Partnering with Industry
To Build Minnesota’s 21st Century Workforce

Industry Clusters Assessment Project:
Minnesota State Colleges and Universities System’s
Targeted Industry Partnership

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State and Local Policy Program
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ACKNOWLEDGEMENTS

The research team wishes to thank Richard Tvedten for his strong interest in industry clusters and his assistance in obtaining funding for this project. We would also thank Jeralyn Jargo and each of the Targeted Industry Partnership industry coordinators for their time and energy.

We also wish to acknowledge the work of each one of our national advisory committee members. Their perspectives on industry clusters were invaluable to the study at a critical point in the work. Special thanks to Jennifer Clark, State & Local Policy Program research assistant, for her contribution to the program over the past two years. We thank her for her skills and professional attitude.

Finally, we wish to thank all of the individuals who participated in the project.

The State & Local Policy Program Project Team
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I. EXECUTIVE SUMMARY

PURPOSE AND PROCESS
The purpose of this study is to provide the Minnesota State Colleges and Universities (MnSCU) system with an assessment tool that provides the framework for the evaluation of the workforce development initiatives based on an industry clusters model. The State and Local Policy Program (SLPP) has worked with industry clusters in Minnesota and within the field nationally. This experience is reflected in recommended criteria for evaluation of cluster-based initiatives in both the long and short-term.

SLPP has also sought to contextualize the MnSCU Targeted Industry Partnership as a creative public policy response to a significant change in Minnesota’s economic environment: the workforce shortage. The TIP program can also be better understood in the context of a number of education/industry initiatives nationwide involving community colleges and using the industry clusters model as a new framework for service delivery.

KEY FINDINGS
The primary findings of the study did not emerge from an evaluation of the TIP project but from the successes of other similar initiatives and the key factors that lead to their success. The TIP project has clearly established linkages with firms and trade organizations involved in the targeted industries as well as other stakeholders. The institutionalization of skills standards, statewide working groups, and the coordination of stakeholders has created an education/industry dialogue with tangible results.

RECOMMENDATIONS
First, the dialogue between education and industry must be on-going and an institutional priority. The success and the work of an initiative can easily be undermined if the project is “dropped” at the end of its funding cycle rather than integrated into MnSCU’s industry interaction and curriculum development process.

Second, the success of the TIP project thus far in conjunction with the results found in other states, indicates that a significant benefit can be derived from an expanded clusters focus for workforce development. A coordinated effort between state agencies and educational institutions (namely MnSCU and the University of Minnesota) who provide workforce development programs can only mean greater efficiencies. This coordination could well be organized around an industry clusters framework which provides for the vertical and horizontal integration of state agencies and public institutions as well as coordination with the business community.
II. **INTRODUCTION**

Over the past five years, the Humphrey Institute's State and Local Policy Program has conducted five studies of the regional economies in Minnesota and two industry cluster implementation studies. The State and Local Policy Program has studied the identification and assessment of the key industries in Minnesota's regional economies. Furthermore, SLPP is also committed to using that research to strategically organize Minnesota's economic development resources.

Minnesota's dynamic economy has produced vibrant growth. While rural Minnesota is experiencing a substantial downturn in the rural economy, other facets of the economy are robust. The last five years have shown an increasing crunch in the regional labor market that has resulted in workforce shortage. Both educational institutions and various levels of government have sought new ways to prepare citizens for work and help keep them there.

The Minnesota State Colleges and Universities (MnSCU) system has undertaken a new approach to meeting the education and training needs of Minnesota's employers during this workforce shortage. The Targeted Industry Partnership is an industry-driven approach to skills development which is based on the same basic principle as the industry cluster strategy: if you want to train people appropriately for work, you need to talk to who is hiring them.

This study is a look at the MnSCU TIP project and provides a context for the initiative. It also provides both long and short-term measurement tools to assess the progress and impact of this initiative and future cluster-based workforce development strategies.

III. **WORKFORCE DEVELOPMENT AS ECONOMIC DEVELOPMENT: FOCUSING ON THE SUPPLY SIDE**

It is generally accepted by businesses and government that Minnesota has a significant workforce shortage. In November of 1997 the Minnesota Department of Economic Security published *Worker Shortages in Minnesota* describing the situation and possible impacts. The most recent *Economic Report to the Governor*, a collaborative effort by a number of state agencies, highlighted the critical nature of Minnesota's workforce situation:

The most dramatic evidence of the strength of Minnesota's economy comes from the labor market. For the past two years unemployment rates have been at or near record lows, with seasonally adjusted unemployment falling consistently below 3 percent. At present, demands for labor exceed the supply of available workers, and Minnesota companies are reporting more difficulty in finding workers at all skill levels. In 1997, more than 86 percent of those 16 to 64 (the working age population) were employed, the
highest level in the nation. Under any reasonable set of demographic assumptions, Minnesota’s labor force will grow more slowly between now and 2020 than it has in the past. The state’s labor force grew by 462,000 during the seventies and by 319,000 in the eighties. In the nineties, labor force growth appears to have slowed to about 250,000, and in the first decade of the 21st century, it will slow even more to about 200,000. Then between 2010 and 2020, as the baby boom generation begins to retire, net labor force growth will be only 50,000. **In simplest terms, Minnesota will add, on net, less than half as many to its workforce between 2000 and 2010 as it did between 1970 and 1980.**

Given, the nature and extent of the workforce shortage, it makes sense to focus policy efforts on the “supply side” of the regional economy or the labor market. The Citizen’s League’s 1998 report recommended emphasis on education and training based on similar conclusions regarding Minnesota’s workforce. The report, *Help Wanted: More Opportunities than People,* described the need for economic development efforts to shift away from a jobs mentality and concentrate on productivity gains. In other words, it is critical for economic development agencies and specialists to look at the quality of the jobs rather than the quantity.

The Humphrey Institute’s State and Local Policy Program also identified the workforce shortage as the primary concern in its research on 17 Minnesota industries in four regions of the state. While there is a clear shortage of people in the current workforce, there are also some core issues surrounding attracting, retraining, and training workers. From an industry perspective the problem is not only the physical lack of people but also the shrinking supply of appropriately trained workers. It is also important to note that retraining the incumbent workforce is a key issue because of the short supply of new workers and the rapidly changing technologies in both service and manufacturing fields. The Blandin Foundation’s recent report on the workforce situation in rural Minnesota highlighted this increasing need.

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The goal of building a skilled labor force demands the involvement of education and training institutions. The presence of a highly skilled and productive labor force provides an incentive for firms to locate and expand in the region. Arizona’s Workforce Development System Comprehensive Plan notes that “The state’s first recourse for supplying more and better employees is to work with its education, employment, and training programs to ensure that they are as responsive as possible to industry needs.”

IV. A ROLE FOR COMMUNITY COLLEGES IN ECONOMIC DEVELOPMENT: INDUSTRY CLUSTERS AS A SERVICE DELIVERY TOOL

Community and technical colleges have long played a key role in economic development. These institutions provide a significant amount of the training of the regional workforce for local industries and specializations. The clusters framework formalizes and builds on the existing relationships and provides a service delivery tool for educational systems.

In her article entitled The Added Value of the Industry Cluster Approach to Economic Analysis, Strategy Development, and Service Delivery, Mary Jo Waits discusses the multiple uses of a clusters framework. First, the framework can be used as a tool to better understand the regional economy. Second, the clusters framework functions as an organizational tool to help bring industry to the table for planning and problem solving. Finally, clusters function as a service delivery tool which provides a method for improving quality and effectiveness. In the context of community and technical colleges, clusters provide an opportunity to organize industry and other stakeholders in order to improve the ways in which educational resources are used.

