, music, foods, and natural treasures in the area. The emphasis is on helping entrepreneurs focus on niche opportunities, capture regional flavor and distinctiveness, create high quality products and services, and foster regional collaborations.
- **Entrepreneurial Communities** – communities that support, encourage, and celebrate entrepreneurs, that work to ensure the right conditions are in place to attract and foster entrepreneurship including the encouragement of diversity, creativity, and openness, and that provide an infrastructure of services and networks.
- **Investment in Innovation** – investment in collaborative product and process development, create innovation networks among entrepreneurs, universities, and businesses, and encourage angel networks.
- **Regional Markets** – reaching out beyond jurisdictional boundaries to access markets, resources, and expertise, creating clusters for product development, marketing and distribution, and workforce development.
- **Regional Catalysts** – intermediary, anchor organizations that provide the vision, focus, and leadership that mobilize resources and engage multiple players across the region.

The Sierra Business Council is a business organization serving parts of 23 counties in California and Nevada along the 400 mile-long Sierra Nevada mountain chain. It is a unique alliance of business owners, professionals, property owners, ranchers, residents, and government officials dedicated to the social, natural, and financial health of the region. Its focus is on four strategies: capitalize on existing assets, cultivate innovation and economic diversity, creating long-term social capital, and catalyzing community partnerships¹⁵.

¹³ Cortright, Joseph and Heike Mayer (2002). *Signs of Life: The Growth of Biotechnology Centers in the U.S.* Washington DC: The Brookings Institution Center on Urban and Metropolitan Policy

¹⁴ Central Appalachian Network (2005). *Strategies for Sustainable Entrepreneurship*. Central Appalachian Network

¹⁵ Sierra Business Council (2003). *Investing for Prosperity: Building Successful Communities and Economies in the Sierra Nevada*. Sierra Business Council.

- They are **capitalizing on existing assets** through building up and enhancing existing economic sectors – farming, ranching, and forestry; developing livable towns and neighborhoods; investing in restoring and enhancing natural systems; and increasing resource productivity through energy conservation.
- They are **cultivating innovation and economic diversity** through creating a climate that nurtures entrepreneurs; building economic resilience through encouraging diversity; plugging the leaks in the local economy and keeping the dollars circulating; and encouraging the growth of information networks.
- They are **creating long-term social capital** through providing health care, childcare, and elder care; anticipating and addressing housing needs of employees and residents; investing in educational excellence and lifelong learning; and investing in the cultural life of the community.
- They are **catalyzing community partnerships** through cooperating within and across regions to address common challenges and opportunities; and creating a culture of collaborative problem-solving.

The Role of the University

The university role in economic development has for many years been reasonably well-defined, if not universally implemented:

- Participating in recruitment efforts, marketing the assets of the university to relocating companies in terms of research and development activities, technology transfer, teaching and training programs, educated workforce, and facilities.
- Providing both general and specific advice, training, and technical assistance to local companies of all sizes through small business development centers, technology transfer centers, and extension services.
- Facilitating entrepreneurship among faculty and students through research parks, incubators, on-campus start-up and spin-off enterprises, and entrepreneurship education, and also in the community through advice, training, and technical assistance to entrepreneurs through small business development centers and extension services.
- Providing analyses and benchmarking studies of local and state economies that support these economic development strategies as well as conducting monitoring and evaluation studies to determine their cost-effectiveness.

Much attention has been paid to the potential of converting research efforts within universities into commercial applications. The track records of the likes of Stanford University, the Massachusetts Institute of Technology, Georgia Institute of Technology, and Carnegie Mellon University in the filing of patents and the launching of new technology firms has encouraged others to try to emulate their success. The Bayh-Dole Act in 1980, which permitted universities to retain title to federally-funded research, and other legislation have provided important additional incentives to this process.

But they also highlighted some important tensions over issues such as whether economic development is consistent with a university's primary academic mission, and the different values and cultures of academia and industry that raise questions about unrestricted publication and commercial confidentiality, and incentives and accountability. Research by

Innovation Associates¹⁶ of exemplary practice in this area has provided some useful lessons, including the most important one – there are no quick fixes. The successful universities have been in the businesses for decades and short-term results are often difficult to show and quantify. Other lessons include:

- A strong and focused university research base provides the pipeline for commercialization of the research results. An understanding of core competencies and building strategies around them may lead to recruiting ‘stars’ in targeted fields, attracting federal and corporate funds, and promoting state initiatives.
- Federal research and development funds are usually critical, particularly from the US Department of Defense, the National Institutes of Health, and the National Science Foundation.
- Successful university-based economic development requires strong champions and leadership both on and off campus.
- An entrepreneurial culture is the prerequisite for technology transfer success with incentives and programs that directly engage faculty and students, and the facilitation of networking among entrepreneurs, service providers, potential investors, and potential clients.
- Early stage capital is essential for launching start-up ventures, and where this does not exist, seed capital funds and angel networks have to be created.
- Infrastructure such as innovation centers, incubators, and research parks can be important stimulants and raise the profile of university efforts.
- Private corporations and foundations can play critical roles in providing funding, connections, and generally generating interest in innovation and commercialization.

