State of Michigan
Student recruitment program
2009 NASCIO Awards Recognition
Digital Government: Cross boundary collaboration nomination

A. Cover Page

Title of Nomination: Government, business and academia collaboration to increase supply of graduating technology professionals, and promote economic growth.
Category: Digital Government. Cross boundary collaboration
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B. Executive Summary

Michigan's economic stress is characterized by the highest unemployment rate in the nation, due in large part to the migration of manufacturing jobs out of the state. One of Michigan's strategies to reverse this job loss is to attract technology firms to Michigan. Our ability to fill this vacuum is hampered because of the exodus of college graduates into neighboring states looking for jobs. Michigan's problem is twofold:

- The void created by manufacturing job loss needs to be filled with high-tech jobs.
- Michigan college graduates have the perception Michigan doesn't have high-tech job opportunities worth sticking around for – creating a supply side shortage of technology professionals, and, a disincentive for tech firms to locate to Michigan.

To address these problems, Michigan has implemented long-term strategies targeted at attracting and retaining new high tech business, re-training workers, and, doubling the number of college graduates within ten years. While these goals are laudable, Michigan citizens are looking for immediate relief. To supplement these long-term strategies, the Michigan Department of Information Technology (MDIT) has partnered with local businesses and higher education to develop a collaborative shared solution targeted on job creation or job training and graduate retention programs. In the first 18 months this collaboration has been in place, significant benefits have been realized, including, job creation, business expansion, and projected new tax revenue of $15 million over the next four years. This economic shared solution can serve as a model for other communities, and provide a transferable model that can be replicated across other states experiencing similar economic hardship.

Michigan's first task was to gather "like-minded" public and private entities into a decision-making body to address expanding technology job opportunities, and ensuring that employers have a strong talent pool. This began with the creation of the Capital Area IT Council in 2007, consisting of over 70 public and private employers in the mid-Michigan area. The first order of business was to address the immediate shortage of IT graduates coming out of the areas major "feeder schools" – Michigan State University (MSU) and Lansing Community College (LCC). The council developed wage based IT internships and recruited at both LCC and MSU. The strategy was to make students aware of the immediate employment opportunities in mid-Michigan, and, begin the process of encouraging undergraduate students to think about careers in IT to correct the supply – demand differential. These problems include:

- Inability to fill over 300 vacant IT jobs in mid-Michigan.
- Projected attrition rate of 40% within MDIT by 2012.
- Low enrollment in technology programs at area colleges.

In the first 18 months of this collaborative effort, the following has been achieved:

- Internship program with over 40 firms placing 100 students into internship jobs.
- 2009 student enrollment in local college IT programs up 12% in the last year.
- Establishment of the IBM application development center on the campus of Michigan State University, who will provide new college graduates to the center, generating as much as $15 million in new tax revenue in the next four years.

C. Description

Problem statement

In April 2009, Michigan's unemployment rate grew to 12.9%. Michigan has lost hundreds of thousands of jobs in the past 5 years, and the companion tax revenue associated with these jobs. General fund spending was reduced $413 million between FY 2008 and FY 2009 as a consequence of this revenue loss.

Michigan's recovery relies on our ability to replace manufacturing jobs with good paying technology jobs. The skills needed for the 21st century economy rely on additional education. Unfortunately, Michigan has only 37% of our population aged 18 – 24 enrolled in post secondary education, below the national average of 48%. In 2008, data from graduating college seniors who self reported job placement indicated only 51% of Michigan graduates remained in the state to take a job. Michigan's educational investment is lost on those leaving the state; we need a higher return on our education investment by keeping college graduates in-state. High tech firms won't locate or expand in Michigan if they perceive we do not have a workforce with the necessary skills. Michigan recognizes this paradox, and has put in place several programs since 2006 to address this problem, including:

- The No Worker Left Behind program (http://www.michigan.gov/nwlb) provides two years worth of free tuition to upgrade skills and credentials for new careers.
- The Michigan Advantage combines several programs aimed at location assistance, economic incentives, and personalized assistance for establishing or growing your business in Michigan. (http://www.michiganadvantage.org/)
- New math and science curriculum standards were put in place in 2006 as a requirement for high school graduation.

The programs noted above are long-term strategies that will show results once Michigan's economic down-turn, exasperated by the 2008 recession begins a parallel climb with the national recovery. The mid-Michigan community could not wait for benefits of this strategy to materialize, given these immediate issues:

- Inability to fill over 300 vacant IT jobs in mid-Michigan
- Projected attrition rate of 40% within MDIT by 2012.
- Low enrollment in technology programs at area colleges
- Higher costs associated with out-of-state recruitment, and contract resources.

In order to quicker address and coordinate these localized issues, a group of concerned business, government and academic leaders created the Capital Area IT Council in 2007. Our first order of business was to develop a plan to fill the on-going job vacancy problem in mid-Michigan. This problem included over 300 vacant IT positions in the private sector, and replacement of 700 projected retiring state IT workers by 2012. Our threefold strategy included:

- Create internship programs to demonstrate to local college students our desire to provide on-the-job-training preliminary to a job offer.
- Convince technology firms that mid-Michigan could supply new IT graduates to accommodate anticipated growth.
- Move MSU and LCC IT graduates in regional IT jobs, not out-state IT jobs.