In a recent report, Community Colleges/Cluster Connections: Specialization and Competitiveness in the U.S. and Europe, Stuart Rosenfeld studied the relationship between successful regional industry clusters and the local community colleges. Rosenfeld identified a number of clear benefits from the connection between colleges and clusters:

ADVANTAGES TO COMMUNITY:
1. Grounds education in a locally dominant industry and creates a real context for learning
2. Fosters informal learning that occurs only in workplace settings and cannot be codified in the classroom alone
3. Effectively connects new workers to job opportunities (labor markets function more effectively)
4. Helps colleges to focus their limited resources and more likely become centers with excellence, expertise, knowledge and technologies that are locally important

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4 Arizona’s Workforce Development Comprehensive Plan. January 1999
ADVANTAGES TO BUSINESS AND INDUSTRIES:
1. Skilled workers increase business productivity and reduce training costs
2. Technical college expertise and industry focus has the symbiotic effect of attracting industries into the region
3. Industries get skilled labor pools and student workers, and access to skill upgrading centers

V. MNSCU'S TARGETED INDUSTRY PARTNERSHIPS

The Minnesota State Colleges and Universities' (MnSCU) Business and Industry partnerships takes advantage of the opportunities for workforce development outlined in the work of Stuart Rosenfeld and others. The MnSCU Targeted Industry Partnership (TIP) Project is a strategic initiative of the systems' Customized Training network. The five industries selected for the project are: Precision Manufacturing, Health Care, Printing, Software, and Taconite Production. Initially, seven outcomes were set for each of the five Targeted Industry Partnerships to be achieved within the eighteen-month project timeframe:

- Permanent statewide industry partnership committees
- Common language to address industry-specific skills
- New curriculum validated to industry standards
- Designated MnSCU point-of-contact for each industry
- Flexible program alignment and delivery, based on industry needs
- Industry-driven recruitment effort, in partnership with K-12 education
- Industry satisfaction with MnSCU effort

The MnSCU system described the partnerships and the context of the project in the following excerpts from an early press release:

The industries were selected to participate in the initiative due to their key economic development contributions to the state. The schools were chosen because they made superior proposals as judged by review committees made up of industry leaders. Richard Tvedten, MnSCU's system director for continuing education and customized training, coordinated the review meetings. Staff from MnSCU schools and K-12 school districts will serve with industry leaders on partnership committees.

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Each industry in the TIP project is composed of a lead institution from the MnSCU system, industry representatives, and educators. These three parties serve as the backbone of the statewide industry partnerships.

VI. INDUSTRY DESCRIPTIONS AND CONTRIBUTING FACTORS

BRIEF DESCRIPTIONS OF TIP INDUSTRIES\(^7\)

TACONITE MINING

Taconite mining occurs in the Northeast area of the state. While the number of employers has decreased from 34 in 1988 to 23 in 1998, the average monthly employment for the industry has remained steady (5454 in 1988 to 5795 in 1998). The average weekly wage has also increased since 1988 from $624 to $987 in 1998. Most of the firms in the industry either employ less than twenty people (58%) or more than one hundred (42%). The taconite industry has experienced significant production process changes in the past twenty years. Advances in mining technology allow the industry to be more productive with fewer employees.

\(^7\) Data for the Taconite, Health Services, Precision Manufacturing, and Printing/Graphics Industries are from a March 24, 1999 industry analysis using data from the Research and Statistics Office of the Minnesota Department of Economic Security.
HEALTH CARE SERVICES

The health services industry is strong throughout the state with significant concentrations in the Rochester area and the Twin Cities. The industry has grown rapidly from an average monthly employment in 1988 of 177,372 people to an average of 220,746 in 1998. The number of firms has also grown from 4,064 in 1988 to 4,467 in 1998. The average weekly wage has also grown from $398 in 1988 to $605 in 1998.

PRINTING AND PUBLISHING

The printing and graphics industry is particularly strong in the Twin Cities metro region but also has a statewide presence. The number of employers in the industry has increased from 1,588 in 1988 to 1,814 in 1998. The average weekly wage has also increased from $435 in 1988 to $701 in 1998. The number of employees in the industry has also grown from 47,732 to 55,696 over the ten-year period. The majority of the firms in the industry, 78%, employ less than twenty people.

<table>
<thead>
<tr>
<th>TARGETED INDUSTRY CLUSTERS</th>
<th>CHANGE IN # OF EMPLOYERS (1988-98)</th>
<th>CHANGE IN # OF EMPLOYEES (1988-98)</th>
<th>CHANGE IN WEEKLY WAGES (1988-98)</th>
<th>% EMPLOYERS WITH LESS THAN 20 EMPLOYEES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taconite</td>
<td>-11</td>
<td>+341</td>
<td>$363</td>
<td>58%</td>
</tr>
<tr>
<td>Health Services</td>
<td>+403</td>
<td>+43,374</td>
<td>$207</td>
<td>61%</td>
</tr>
<tr>
<td>Printing and Publishing</td>
<td>+226</td>
<td>+7964</td>
<td>$266</td>
<td>78%</td>
</tr>
<tr>
<td>Software</td>
<td>+1002</td>
<td>+12,664</td>
<td>$484</td>
<td>94%</td>
</tr>
<tr>
<td>Precision Manufacturing</td>
<td>+2313</td>
<td>+29,882</td>
<td>$179</td>
<td>86%</td>
</tr>
</tbody>
</table>

SOFTWARE

The geographic distribution of the software cluster is statewide with regional concentrations in the Twin Cities and the St. Cloud to Rochester corridor. Employment in the software industry has grown by 315 percent between 1988 and 1998 from 3,457 employees in 1988 to 16,121 in 1998. The number of firms in the industry has also grown from 466 in 1988 to 1,468 in 1998. The average weekly wages in the industry have increased from $667 in 1988 to $1151 in 1998. In annual terms, the average wage has grown from $34,693 to $59,844.

