



Maura Donovan and Brian Herman of the University of Minnesota

University of Minnesota must be a key player in the effort to improve state competitiveness

A Civic Caucus Focus on Competitiveness Interview

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Present

John Adams, Dave Broden (vice chair), Janis Clay, Pat Davies, Maura Donovan, Paul Gilje (coordinator), Brian Herman, Randy Johnson, Sallie Kemper, Dan Loritz (chair), Paul Ostrow, Dana Schroeder, Clarence Shallbetter. By phone: Amir Gharbi.

Summary

Having a strong research university is a key component of bringing talent to a region, according to Brian Herman of the University of Minnesota (U of M). He says the University is "open for business" and believes the U of M should work in a proactive way with both nonprofit and business partners in the area of economic development.

The University's Maura Donovan says the private sector wants some return on its investments in partnerships with the U of M. She says that, in addition to partnering with business, the University is very interested in partnering with government agencies and economic development organizations around the state and the region. Herman adds that the University is trying to find some commonality of vision, approach and thought on economic development among different groups working in that field.

Herman notes that the U of M is working with its industry partners to understand the kind of workforce they need in the future and to incorporate that into how it teaches its students. Donovan points out that the University, often considered to be focused on Minnesota, is also global in its abilities and partnerships. She describes an increasing focus at the U of M on translational research, which spans different disciplines and helps make basic science useful for improving human health and wellbeing.

Issues to discuss

Prior to the discussion with Maura Donovan and Brian Herman, they were asked to be ready to discuss the following issues: the University of Minnesota's (U of M) role in the economic competitiveness of Minnesota and the Twin Cities metropolitan area; the role of postsecondary education in the competitiveness of their regions, given the close relationship of the Minnesota State Colleges and Universities (MnSCU) institutions with their regions; what the core things are that the U of M should do to make the economy stronger, given the changing nature of the state's economy and population; the contribution of the U of M to the state's economy now and in the past; dealing with the knowledge gap at the U of M about how urban regional economies work; how the U of M is aligning itself with industry to be anticipatory, rather than reactive; how the U of M can be more approachable by citizens; whether there is a leadership role for the U of M on these issues; any examples from around the country of universities with ideal methods of fostering the economic competitiveness of their regions; any innovative companies in the state looking for partnerships with the U of M.

Biographies

Maura Donovan is executive director of the University of Minnesota's Office of University Economic Development. She is responsible for strategic direction and leadership of university-wide economic development activities, including promoting public/private partnerships and external engagement and working with statewide and regional economic development partners.

Donovan spent more than 20 years at Medtronic and has extensive leadership experience in the medical device and biotechnology industries. Most recently, Donovan served as chief technology officer for the Decade of Discovery, a joint initiative of the U of M and the Mayo Clinic. She was responsible for implementing a public/private partnership to advance diabetes and obesity research at the two institutions. She also served as interim executive director of the Medical Device Innovation Consortium, was a past member of the LifeScience Alley board of directors and is currently a trustee of Macalester College.

Donovan was a postdoctoral fellow in biochemistry at the University of Minnesota, holds a Ph.D. in pharmacology from the University of Washington and a B.A. in chemistry and Russian from Macalester College.

Brian Herman was appointed vice president for research at the University of Minnesota on Jan. 1, 2013. He has primary responsibility for the overall vitality of the university-wide research environment, including supporting evolution of new research, maintaining a competitive infrastructure, developing and managing campus-wide research policies, and overseeing administrative management of all sponsored research activity.

Prior to coming to the U of M, Herman served as vice president for research at the University of Texas Health Science Center at San Antonio and earlier as professor and chair of the Department of Cellular and Structural Biology at that center. Prior to those positions, he was a faculty member at the University of North Carolina at Chapel Hill School of Medicine.

Herman received his undergraduate degree in biology from Adelphi University in Garden City, New Jersey. He received his doctorate from the University of Connecticut Health Science Center and undertook postgraduate training at Harvard Medical School.