In 2001, the Council on Competitiveness’ *Clusters of Innovation Initiative* came to four important conclusions on how universities and research institutes could support a regional competitiveness and innovation approach to economic development. In summary, they were¹⁷:

- Universities should assume leadership of, or actively participate in, regional and cluster development efforts.
- Universities should work with firms and venture capital companies to streamline the process of technology transfer, and benchmark the commercialization of university-created intellectual property.
- Universities should align curricula and research to meet the needs of regional clusters, including encouraging academy-industry collaborations, establishing areas of excellence that differentiate the university and complement industry strengths.
- Universities should support company start-up efforts by professors and students through mentorship, entrepreneurial education, and financing.

Four years later, the Council of Competitiveness reported on its National Innovation Initiative which made a series of recommendations in three broad categories of Talent, Investment, and

¹⁶ Palmintera, Diane (2005). *Accelerating Economic Development Through University Technology Transfer in Economic Development America* Winter 2005, pages 18-21.

¹⁷ Porter, Michael E. op.cit, pages 81-82

Infrastructure¹⁸. A number of these recommendations have importance for universities. The Talent agenda focuses on building the base of scientists and engineers, catalyzing the next generation of innovators, and empowering workers to succeed in the global economy. Some of the recommendations relate to financial incentives to students to take science and engineering subjects, others to the encouraging of multi-disciplinary curricula that link science and engineering to strategic planning and business management. But the main charge to the academy was in catalyzing the next generation of innovators and specifically¹⁹:

- Promoting an innovation-oriented culture while maintaining a commitment to creating new knowledge at the frontiers of research. This would include seeding traditional technical studies with exposure to methods for creative thinking and translating ideas into commercial applications, and adjusting tenure and promotion policies to give weight to teaching creativity, inventiveness, and innovation.
- Developing curricula specifically designed to teach innovation skills and support changes in innovation and experiential learning.
- Establishing regional innovation partnerships across academia, business, and government.
- Funding internships for innovation-oriented students interested in experiencing local start-up and small business environments.
- Developing curricula for teaching innovation management skills to middle and senior managers from small businesses.
- Conducting research into the processes involved in teaching creativity, inventiveness, and commercialization in technical environments.

Another set of recommendations that are particularly relevant for the university role in economic development relate to the fostering of regional innovation “hot spots” through federal government investments. The challenge to individual universities is to help position its region as a hot spot through²⁰:

- Building on cutting-edge, multi-disciplinary research
- Providing the training ground for the next generation of innovators
- Creating a crossroads or meeting ground for researchers and businesses
- Linking innovators with early-stage funding, both public and private, and with experienced innovation mentors
- Fostering networking among innovators to facilitate transfer and commercialization of new ideas
- Developing links to regional economic development initiatives
- Raising the visibility of innovation in the region with policymakers and the public.

Richard Florida’s notions of a creative class, referred to earlier (pages 4 &5), have been the target of much criticism, but he has done much to bring new voices to the economic development table and to give further recognition to the added value that universities bring to encouraging

¹⁸ Council on Competitiveness (2005). *Innovate America: National Innovation Initiative Summit and Report*. Washington DC: Council on Competitiveness.

¹⁹ Ibid, page 53

²⁰ Ibid, pages 59-60

creativity. Universities do represent clusters of talent, technology, and tolerance that make them creative hotspots, and with the appropriate leadership and infrastructure can leverage these clusters into regional innovation and competitiveness. The exciting prospect for universities is that any department can be part of the quest for regional competitiveness.

Implications for the University of Missouri-Columbia

UMC is already active in economic development in a number of ways but a coherent and effective strategy based on the above assessment of current best thinking will require UMC to:

- Focus its economic development efforts on **regional competitiveness, innovation, and entrepreneurship**.
- Recognize the **region** as the basic unit of competitiveness, while appreciating that the definition of the region will vary according to context -- mid-Missouri, the state as a whole, and the wider Heartland/Great Plains region.
- **Network and collaborate** on the design and implementation of the regional competitiveness agenda with a wide variety of public, private and nonprofit sector institutions and organizations, and assume leadership where strategically and politically appropriate.
- Understand the **economic clusters** that drive the regional economies and match **UMC core competencies and competitive advantages** to supporting these clusters.
- Invest in expanding and deepening the **research base** in relation to these competencies and clusters and build an effective infrastructure to maximize the **commercialization** of research results.
- Expand **funding streams** from federal research and development programs and from private corporations and foundations for research, commercialization, and early-stage venture capital.
- Instill a broad-based **entrepreneurial culture** within UMC among faculty, staff, and students through facilitation of cross-disciplinary collaborations, introduction of creative thinking and entrepreneurship into curricula, incentives, internships, public recognition, and adjustments to tenure and promotion policies.
- Encourage the formation of **start-up ventures** on- and off-campus through academic-industry collaborations, seed capital funds, mentorships, and facilities.
- Provide technical assistance, training, and other support to **regional companies and organizations** through either specific partnerships or the services of UMC small business development centers and extension offices, and take the initiative for creating **seamless systems** of entrepreneurship and business development support across the state.
- Strengthen **capacity** in Missouri communities, institutions, and organizations to be full participants in building regional competitiveness, through information, leadership development, strategic planning, and resources for implementation.