5 Based on Minnesota Department of Economic Security data provided to the Targeted Industry Partnerships Project.

6 The software industry is defined as SIC codes 7371, 7372, and 7373.
Precision Manufacturing

Precision manufacturing is a statewide industry with specific product concentrations in particular areas of the state. For example, the southwest area of the state concentrates on precision agricultural equipment manufacturing whereas the Twin Cities specializes in a broader market. The industry has grown rapidly in the past ten years. The number of employers has moved from 3,753 in 1988 to 6,066 in 1998. Concurrently the number of employees in the industry has moved from 56,372 to 86,254 with weekly wages increasing from $492 to $671. The vast majority of the firms in the industry, 86%, have less than twenty employees.
SUMMARIZING TABLE FOR INDUSTRIES
<table>
<thead>
<tr>
<th>INDUSTRY FACTORS</th>
<th>TACONITE</th>
<th>HEALTH SERVICES</th>
<th>PRINTING AND PUBLISHING</th>
<th>SOFTWARE/IT</th>
<th>PRECISION MANUFACTURING</th>
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</thead>
<tbody>
<tr>
<td>• PRODUCTIVITY FOCUSED</td>
<td>• SEVERE EMPLOYEE SHORTAGE</td>
<td>• FOCUS ON JOB FLOW AND JOB ENGINEERING</td>
<td>• INNOVATION FOCUSED</td>
<td>• PRODUCTIVITY FOCUSED</td>
<td></td>
</tr>
<tr>
<td>• RECOVERING</td>
<td>• BIG COMPANIES</td>
<td>• SMES</td>
<td>• SMES</td>
<td>• SMALL LOCAL FIRMS</td>
<td></td>
</tr>
<tr>
<td>• VERY LARGE FIRMS OR VERY SMALL</td>
<td>• GROWING RAPIDLY</td>
<td>• INDUSTRY IS RETICENT TO WORK WITH PUBLIC EDUCATION</td>
<td>• MANY SMALL, LOCAL FIRMS</td>
<td>• GROWING</td>
<td></td>
</tr>
<tr>
<td>• MOST LARGE FIRMS AREN'T MH</td>
<td>• RURAL WORKERS SHORTAGE</td>
<td>• MOST TRAINING IS DONE INTERNALLY OF BY EQUIPMENT VENDORS</td>
<td>• INFRASTRUCTURE DEPENDENT</td>
<td>• SMALL LOCAL FIRMS</td>
<td></td>
</tr>
<tr>
<td>• VIEWED AS CRITICAL TO THE REGIONAL ECONOMY</td>
<td>• LOW WAGE WORKER SHORTAGE</td>
<td>• LARGE WORKER SHORTAGE</td>
<td>• GROWING</td>
<td>•</td>
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<td>• STATE INVESTMENTS IN VALUE-ADDED</td>
<td></td>
<td></td>
<td>• IT A POLITICAL PRIORITY</td>
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<td>• UNION PRESENCE</td>
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<th>SOFTWARE/IT</th>
<th>PRECISION MANUFACTURING</th>
</tr>
</thead>
<tbody>
<tr>
<td>• SKILL STANDARDS</td>
<td>• SKILL STANDARDS</td>
<td>• PRIVATE/PUBLIC PARTNERSHIP</td>
<td>• NATIONAL SKILL STANDARDS</td>
<td>• NATIONAL SKILL STANDARDS</td>
<td></td>
</tr>
<tr>
<td>• PARTNERING WITH TRADE ASSOC.</td>
<td>• PARTNERING WITH TRADE ASSOC. AND OTHER STATEWIDE HEALTH NETWORKS</td>
<td>• PARTNERING WITH TRADE ASSOC.</td>
<td>• NATIONWIDE TRADE ASSOC.</td>
<td>• PARTNERING WITH TRADE ASSOC.</td>
<td></td>
</tr>
<tr>
<td>• INDUSTRY COUNCIL</td>
<td>• INDUSTRY COUNCIL (VARIETY OF STAKEHOLDERS)</td>
<td>• NATIONAL SKILLS STANDARDS</td>
<td>• SMALL FIRMS DIFFICULT TO ORGANIZE</td>
<td>• SEVERAL TRADE ASSOC.</td>
<td></td>
</tr>
<tr>
<td>• TACONITE U. MODEL</td>
<td>• LEGISLATIVE INTEREST: RECENTLY REQUIRED A CORE HEALTHCARE CURRICULUM</td>
<td>• STANDARDIZED CURRICULUM</td>
<td>• FOCUS ON DEFINING INDUSTRY AND UNDERSTANDING INTERRELATIONSHIPS WITH OTHER INDUSTRIES</td>
<td>• STATEWIDE INDUSTRY COUNCIL</td>
<td></td>
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<td></td>
<td></td>
<td>• FOCUS ON PRODUCTION PROCESS</td>
<td></td>
<td>• PARTNERING WITH INDIVIDUAL INSTITUTION'S EXISTING ADVISORY COUNCILS</td>
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<tr>
<th>PROGRAM SPECIFIC FACTORS</th>
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<th>PRINTING AND PUBLISHING</th>
<th>SOFTWARE/IT</th>
<th>PRECISION MANUFACTURING</th>
</tr>
</thead>
<tbody>
<tr>
<td>• REGIONALLY FOCUSED PROGRAMS</td>
<td>• THROUGHOUT MNSCU; DEGREE/CURRICULUM COORDINATION BETWEEN TRAINING PROGRAMS AND MNSCU</td>
<td>• DON'T HAVE THE EQUIPMENT! ERRATIC REPRESENTATION IN MNSCU INSTITUTIONS (SOMETIMES A PROGRAM, SOMETIMES ISOLATED COURSES)</td>
<td>• DEGREE AND CERTIFICATE PROGRAMS NOT COORDINATED THROUGH THE SYSTEM</td>
<td>• STRUGGLE BETWEEN TECH CURRICULUM AND CC CURRICULUM</td>
<td></td>
</tr>
<tr>
<td>• SKILLS STANDARDS NEED TO BE COORDINATED WITH INDUSTRY AND UNION</td>
<td>• LACK OF CROSS DISCIPLINE COORDINATION</td>
<td>• NO UNIVERSAL STANDARDS</td>
<td>• UNCLEAR STANDARDS</td>
<td>• CUSTOMIZED TRAINING SEPARATE FROM PROGRAMMATIC DEPARTMENTS</td>
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<thead>
<tr>
<th>INSTITUTIONAL FACTORS</th>
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<th>HEALTH SERVICES</th>
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<th>SOFTWARE/IT</th>
<th>PRECISION MANUFACTURING</th>
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<tr>
<td>• DECLINE AND LOSS OF EMPHASIS OF THE TECHNICAL COLLEGE'S ADVISORY BOARDS AFTER THE MERGER</td>
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<td>• BOTH EMPLOYMENT AND INDUSTRY CATEGORIES MAKE ANALYSIS DIFFICULT</td>
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<td>• ACCURATE PROGRAMMATIC DATA UNAVAILABLE</td>
<td></td>
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<tr>
<td>• LABOR STATISTICS DON'T MATCH UP</td>
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</table>

* SMEs are small and medium sized enterprises.
CONTRIBUTING FACTORS

ORGANIZING FACTORS

While the concept of an advisory council dominates the organizing efforts for the partnerships, the issue of common skills standards has become an organizing priority for all five partnerships. Understandably, the conversation between industry representatives and educators must include a baseline...
**INDUSTRY FACTORS**

The TIP project has focused on identifying the skill needs of the clusters and developing *skills* standards with the MnSCU system which allow firms and educators to establish a baseline for a workforce development dialogue. The current statewide workforce shortage is also clearly a *skills* shortage which requires not just an increase in the number of individuals in the workforce but an increase in the number of skilled employees in the workforce. Without the requisite training and skills, productivity increases become difficult to achieve.

Based on the available data, the industries which MnSCU has chosen to engage are industries which include many of the small and medium size enterprises (SME) identified by Stuart Rosenfeld as the type of firm for which a community college clusters approach is the most effective. While there are certainly large firms included in these clusters and there are also clear benefits of a clusters approach to these firms, in terms of the long term economic sustainability of the industry, the continuing success of localized SME’s is a well-documented prerequisite for growth.

![Percentage Change in Annual Wages from 1988 to 1997 for Five Industries](chart)

**ORGANIZING FACTORS**

While the concept of an advisory council dominates the organizing efforts of the partnerships, the issue of common *skills* standards has become an organizing priority for all five partnerships. Understandably, the conversation between industry representatives and educators must include a baseline
understanding of what the educators can provide and what the industry needs. In the case of workforce development it is not only an issue of education but also an issue of relevant skills acquisition.