Discussion

Having a strong research university is a key component of bringing talent to a region. Brian Herman said he has experience working at research universities in Texas and North Carolina, including work on economic development issues before coming to the University of Minnesota (U of M). "I clearly saw in Texas and in the Research Triangle how having a strong research university is a key component of bringing talent to a region," he said. Austin, Tex., and Chapel Hill, N.C., he said, are both culturally rich and diverse and have good school systems, things that attract highly talented people.

"I spent a lot of time traveling the world on behalf of the state of Texas and the cities of Austin and San Antonio," Herman said, "convincing people that coming to Texas is a good thing and that there is a lot of opportunity in Texas to build a business and the economy." He also worked on regional development strategies that partner the major cities in Texas with the University of Texas.

Herman said he worked on issues in the nonprofit world, as well. "We had university expertise that we could bring to problems like public health, preschool or K-12 education, the achievement gap, workforce issues and social policies in the community, which created greater partnerships in the community," he said. "It led to more progress on some very challenging issues that many communities face."

The U of M should work in a proactive way with its community, both nonprofit and business and industry partners, in economic development. "I come to the U of M with a bias that economic development is important, that partnerships between the University and the community are important, and that the U of M, like most universities, has had a very up and down history in this area," Herman said. "It's time for the University to open the doors to its capabilities and to work in a proactive way with its community, both nonprofit and business and industry partners, in economic development."

Another area rapidly evolving at the U of M is trying to create approaches, policies and strategies to allow ideas from the University with commercial value to get into the commercial world in quicker and more transparent ways, so the ideas can benefit society. "I interpret the University's mission and vision statement as saying the role of the University is to use its intellectual and physical infrastructure for societal good," Herman said. "The University is very interested in being more engaged in its community, both in the nonprofit world in social issues and education and in the commercial world in terms of business formation, job creation and workforce training. We're trying to make sure the University and the state of Minnesota continue to be a very vibrant place, where people have a very high quality of life, great educational opportunities, but also that business sees the advantage of being here, rather than in Texas or North Carolina."

"The University is open for business," he said.

The private sector wants some return on its investments in partnerships with the University.

Maura Donovan said she comes from the private sector, with 20 years in the medical device industry. In those years, she said, she worked on developing partnerships with universities: selecting the partner and working to get partnerships structured and moving. The question was often how to get some return on these partnership investments. "Now I'm on the other side of the table," she said.

"There is not only a need on both sides for partnership, but there's also good intent," Donovan said. But many times there is the challenge of lack of understanding. "My interest is to bring that knowledge of the private sector closer into the University, with the hope of being a bit of a translator going both directions," she said.

The University is very interested in partnering with government agencies and economic development organizations around the state and the region. "It's that broader landscape we're trying to weave together," Donovan said.

She said the Minnesota Department of Employment and Economic Development (DEED) is embarking on a regional economic competitiveness project that will identify opportunities to sharpen its strategies and support to help drive regional economic growth. The project will build upon the many impressive planning efforts, partnerships, and initiatives underway in each region in the state. With support from the McKnight Foundation, the Brookings Institution is serving as an advisor and expert resource to DEED, providing the state with market research, objective comparative analysis and national best practices to inform planning and program alignment.

The U of M is participating in this effort. "There's a lot of good activity already starting and underway across the state," she said. "It's a really fabulous time for the University to step up and be more visible, more engaged and really offer to be a true partner in these efforts." Partnering is the theme, she said: partnering across the University, partnering with business and partnering with the broader economic development community.

The University is trying to see if there's some commonality of vision, approach and thought on economic development among different groups working in that area. An interviewer mentioned that he, Donovan and Herman had been at a meeting at the University discussing the possibility of creating one or more faculty positions in the field of regional economics. The interviewer asked if Donovan and Herman operate from any theory of regional economic development from which they establish priorities.

Herman responded that the U of M has a presence in every county in the state through its campuses and Extension. He said the University doesn't favor one region over another. There is a lot of activity in the metro area, but also a large amount of activity in the outstate regions, as well: in food and agriculture, in farming and dairy, in energy and biotech. "We're trying to meet with them to see how the University can be helpful to them," he said.