Solution – The IT council determined the most immediate approach was to establish internship programs with both LCC and MSU. The programs would allow students enrolled in IT classes to work up to 20 hours a week at a member organization. This would supplement classroom study with on-the-job training, and hopefully result in a job offer upon graduation. MDIT was selected to pilot an internship program with Lansing Community College to place enrolled students within work areas of the department. The first placements began with the fall class of 2007. Elements of this solution included:

- Identified mentors to assist in work supervision for each student.
- Created positions within the Civil Service job structure to place students which included a matriculation path into full-time employment upon graduation.
- Helped secure a federal grant of $150,000 to hire a full-time internship coordinator at LCC to act as a liaison with MDIT management and students.
- Created a resume bank within LCC that allowed MDIT hiring managers to search for students with specific skills, or curriculum and career paths.
- Created review process for management and student to evaluate progress, and to assist the student in selecting course work that would be relevant to their job role.

This program has been active for 18 months, with 30 students currently assigned to a mentor within MDIT. Permanent jobs have been accepted by 12 students within the last year, and, only 8 students have dropped out of the program. Subsequent to the pilot, the program was replicated with other IT council members, and 70+ students are currently employed as interns in the mid-Michigan area.

In May 2008, Michigan State University asked about an extension of the internship program to address a unique need. The college wanted to create a project management class that combined classroom study with real world assignments, and engage more students in project management as a career path. Together, MDIT and MSU created a classroom approach that had teams of students assigned to an executive within MDIT. For the first time, graduate level students at MSU, enrolled in a 400-level project management class, are receiving part of their instruction by working directly with MDIT staff. Students received MDIT-led instruction on project management concepts, attend project management meetings, and have specific assignments from MDIT leadership. These assignments include evaluating and critiquing our project management process, and sharing ideas on using web 2.0 technologies as an innovative communication tool to keep stakeholders informed on project progress.

This innovative collaboration between business, government and academia lays the foundation for an academic partnership that will directly encourage more students to enroll in technology classes by providing meaningful jobs upon graduation. This same model will demonstrate to prospective technology firms that mid-Michigan can supply the necessary talent for business expansion in the region. This project provides return-on-investment for Michigan taxpayers as college graduates decide to stay in Michigan and assume technology jobs that may have otherwise been outsourced to non-Michigan firms. This solution can be replicated in other states and communities, battling similar economic hardship.

D: SIGNIIFICANCE

This collaboration for economic recovery brings together over 70 unique entities, all with shared business problems and a shared interest in a developing a collaborative solution that addresses broad policy goals, including:
-   Increasing the supply of skilled workers in Michigan's workforce:
-   Increasing the supply of jobs for these skilled workers to step into:
-   Better aligning higher education with workforce needs:
-   Facilitating economic expansion:

All partners in this effort have publicly stated the intent to address these needs as part of a strategic plan, or, mission statement. Examples include:
-   *The state of Michigan's interest in increasing 21st century job opportunities is articulated in Governor Granholm's last three States of the State speeches, and in the Cabinet Action Plan which lays out policy direction for the administration.*
-   *The Lt. Governor's Commission on Higher Education & Economic Growth published a plan to double the number of Michigan residents with a college degree within ten years. This same plan called for better alignment of post-secondary education to meet Michigan's economic needs.*
-   *The Michigan Department of Information Technology's human capital management strategy includes recruitment programs aimed at hiring new college graduates, and developing a career path for them within the department.*
-   *The Capital Area IT Council's shared goal of attracting more technology professionals to the mid-Michigan area is a core mission of the council.*
-   *MSU's Department of Computer Science has established the "Corporate Partners" program with the objective to "dispel misconceptions about outsourcing and a lack of jobs in the area".*

The significance of this collaborative project cannot be overstated. In the past 18 months, the following benefits have been realized by partner agencies:
1. The Capital Area IT Council has grown to over 80 public / private firms, and provides a regular forum to bring forth common business problems and develop a coordinated solution. The council includes seven local colleges and universities. This relationship has created multiple career fairs that allow mid-Michigan's IT employers to interview with local college and universities, thus dispelling the notion that no IT jobs exist in Michigan.
2. Since September 2007, over 50 interns have been placed within MDIT from local colleges. Likewise, over 70 interns have been placed from local colleges into private IT companies. The goal is to offer each of these candidates a full-time job upon their graduation.
3. The Capital Area IT Council participates on academic planning boards with local colleges to give specific counsel on curriculum for college students. This has resulted in curriculum changes that place a greater emphasis on server-based programming skills rather than mainframe-based skills. Likewise, additional project management courses are now being taught.
4. IBM Corporation selected the East Lansing campus of MSU as the site for their first-ever, North American application development center. This decision was

based on incentives from the state of Michigan and the commitment from MSU to supply entry-level graduates to staff the center.