The TIP program has emphasized the formalization of *skills* standards both between the industry and the educational institutions and among the three types of educational institutions within the merged MnSCU system. The development of *skills* standards provides a bridge between the industry and the MnSCU system based on the common goal of providing appropriate and applicable education with a career goal.

The MnSCU system does not have an established or universal set of skill standards that can serve as the baseline for discussion with industry. In part this is due to the local autonomy that was characteristic of the programs at individual institutions before the merger. Between the various degree and certificate granting programs at technical colleges, community colleges, and state universities there is significant variation between the programs and courses offered. Further, the gap between the programs at individual institutions and the customized training units makes it increasingly difficult to coordinate the customized courses with the existing programs at the same institution or among institutions. The TIP project has sought to address this issue through skill standards.

The TIP project has also made use of existing trade associations and other pre-existing advocacy organizations in order to understand the political and institutional landscape of each industry. In some cases, the partnerships have worked closely with the trade associations (e.g. the software partnership and the Minnesota High Tech Association, MHTA). In other cases, the industry partnerships have coordinated with the relevant trade associations but also recognized the political histories and tensions that are sometimes inevitable. For example, the Taconite partnership and the printing and graphics partnership have made a point of coordinating with the trade associations but not relying on them exclusively for the industry councils.

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### Program Accreditation and National Skills Standards

National skills standards, such as NIMS for the precision manufacturing industry, provide guidance for both employers and employees. The standards also provide instructors and administrators with a clear sense of what skills the industry values and what students need to know in order to work successfully in the industry.
PROGRAM SPECIFIC FACTORS

For the different partnerships, the industry specific factors were not the only determinant but the programmatic factors were critical as well. For example, the health services curriculum has a variety of well understood certificate and diploma programs that correspond to positions in the industry. The challenge for the MnSCU system is creating a suitable transition within the educational curriculum from certificate to diploma programs across institutions and across skill standards. This requires a clear understanding of the programs and classes offered by the system and the relationship between them.

The lack of clear transitions between degree and certificate programs at one institution to those of another was a complicating factor for most of the partnerships. Another programmatic factor was the lack of equipment for industry training at the institutions. For example, there are printing and graphics programs and classes at MnSCU institutions but the equipment used in the programs does not meet current industry standards. Thus graduates of these programs may be familiar with components of the industry but are less familiar with even some of the standard equipment (e.g. for color press) used in printing shops.

INSTITUTIONAL FACTORS

The broad institutional context of the Targeted Industry Partnerships is particularly important because of the ways in which it affects the partnership’s ability to address and achieve its goals. The recent MnSCU merger has left the system with many organizational challenges that make coordinating with an industry on a statewide scale a complicated proposition. For example, the curriculum committee of the MnSCU system is based in the Twin Cities and approves system curriculum changes. The centralized curriculum approval process creates an institutional challenge for the local institutions. This affects the TIP coordinators because it complicates the ability of the individual partner institutions to adapt and modify curriculum to match industry needs.

Before the MnSCU merger, a number of the technical colleges (in particular) had active, local advisory boards that included industry representation. This process of coordinating with local industry is no longer widely used and the advisory boards have a much reduced function. However, the tradition of coordination between the individual MnSCU institutions and

LOCAL ADVISORY BOARDS:
A Connection to the Business Community

Many of the individual MnSCU institutions, particularly the technical schools have a tradition of local industry representation on advisory boards. These advisory boards often provided the institution with information on the industry, skills needs, and technology changes that are all relevant to technical skill education. In the new centralized MnSCU system, the local advisory board still provides critical information to instructors and the individual institutions about job opportunities in the region.
local industries does not begin with the Targeted Industry Partnership. It is critical to recognize that there are notable institutions in the system with ongoing and effective industry partnerships. One of the key challenges of the TIP project is that it attempts to create a system-wide mechanism for an industry-education dialogue.

VII. BENCHMARKING AND DEVELOPING A TOOL FOR CAPACITY BUILDING

In an assessment there are two methods of addressing the effectiveness of an initiative. First, the activities of the initiative can be compared to those activities which have been successful in other contexts and are recognized as useful benchmarks. Second, the project’s initial goals can be compared to the project outcomes to determine whether the intent of the initiative has been maintained.

For the first piece of the assessment we turn to the trends which an Economic Development Administration report on cluster-based development identified as components of a successful clusters implementation process:

- Reaching out to the region not just one jurisdiction
- Emphasizing clusters not single industries or firms (also including buyers and suppliers)
- Focusing on building broad input advantages not narrow incentives (i.e. looking toward the long term)
- Acting collaboratively not unilaterally

The TIP project has clearly worked to create a regional approach using local resources through its goal of a statewide industry council and partnerships with individual institutions throughout the MnSCU system. The TIP project has also emphasized industries rather than individual firms in the implementation process. The exploration of a role for buyers and suppliers in the industry councils would require a broader definition of the clusters and probably a commitment from additional agencies to define, analyze, and coordinate buyer and supplier linkages. It is worth mentioning that because the skill sets required for work with end producers mirrors that required for supplier and buyer firms the expansion of the cluster could be seen as a long-term workforce development goal.

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The TIP project has also concentrated on long-term advantages rather than short-term incentives to industry by the nature of its focus on workforce development. Also, MnSCU colleges' initiatives to implement national skill standards show a clear interest in long term communication and coordination between industry and educators. Finally, the TIP project has worked collaboratively from the beginning and throughout the implementation process. This includes working with the vast array of stakeholders within MnSCU and within each industry.

The second assessment component is to look at how closely the TIP projects have achieved their own stated goals. The initial goals of the partnerships were described as:

- Permanent statewide industry partnership committees
- Common language to address industry-specific skills
- New curriculum validated to industry standards
- Designated MnSCU point-of-contact for each industry
- Flexible program alignment and delivery, based on industry needs
- Industry-driven recruitment effort, in partnership with K-12 education
- Industry satisfaction with MnSCU effort

The TIP projects have worked towards establishing the statewide committees and several of the partnerships have committees in place. Whether it is possible to create either permanent or truly statewide committees has not been determined. The current activities toward this goal seem geared toward creating functional and useful committees that operate as forums for industry and education dialogues. While the nature and extent of these committees is uncertain, they establish an unprecedented forum for industry and education cooperation and create a space for establishing a common language and organizing skill standards.

While the implementation effort is still in progress, it is difficult to make definitive assessments about many of the projects goals. The activities of the partnerships are, however, focused on creating the common language and flexible programs which will make it possible for MnSCU to be more responsive to both the needs of Minnesota's industries and its students.

In terms of critical obstacles to the successful implementation of the TIP project we would like to highlight two factors. First, the project's eighteen-month time frame is extremely short for implementing the type of strategy articulated in the project goals. While this may not ultimately be a prohibitive factor, it is certainly a complicating one. Second, the political context of the project coupled with the increasing severity of the state's workforce shortage, has shifted the focus from long term measures of progress to short terms measures of success. For example, the desire to measure the project by the increase in the
number of students in programs geared toward the targeted industries shifts the project efforts away from its stated goals. While increases in student enrollments and placements are a consequence of a clusters based strategy, they are unlikely to be immediate consequences as the initial project resources are directed toward building the education and industry partnerships which will build MnSCU’s institutional capacity.