Donovan said there are several pieces: what the University is doing now that needs a broader or a different audience; looking at what's happening around the region to see what the needs are; and making sure there's an understanding within the University of some of those needs, so it can start to respond and adapt. "You can do it regionally or by industry sectors," she said. "We need to have

some consistency in how we're approaching this, as we look at the assets of the state and the assets we want to cultivate and build for the future."

The University is working with its industry partners to understand the kind of workforce they need in the future and to incorporate that into how it teaches its students. An interviewer commented that business sectors, compared to 50 years ago, today, and in the future, are constantly changing. He asked how the U of M is addressing that shift. Herman replied that the U of M's approach is to try to understand where the world is going. "We have multiple conversations with multiple stakeholders about their ideas and their thoughts about what the future holds," he said.

The University talks with big companies, small companies and midsized companies; with the political establishment; with nonprofits; and with other academic institutions, he said. "We've been working very hard to get feedback from our industry partners to see what kind of workforce they need in the future," he said. The feedback, he reported, is that instead of people with a very deep knowledge base in a single area, industry wants people who have deep expertise in an area, but also have broader knowledge across sectors. "We're taking that feedback and trying to incorporate that into how we teach our students," he said.

The University, Herman said, also has looked at the major economic bases in the state: energy and water, health care, and food and agriculture. "We have purposely aligned the University's hiring of faculty and staff with what the major economic areas are for the state," he said. "We're bringing those industries together on how to solve a particular problem."

MnDRIVE (Minnesota Discovery Research and Innovation Economy) is funded by the Legislature to support aligning the expertise of the U of M with the needs of the economic drivers of the state of Minnesota. "MnDRIVE has been investing in neuromodulation, deep-brain stimulation and treating mental illnesses, addictions and Parkinson's disease," Herman said. "We've been investing in food and agriculture, in partnership with companies like General Mills and Cargill, because we have 200 food companies headquartered here, with probably 20 percent of the world's food economy centered in Minnesota." He said the University wants to hear what companies' needs are over the next five to 10 years and how it can address them.

Herman said the University has also been investing in using biological approaches to clean the water that comes out of mines, because mining is a big industry in northern Minnesota. "We have approaches to ameliorate the environmental impacts of mining to allow the industry to move forward," he said. The U of M is also investing in nanotechnology in robotics, in sensors, in advanced manufacturing, in cars and in drug delivery. "The University looks for those areas and opportunities where we can see what's going forward, see where the University has current strengths, but also see how we can shape the future of the University that's more aligned with where our economic engines are going," he said.

The University is global, as well as local, in its abilities and its partnerships. Donovan said because of her experience, she is conscious of the needs of the medical device sector, which has gone through a lot of change in the past few years. "Increasingly," she said, "what makes this area still so vital for the industry is focused on infrastructure: the airport and transit and the ability for these companies to be global in their operations, but still be based in the Twin Cities. It's not just the technology; it's the broad package that's so necessary for keeping companies competitive in this

global environment. The University has a lot to offer in that space. One of the challenges is that the University is often considered only focused on Minnesota. But it's global, too, in its abilities and its partnerships."

The University is trying to be connected with entities promoting businesses and regional economic development. Donovan is working closely with Greater MSP and DEED and Herman serves on the Minneapolis and St. Paul Chambers of Commerce, LifeScience Alley and Greater MSP.

Herman said the University has worked with the Itasca Project to develop Minnovator, which brings together the U of M, St. Thomas University, the Minnesota State Colleges and Universities (MnSCU) system, Augsburg College, DEED, LifeScience Alley, the Minnesota High Tech Association and four industry members, who agree to create more opportunities for students to get hands-on business experience through internships and externships and entrepreneurial, experiential activities.

Faculty members need support to work in partnership with the business community. An interviewer asked how the University could create incentives for its faculty and deans to pay more attention to the outside community. "Money helps," Herman responded. "People want to do important things, but they need support," he said. MnDRIVE makes an \$18 million-a-year investment in industry /academic partnerships and there must be a University/industry interaction in order to get that money. He said he and U of M President Eric Kaler spend a lot of time talking about the importance of these kinds of partnerships going forward. And he said the U of M faculty is driving a discussion about making collaboration with the community part of the evaluation for tenure. Herman said there is a shared vision that the University should attack important problems that make a difference to our community and to our society.