5. Enrollment in IT curriculum between 2006 and 2008 at area schools is up; Lansing Community College has seen a 12% growth in students taking IT classes.

This "marriage" of government, business, and academia to create IT jobs and develop a sustainable "feeder" system for IT job openings has captured the interest of other jurisdictions and was featured at the "Meet Michigan" legislative forum in May 2008. This approach was outlined to IBM executives in the fall of 2008, as mid-Michigan was chosen as the site for IBM's new application development center. This cross boundary collaboration serves as a regional success story that is being "evangelized" by Michigan's Regional Skills Alliance (RSA). The RSA gave $100,000 in "seed" money to the Capital Area IT Council to begin our efforts to grow the supply of IT skills in mid-Michigan. This program is easily replicated in other communities to address shortages in IT as well as other skilled occupations, including engineering and nursing.

E. Benefit of the project

This cross boundary project is aimed at increasing IT enrollment and developing local "feeder" schools into mid-Michigan's growing IT corridor. The project has given much back to the mid-Michigan community; jobs for our sons & daughters, the hope of jobs for the future, and, modest economic recovery with the announcement by IBM to build a development center at MSU. The initial investment in this effort relied on no state general fund dollars. Two federal grant sources were used to get the project off the ground: Workforce Investment Act funds of $100,000 helped create the administration of the Capital Area IT Council. The National Science Foundation provided a $150,000 grant to get the student internship program started with Lansing Community College. This initial $250,000 investment, secured in 2007, has resulted in the following outcomes for participating organizations:

- Businesses and state government are able to "test-drive" and groom future IT employees (and leaders) within the framework of the internship program.
- Business and state government are able to reduce labor costs by saving recruitment dollars and filling critical vacancies with out-of-state contractors.
- Business and state government have a predictable strategy for attrition planning.
- IT programs at local colleges and universities are able to increase their job placement statistics (and subsequent enrollment) by filling the unmet need for IT workers in mid-Michigan.
- Local and state government can better recruit new or expanding business to the area by showing metrics of the programs' early successes.
- State and local government can use this as a model when applying for American Recovery and Reinvestment Act (ARRA) funds designated for training in high growth / emerging industries, and economic development.
- IT Curriculum at local college and universities can actually reflect the business needs of the "real world" and dynamically change as needs change.

This innovative program is instructional for other states facing a labor shortage in IT, or, trying to develop a strategy for attracting technology firms. The key element is forging a relationship between government, business and academia to increase the supply of IT graduates to fill these jobs. Federal grant dollars are available for the initial investment. The State of Michigan estimates the following return on the $250,000 grant investment.

New Job creation – The Michigan Economic Development Corporation (MEDC) estimates the new IBM development center, located on MSU's campus, may create as many as 1,000 jobs in mid-Michigan by 2012. This will generate $200 million in personal income over the span of four years, while adding $15 million in state and local tax revenue over this same time period.

Return on educational investment – The annual investment for a student enrolled at Michigan State University is $31,000[1] or an estimated $124,000 to complete a four-year degree. In 2007, MSU graduated 79 students with a Bachelor's degree in IT. If 49% of these students (38) leave the state (as self-reported), Michigan has lost $4.7 million invested in the 38 graduates over four years. For every graduate taking a job with the IBM application development center or accepting a position with a mid-Michigan company participating in the internship program, this investment is retained and grown.

Cost avoidance – The emerging pool of graduating students with an associate or bachelor degree in information technology (79 in 2007 at MSU and 38 at LCC) is hoped to grow in the ensuing years. Hiring these students via the internship program provides significant cost savings. The State of Michigan entry level salary for a 4-year college graduate is approximately $48,000 (not including fringes). The average price for a yearly contract programmer is $150,000.

Residual benefits – The apprenticeship partnership brought to "light" another economic benefit previously unexplored. MDIT realized we had a great college training facility in our "backyard" that could be used to serve the training needs of MDIT staff. We now have in place a class room training program, with 40 hours of instruction in 18 classes, of which 11 result in certification. Training provided by Lansing Community College is 40% cheaper than training secured in prior years through private training firms. MDIT has budgeted $850,000 for staff training. This relationship may save as much as $340,000 to be directed at critical training needs.

The intersection of common interest, borne out of economic necessity, has created a great success story on the merits of cross boundary collaboration. Since this program began in 2007, the idea of pursuing technology as a career is beginning to be institutionalized at the grade school and high school levels. Members of the Capital Area IT Council have developed "job shadowing" programs with local middle and high schools that give school kids the opportunity to see IT professionals at work. Our approach is to engage early, show a clear path to success (and fun), and continue to bring new technology jobs to mid-Michigan with the promise of a skilled and willing workforce. Our success to-date indicates we are on "the right path".

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[1] Source: U.S. Department of Education, Integrated Postsecondary Education Data System (IPEDS), March 2007