**LONG RANGE INDICATORS OF THE IMPACTS OF CLUSTERS STRATEGY**

While the variations in industries (e.g. organizational structures, workforce requirements, career ladders, financial needs, etc...) and economic sectors requires a broad qualitative understanding, quantitative indicators continue to be critical measures of a project’s success. Economic development strategies are typically difficult to measure because of the limited scale of individual projects and the limited scope of available data. For this reason, the impact of a cluster based workforce development strategy on the overall regional economy is predictably difficult to reliably measure. That being said, there are a number of short range and long range quantitative indicators that have been used to assess the progress of cluster based programs.

Several quantitative indicators can be used to assess the overall impact of a cluster based strategy on a regional or state economy. In Arizona, the performance indicators for the state’s cluster based economic development strategic plan were organized around three main categories: Overall Economic Performance Indicators, Cluster Strength Indicators, and Indicators of Economic Capacity. These economic statistics are generally available through state and local statistical agencies and can be used to compare a project across time. The data may also be used to compare the progress of a statewide or regional strategy to other regions or states.

**Recommended Performance Indicators for a Cluster Based Development Strategy**

**OVERALL ECONOMIC PERFORMANCE INDICATORS**

These indicators provide a snapshot of changes in the regional economy at the “macro” level. These indicators are not specific to a cluster-based strategy but focus on measuring some of the factors which are particularly important in an industry clusters approach (e.g. innovation, productivity, opportunity).

- **PER EMPLOYEE WAGE AND SALARY EARNINGS**: Provides a measure of wage earnings over time.

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Gross State Product per Employee: This ratio gets at productivity and value-added changes over time. Also important to Minnesota given that in a workforce shortage the productivity increases are critical while the expansion of jobs is problematic.

Earnings Disparity between Urban and Rural Areas: A ratio of the growth of earnings in metro counties compared to that in non-metro counties. This measure lends focus to the need for statewide economic competitiveness.

Women and Minority Owned Businesses as Percent of All Firms: Provides a proxy measurement for economic opportunity in Minnesota.

New Business Starts per 1,000 Firms: Provides a proxy measurement for ease of entry into markets, entrepreneurialism, and innovation environment.

Employment Growth: Provides a measure of the need for people entering the labor market. Measure can also be broken down by industry to address skill needs and education focus.

Unemployment Rate: Helps measure the mismatch between jobs and job seekers. Provides some indication of a skills mismatch problem.

Cluster Strength Indicators
In terms of measuring the impact of a cluster based strategy on the regional clusters, the following data can be useful indicators over time and measured against the same clusters in other states or regions.

Cluster Employment Concentration: This indicator reflects the relative strength of a cluster by measuring the degree to which buyers and suppliers exist in the region. High employment concentrations in linkage industries and export-oriented industries within a cluster indicate that a high degree of value added in the region.

Input/Output Analysis: State input/output tables can reveal information about the strength and evolution of each cluster, the nature and degree of buyer-supplier relations, and the proportion of cluster value added occurring in the state.

Cluster Earnings per Employee: This is a reflection of the quality of jobs found in each cluster and can reflect skill proficiencies and deficiencies.
- **Cluster Earnings Growth**: This measures each cluster's ability to provide more value added through increased productivity and quality compared to total averages for the same cluster industries.

- **Cluster Employment Growth**: This reflects the relative health and direction of each cluster.

- **New Business Starts as a Percent of Total Cluster Establishments**: This measure is a reflection of a cluster's ability to regenerate and adapt.

**Indicators of Economic Capacity**

Economic capacity refers to the institutional foundations that make a successful regional economy possible. For example, an educated workforce is essential for productivity. Also, adequate and for some industries, cutting-edge technology is critical for entrepreneurialism and product innovation. Traditional infrastructure concerns such as roads and airports are now expanding to include a state's telecommunications infrastructure. Regional economic capacity is, in part, determined by how and where the state invests public funds in the ongoing economic viability of the region.

**Human Resources**

- **Average Expenditures Per Pupil, Elementary and Secondary Institutions**: These measures can assess a state's commitment to investing in its future productive assets: well-educated and innovative employees.

- **High School Graduation Rate**: This measure reflects a state's ability to provide an interesting and attractive education environment.

- **MnSCU Graduation Rate(s)**: This measure can be used to assess both the changes in the graduation rates in MnSCU's Targeted industry programs and overall. Comparisons could be made across programs and over time.

**Technology**

- **Federally Sponsored R&D Per Capita**
- **Industry R&D Per Capita**
- **Industry Sponsored R&D at Universities**
- **Patents Per Capita**
- **Scientists and Engineers in the Workforce**
- **Technology Industry Employment Concentrations**
- **Technology Occupation Employment Concentration**
CAPITAL

While the investments of private capital in the regional (or state) economy are difficult to measure, the flow of private capital into specific regions and specific regional industries is a key measurement of the actual and perceived economic viability of regional economy.

- Commercial Bank Deposits per capita
- Ratio of Total Loans and Leases to Total Bank Equity
- Venture Capital Fund Disbursements per capita
- Venture Capital Investments by Industry
- SBIR Awards per capita

PHYSICAL INFRASTRUCTURE

The investments made in the state’s maintenance and improvement of physical infrastructure can be a reflection of the vitality of the area as a business center. While the transportation infrastructure is vital and the traditional measurement used, the increasing importance of the telecommunications infrastructure must also be taken into account as a significant portion of business transactions and data transfers occur “on line.” The capacity of a state or region to provide for these telecommunications transfers affects the location and growth of firms.

- Per Capita State Funding for Public Transportation
- Per Capita Expenditures for Highways
- Airport Capacity
- Per Capita State Funding for Telecommunications Infrastructure/Improvements
- Private Sector Investments in Telecommunications Infrastructure/Development

QUALITY OF LIFE

- Air Quality Rating
- Water Quality
- Per Capita Federal and State Spending on All Environmental Programs
- Foundation Grants Distributed per Capita: This measurement indicates the health and vitality of the nonprofit sector in the economy.
- Crime Rate per 100 Population
- Infant Mortality per 100 Live Births

TAX AND REGULATORY ENVIRONMENT

- State and Local Tax Capacity as Percent of National Average
- State and Local Tax Effort as Percent of National Average
SHORT TERM PROJECT ASSESSMENT INDICATORS

Although long term indicators of the progress of a clusters initiative are critical, it is equally important to have tools to assess the progress of individual projects. In light of that need, the following matrix lists the stated goals of the MnSCU Targeted Industry Partnership project and suggests some key questions which get at the progress made toward the goal and some quantitative measures which may provide indications of the magnitude of that progress.

The national panel of experts\(^\text{13}\) organized in July 1999 to advise on the MnSCU TIP project and its assessment also suggested some key qualitative measures of the project’s success. Among these suggested measures were:

**WILLINGNESS TO PAY:** Is the industry willing to pay for the services provided by MnSCU through the TIP project (primarily the services of the industry coordinator) or the services provided through other MnSCU programs (e.g. Customized training)? A willingness to pay for the service indicates how much the industry values the service.

**INTEGRATION:** How many people are involved? Is there vertical integration within the educational system (clear pipeline with connection to k-12)? Is there horizontal integration across MnSCU institutions?

**FOLLOW-UP:** After raising industry’s expectations, MnSCU must deliver. Is the education/industry partnership supported with ongoing institutional resources?

**DIALOGUE:** A constructive dialogue between industry and education is a critical measure of success for the TIP project.