Donovan said U of M undergraduates, graduate students and post-doctoral fellows want more connections that lead to job opportunities. "When you have requests from the people you're teaching to have those connections, faculty respond," she said.

The University has special programs in place to try to increase the number of students of color at the University, now at 20 percent. An interviewer asked if there is a unique role for the U of M in addressing issues such as the achievement gap, income inequality and economic development in the core city. Herman replied that the University has a tremendous interest in helping address the achievement gap, because otherwise our community will continue to have a maldistribution of wealth. "The University is not doing a good job of recruiting and educating African American males," he said.

Donovan said the achievement gap is a good reason for the University to partner with MnSCU, since each system has different assets to bring to the problem.

The University has an increasing focus on translational research, which cuts across multiple departments and disciplines. An interviewer commented that the U of M is the primary research institution in the state and that its research program is driven by the availability of funding and by the perceived priorities within the individual departments at the University. Donovan replied that there is an increasing focus on translational research, which spans different disciplines and is extremely difficult. Translational research is scientific research that helps to make findings from basic science useful for improving human health and wellbeing.

"There's a strong forward momentum for people to think about their research in ways that will have a direct connection to a consumer or to a societal application," she said. "Increasingly, there's a definite understanding that we need outcomes of research in a variety of ways, not just in basic science. Faculty engaged in this sort of translational research want help in networking across and outside of the University. This will be a good motivator for partnerships and collaborations."

The Food Roundtable is an example of the University meeting its Land Grant mission by working with different groups on a common set of issues to create a better strategy to address key critical issues. An interviewer asked how the University's Land Grant status affects its research priorities. Herman responded that the University has a lot of activities outside the metro area that deal with agriculture, food groups and commodity groups. An example is the Food Roundtable created by the University.

"We've brought together a large number of these different groups," he said, "and asked, 'Is there some common issue that the University could help you with that would help all of you, irrespective of your competitiveness as businesses?'" Out of those discussions, he said, many people have developed an interest in food safety and food security. "The businesses understand that if they can't be sure that food is not being contaminated when it's being shipped around world, all of them will be hurt," he said.

The University is doing quite a bit of applied research. In response to a question about applied research, Herman said most of what the University commercializes and moves on to new companies is applied research. There is a new process called Discovery Capital through which the University can use its own funding to create early-stage investments in the ideas of students or faculty, Herman said. It can then partner with the business community and with the private equity community to create leveraged investments. He noted that it's never been done in the country before. Herman said the University has started 50-odd companies in the last few years and 80 percent of them are still in business two years after they started.

There are people at the University trying to partner with nonprofit and state agencies on community development issues. An interviewer asked whether the U of M reaches out in the same way to the public and nonprofit community with its research on the social issues these organizations are trying to address. Donovan said the University does reach out on those issues, but she deals primarily with economic development concerns.

University President Eric Kaler is a change agent who believes the U of M can do more to relate with the local, national and global community than it has in the past. An interviewer asked about the University's leadership role and independence in dealing with important competitiveness issues, such as local government subsidies to businesses, copper nickel mining, water or the achievement gap. "We want leadership," he said, not just a reactive response from the University. Herman responded that Kaler is leading community efforts "and is pounding the pavement trying to convince legislators that pro-business investment in partnership with the University is the critical path to success of our community."

"The University has taken the view that we want to be helpful and to do things that have practical impact for our state, our nation and the global community," Herman continued. "We want to make sure we are engaged in the right conversations and bring to the table the right assets." He said in the

year-and-a-half he has been at the U of M, the conversation on partnerships has changed 180 degrees.

"There's real opportunity here," Herman said. "The University is tremendously successful already. It has a very diverse and very accomplished group of faculty, staff and students, who have created the excellence that's there. The opportunity lies in bringing those many, many individual areas of expertise together to forge better solutions and better approaches to some of the issues impacting us locally and globally."

Donovan added, "Because of its unique role in the state, the University must think about its involvement very carefully. We want to be a voice in the room, but we want to figure out where we should partner and provide leadership."