**RELATIVE importance of industries:** The industries selected as clusters should have a credible level of importance to the statewide economy.

\(^{13}\) See appendices E, F, G for additional information on the panel.
<table>
<thead>
<tr>
<th>MNSCU GOALS</th>
<th>MNSCU SUB-TASKS</th>
<th>ASSESSMENT QUESTIONS</th>
<th>QUALITATIVE MEASURES</th>
<th>QUANTITATIVE MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESTABLISHMENT OF STATEWIDE INDUSTRY PARTNERSHIP COMMITTEES</td>
<td>Designated MNSCU point-of-contact for each industry</td>
<td>Is there a statewide committee with industry representation in place?</td>
<td>☐ Geographic distribution of firms</td>
<td>✓ # of firms involved in partnership</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Role and function of trade associations</td>
<td>☐ How big is the table?</td>
<td>✓ # of participants total</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Identifying of skills standards</td>
<td>☐ Firm site visits</td>
<td>✓ Ratios of industry participation to total participation</td>
</tr>
<tr>
<td>IDENTIFICATION OF COMMON LANGUAGE TO ADDRESS INDUSTRY SPECIFIC SKILLS</td>
<td>Does industry support it?</td>
<td>☐ Identification of skills standards</td>
<td>☐ Industry surveys</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Did the industry participate?</td>
<td>☐ Educator surveys</td>
<td>☐ Focus group</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>☐ Employee/student surveys</td>
<td>☐ Firm site visits</td>
<td></td>
</tr>
<tr>
<td>IDENTIFICATION OF COMMON DATA TO ADDRESS EDUCATION AND INDUSTRY SUPPLY AND DEMAND</td>
<td>Do the data provide a clearer picture of the industry?</td>
<td>☐ Identification of problematic or unavailable data</td>
<td>☐ Contextualize available data</td>
<td>✓ Supply: workforce shortage (projections and current) and MNSCU program data</td>
</tr>
<tr>
<td></td>
<td>What do the data say about resource allocation and workforce investment?</td>
<td>☐ Contextualize available data</td>
<td>☐ Contextualize available data</td>
<td>✓ Demand: Industry growth and expansion (changes in # of firms, employees, wage rates, also location quotients) and employee retention, recruitment, and retirement data</td>
</tr>
<tr>
<td>MNSCU GOALS</td>
<td>MNSCU SUB-TASKS</td>
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<tr>
<td>ALIGNMENT OF CURRICULUM TO INDUSTRY STANDARDS</td>
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<tr>
<td>DESIGN OF FLEXIBLE PROGRAM ALIGNMENT AND DELIVERY</td>
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<td></td>
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<tr>
<td>RECRUITMENT OF STUDENTS AND WORKERS</td>
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</tbody>
</table>

| ASSESSMENT QUESTIONS | | |
|----------------------|---------------|
| Are there recommendations for curriculum changes driven by the industry? | |
| Are the recommendations for curriculum changes informed by the industry data and consistent with the common language? | |
| Does the partnership have program alignment recommendations? | |
| Do the partnerships have strategies for recruiting students into the industry areas? | |
| Do the partnerships have strategies for reaching the incumbent workforce and displaced workers for career advancement and/or workforce development? | |

<table>
<thead>
<tr>
<th>QUALITATIVE MEASURES</th>
<th>QUANTITATIVE MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceptance of national skill standards by MNSCU programs</td>
<td>Measured after implementation of proposed changes</td>
</tr>
<tr>
<td>Accreditation efforts</td>
<td># of other education and training partners brought into the partnerships</td>
</tr>
<tr>
<td>Proposed curriculum changes or new programs</td>
<td>Cataloging alternative delivery models</td>
</tr>
<tr>
<td>System-wide alignment of curriculum programming</td>
<td>Comparison of models</td>
</tr>
<tr>
<td>Contacts made with “pipeline” and other workforce training programs</td>
<td></td>
</tr>
<tr>
<td>Identification of potential students/employees</td>
<td></td>
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</tbody>
</table>

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**MNSCU GOALS**

1. Original goals identified by the Targeted Industry Partnership.

2. Additional tasks and milestones identified by TIP.
VIII. KEY FINDINGS AND RECOMMENDATIONS

In the course of observing the Targeted Industry Partnership and researching other cluster-based organizing strategies, a few broad recommendations emerged. The expert panelists highlighted these recommendations for the future of the project and for MnSCU's goal of working effectively with industry.

SUPPORT AND EXPAND TIP WITHIN MnSCU

MnSCU needs to continue and expand its industry-based approach. The eighteen-month timeline of the Targeted Industry Partnership Project has provided an opportunity for MnSCU to identify the stakeholders involved in education and training in Minnesota and begin to build a dialogue with them. The next challenge is to institutionalize the partnerships in order to ensure their sustainability within MnSCU. The work of the partnerships should be continued and ultimately the work should be expanded to include other industries critical to the Minnesota economy (e.g. medical devices, financial services, and information technology).

EXPAND INDUSTRIES SELECTIVELY

The industry cluster framework should be used to select industries for the partnership. Using the industry clusters criteria to select the industries would ensure that the industries selected would be industries with the greatest economic and employment potential for the state. Most industry clusters can be characterized as at least one of the following types of industries: high skill/high wage, high growth, emerging growth, technology intensive, or export focused.16

An alternative to selecting industries on a statewide basis is to select industries on a regional scale. MnSCU has proposed a regional organizing structure in Minnesota Workforce Development in 2005: A Vision for MnSCU’s Role. The advantage of a regional strategy is that the individual institutions would be able to tailor their programs more specifically to the industries that are prominent in their regions rather than adapt to meet statewide priorities. A regional approach prevents smaller industry clusters with significant regional impacts (e.g. precision agricultural manufacturing in Southwest Minnesota, composites manufacturing in Southeast Minnesota, wood products in Northwest Minnesota)17 from being obscured by economic concentrations in the Twin Cities and the St. Cloud-Twin Cities-Rochester metroplex.

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17 State and Local Policy Program industry clusters studies of Northwest, Southwest, and Southeast Minnesota.
SUPPORT AND EXPAND CLUSTERS-BASED ORGANIZING

Ultimately the TIP project is a component of a larger industry clusters strategy which would include other educational institutions and economic development agencies and organizations (e.g. K-12, University of Minnesota, Department of Trade and Economic Development/Department of Economic Security). The standard definition of a cluster includes suppliers and customers. The vertical integration of clusters ensures that the cluster has a working dialogue from the customer level to the end producer. In terms of public education, the MnSCU cluster needs ultimately to include the rest of the educational pipeline in order to make coherent policy changes and to integrate economic changes into skills training and education.

QUESTIONS FOR FURTHER ANALYSIS:

ENCOURAGING INNOVATION IN THE SYSTEM

Within a centralized system, innovation at the local level should be encouraged and nurtured. The question of how to maintain statewide and system wide standards while providing space for regional innovation and local responsiveness is a major issue for further research. An example of this conflict is the advisory councils of the individual institutions. It is unclear what impact the industry representatives on these advisory boards have on the curriculum at the institutional level.

SCOPE: REGIONAL OR STATEWIDE?

As mentioned earlier, the question of whether MnSCU should pursue a strategy which targets industries with a statewide importance rather than significant regional impact is not resolved. For example, four of the current targeted industries have a significant presence statewide while the fifth, Taconite, is regional. It may be more manageable for the individual institutions to coordinate with industry clusters prominent regionally rather than statewide. MnSCU may want to engage in further research to assess the viability of each approach.
APPENDICES
APPENDIX A: OVERVIEW OF THE SLPP PROCESS

The Humphrey Institute's, State and Local Policy Program (SLPP) was charged to provide the Minnesota State Colleges and Universities (MnSCU), Targeted Industry Partnership (TIP) project with an assessment of the initiative. The charge of phase 1 of the assessment study is comprised of three main tasks:

Task A. To collect data on the MnSCU initiatives to assess their effectiveness. Collect data on the initiatives, including participation rates and outcomes. Prepare a summary analysis of this research.

Task B. To assemble a panel of industry cluster experts from around the country to review the information collected as part of task A, provide an initial assessment of the initiatives, and give feedback on how they might be improved.

Task C. To prepare a report based on the information and analysis as generated as part of tasks A. and B.

GOALS OF THE REPORT AND THE ROLE OF THE PANEL

The aim of this summary report is to lay out the methodology of the assessment study and summarize the research team's observations with regard to the TIP project. The report is also a working document to stimulate discussion around the assessment.

The purpose of the panel workshop on July 12th and 13th was to identify key issues and gaps in the assessment framework and process and to provide the industry coordinators, their partners, and the panel with an opportunity to talk about the process of cluster-based organizing for workforce development. The explicit intent of the panel was not to evaluate the TIP project but to use the insights of the panel and participants to inform and improve the assessment framework. There was also an opportunity for coordinators and their partners to talk to people who have implementation experience and discuss the impacts of the cluster approach on industry, educational institutions, and workforce five, ten years down the road.

For these reasons, we selected panel members on the basis of their diverse perspectives and experiences with regard to economic development in general and industry cluster in specific.

The specific responsibilities of the panel members include:

- To study the prepared summary before the panel workshop was convened,
- To listen to presenters from the research team and the TIP project team,
- To synthesize, and evaluate information from the report and from the presenters and provide suggestions and recommendations (oral and/or written) to the research team at the conclusion of the workshop, and
- To share knowledge and insights that result from the integration of new information on the industry cluster approach in Minnesota with previous experience and knowledge.
APPENDIX B: ASSESSMENT PROCESS

WHY ASSESSMENTS?

The argument behind ongoing assessments is that they are an integral component of the implementation process. Without ongoing assessments, it is difficult to benchmark the effectiveness of initiatives and to record accurate information in order to facilitate future replication. The recent Economic Development Administration guide to the industry clusters framework, *Cluster-Based Economic Development: A Key to Regional Competitiveness*, suggests that “progress measures” should be embedded in the implementation framework and not separate from it. The report further emphasizes that both programmatic and outcome information should be included in order to understand both what activities have occurred and the effect of those activities.\(^\text{18}\)

The EDA report focuses on the application of a clusters based strategy for broad based economic development rather than workforce development *per se*. However, one of the three measurements of progress identified by the EDA applies directly to the MnSCU initiative: *the responsiveness of economic infrastructure to clusters*. Fundamentally, the TIP project is an action by “economic infrastructure” to respond to the needs of the regional industry clusters.

Keeping the goals and the scope of the TIP project in mind, there are four trends which EDA identified as components of successful clusters implementation strategies. These four trends may be useful in assessing MnSCU’s progress towards its goal of serving its students and the regional economy more efficiently:

- Reaching out to the region not just one jurisdiction
- Emphasizing clusters not single industries or firms (also including buyers and suppliers)
- Focusing on building broad input advantages not narrow incentives (i.e. looking toward the long term)
- Acting collaboratively not unilaterally\(^\text{19}\)

The Humphrey Institute of Public Affairs’ State and Local Policy Program (SLPP) has researched applications of the cluster strategy for regional economic development since 1994. The State and Local Policy Program has produced six reports and studied seventeen industries in four Minnesota regions. These studies sought to provide Minnesota communities with a better understanding of their regional economies and to facilitate the use of the cluster framework as an organizing and service delivery tool. The MnSCU assessment project expands on SLPP’s recent clusters implementation project and seeks to work with MnSCU to determine the viability of the clusters framework as an organizing framework for service delivery.

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\(^{18}\) *Cluster-Based Economic Development: A Key to Regional Competitiveness* by the Economic Development Administration, United States Department of Commerce, October 1997.

\(^{19}\) *Cluster-Based Economic Development: A Key to Regional Competitiveness* by the Economic Development Administration, United States Department of Commerce, October 1997, p. 67.
APPENDIX C: MICHAEL PORTER'S DIAMOND OF ADVANTAGE: A TOOL FOR ANALYSIS

The diamond of advantage model was developed by Harvard Business School Professor Michael Porter. The model presents economic development in a different way than policy makers have thought of in the past. In his book, *The Competitive Advantages of Nations*, Porter argues that economic vitality is a direct product of the competitiveness of local industries. Previously, economists discussed a region's comparative advantage as being based upon cheap inputs and low cost labor. Porter contends that regions must develop a competitive advantage based on the ability to continually innovate. Innovations are based on the following four key elements:

1) **Factor Conditions**, such as a specialized labor pool, specialized infrastructure, and sometimes selective disadvantages that drive innovation;
2) **Home Demand**, or local customers who push companies to innovate, especially if their needs or tastes anticipate global or local demand;
3) **Related and Supporting Industries**, nationally competitive local supplier industries who create business infrastructure and spur innovation and spin off industries;
4) **Industry Strategy, Structure and Rivalry**, intense rivalry among local industries that is more motivating than foreign competition and a local "culture" that influences individual industries' attitudes toward innovation and competition.

In addition to these areas, the Porter approach includes the roles of the government and chance. Historical accident and/or government actions tend to play significant roles in the early development or location of local industrial clusters.

Figure 1. Michael Porter Diamond of Advantage

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20 Industry clusters are geographic concentrations of competitive firms in related industries that do business with each other and that share needs for common talent, technology, and infrastructure. These regional clusters are the source of jobs, income, and export growth within a region.
APPENDIX D: INTERVIEW QUESTIONS FOR MNSCU TARGETED INDUSTRY PARTNERSHIP

GOALS QUESTIONS:

1. Describe in your own words the objectives and/or goals of the TIP project.

2. Please briefly describe your industry.
   - What surprised you the most about it?
   - In your estimation, what is the key issue affecting the industry?

3. Have you adapted the goals and/or objectives in any way to fit the culture of your industry or is there already a good fit between them?
   - If you have made adjustments, please describe them.

PROCESS QUESTIONS:

1. How would you characterize the activities that make up the bulk of your work: administrative, outreach (what kind?), organizational meetings, and research?

2. Given perfect choice. How would you reallocate your time to be the most effective?

RESULTS QUESTIONS:

1. What would you consider the measurable results of your project?

2. What are the barriers or obstacles to achieving your goals?
   - Within MnSCU?
   - Within the industry?
   - Individually?
   - Within TIP?
   - Other?

3. Which objectives do you expect to be addressing in the next two months and how?
APPENDIX E: NATIONAL PANEL AND PANELIST ADVICE

On July 12 and 13, The State and Local Policy Program convened a panel of experts from within Minnesota and across the nation. The purpose of the workshop was to identify key issues and gaps in the assessment framework and to provide the industry coordinators, their partners, and the panel with an opportunity to talk about the process of cluster-based organizing for workforce development. The explicit intent of the panel was not to evaluate the Targeted Industry Partnership project, but to use the insights of the panel and participants to inform and improve the assessment framework. It was also an opportunity for coordinators and partners to discuss the impacts of the cluster approach on industry, educational institutions, and workforce five, ten years down the road, with people who have cluster implementation experience.

JOE CORTRIGHT is a consulting economist in Portland specializing in industrial competitiveness, workforce, and small business issues. His firm, Impresa, works with state and local governments, private businesses, foundations, and advocacy groups in more than a dozen states.

NED HILL is Professor in Urban Studies and Public Administration and Senior Scholar in The Urban Center at Cleveland State University’s Maxine Goodman Levin College of Urban Affairs. Dr. Hill is also editor of the Economic Development Quarterly.

MARY JO WAITS is Associate Director of the Morrison Institute for Public Policy, where she overseas project development, publications, research and analysis in the areas of the environment and economic development. She was one of the three leaders of the consultant team for the multi-year Arizona Strategic Plan for Economic Development (ASPED) project.

ROGER HUGHES is the Director of the Job Skills Partnership in the Minnesota Department of Trade and Economic Development, a program seeking to catalyze and develop cooperative training projects between business and education.

BECKY KELSO is a former state senator and chair of the Education Committee. She is currently the director of Upgrade Minnesota, a program of the Minnesota High Tech Association.

LIBBY STARLING is acting director of Research for the Minnesota Department of Economic Security. Ms. Starling prepared the first industry cluster study for the State & Local Policy Program.
APPENDIX F: PANEL MEETING PARTICIPANTS:

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South Central Technical College

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MnSCU Targeted Industry Partnership

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College of Education and Human Development, University of Minnesota

Jennifer Clark, Research Specialist
State and Local Policy Program, Hubert H. Humphrey School of Public Affairs

Margaret Delehanty, Project Assistant
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Don Imsland
Imsland Associates

Jeralyn Jargo, Project Manager
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Alan Johnson

Kristin Juliar, Health Care Industry Coordinator
Targeted Industry Partnership, Minnesota State Colleges and Universities System

Pradeep Kotamraju, Software Industry Coordinator
Customized Training, Dakota County Technical College
Targeted Industry Partnership, Minnesota State Colleges and Universities System

Sharon Lacomb, Dean
Customized Training, Dakota County Technical College
Tammy Langfeld, Taconite University Project Assistant
Targeted Industry Partnership, Minnesota State Colleges and Universities System

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Michael Murphy, Associate Vice Chancellor and Executive Director of the Corporate University
Minnesota State Colleges and Universities System

Terry Murray, Precision Manufacturing Industry Coordinator
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Cheryl Samuels, Education Lead
Health Care Partnership
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Elizabeth Templin, Extension Educator, Community Resources Specialist
University of Minnesota Extension Service

Richard Tvedten, System Director for Continuing Education/Customized Training
Minnesota State Colleges and Universities System

Francisco Trejo, Dean, Technical Areas
St Paul Technical College
Minnesota State Colleges and Universities System
APPENDIX G: PANELIST RESPONSES/SUGGESTIONS FOR TIP PROJECT:

1. How would you assess the TIP program thus far in terms of strengths and weaknesses?
2. Suggested measures of success?
3. What advice do you have for the future?

LIBBY STARLING:
- Seem to be several levels of goals: using economic development and clusters and industry and MnSCU partnerships to lead to a workforce development strategy.
- Development of ongoing partnerships is a long term planning effort
- Strength: it is an industry partnership with industry at the table
- What level do the partnerships want to work at?
- Do you want to address/integrate a sustainable approach?

BECKY KELSO:
- Missing: not enough looking at the labor shortage projections and taking them seriously (missing the intensity of the labor shortage)
- The question/problem is more than do our programs match industry needs---
- How are we going to increase #’s (Quantity rather than Quality).
- Customized training is only 1.5% of MnSCU’s budget and it gets rave reviews but is too small.
- Need to learn how to duplicate success on a larger scale.
- Trade associations are a problem (specifically printing).
- Taconite should not have selected.
- Higher education has to respond to dramatic changes in IT labor market. Need skill standards parallel to health care

ROGER HUGHES:
- Thinks that the plans for the partnerships are pretty traditional
- Wanted to see more action items
- Who is serving as the industry representation is unclear,
- Wants to see MnSCU institutional change but instead sees the partnerships in flux/not grounded
- Don’t know how to assess the success
- Should operate as if one time funding so speed up progress;
- Don’t institutionalize dinosaurs
- Look at a retention focus,
- Don’t like national skill standards...look at local skill standards
JOE CORTRIGHT:

- Three S's: Scale, Scope, Satisfaction:
  - Scale:
    - How big should the response to industry be?
    - What is MnSCU's expectation for its market share?
  - Scope:
    - What are industry's concerns?
    - Need to partner with other organizations in order to be responsive to all of industry's concerns.
    - Don't limit things to education or will lose people.
  - Satisfaction:
    - Need to determine the level of industry satisfaction and embark on some marketing exercises.
    - The 1st challenge is to define and understand the industries.
    - The 2nd challenge is to anticipate problems (identify the factors influencing success of the next five to ten years)... 
    - Identify the road to sustainability:
      - The work integrating MnSCU into industry is politically good
      - Advice/Critical Point: TIP has raised expectations: must follow-up or will poison the well for some time.
    - What policy changes can be considered to change the system to make this work possible?
    - MnSCU: customized training for groups of firms (allow self organizing); aggregate demand.
    - Promote learning among firms (look at 5/10 yrs out)
    - Identify yourselves as a resource and as facilitators
    - Industries/firms change: Education contributes to the environment of firms...entrepreneurship is part of education.

MARY JO WAITS:

- Seem to have embraced the customer model which is good.
- Hard to work without common language so it's also good that effort has been made.
- Need to expand who is at the table to a wider industry segment.
- Also need to add some players on the partnership level: missing on the supply side---not vertically integrated enough.
- Need to have the pipeline and K-12 at the table and market the professions.
- Need to know more about expectations for the future...look at the current trajectory.
- Numbers don't mean anything --- need to have an ongoing dialogue...paint a picture of the long term.
- Have to show changes in the numbers if you define the problem in terms of numbers.
- If you define the problem in numbers you have to define success (at least in part) in numbers.
- Dynamite product (Terry) broadcast that success!
- Need to have a talk about institutional change
- Success can be measured by willingness to pay (willingness of the industry). Determines whether the industry is willing to buy MnSCU’s product. Good measurement tool.
- Talk about yourselves as a group instead of individually.
- Better respond to industry.
- Set some short term achievable goals.
- Raise the visibility: schedule big show and tells; do presentations with newspapers, chancellors, governors
- Change takes a long time
- Keep the groups together and gain visibility to other service delivery organizations
- PACKAGE the legislation: be a group!

Ned Hill:
- Biggest problem is that the sum of the parts is bigger than the perception of the whole.
- There is a “brand problem”...need to have MnSCU build an image of the whole.
- Unclear whether these are the right industries but they are probably pretty close.
- Language issues in articulating where the partnership fits: workforce development v. economic development and TIP as a educational component of a bigger package.
- Need to move toward the economic development by 1. Get other “suppliers” at the table (public and education). 2. Clusters: must have suppliers and customers at the table.
- Need to determine what MnSCU’s real commitment is...need to talk about possible future scenarios and the ongoing status of the partnerships.
- MnSCU: customized training needs to have credit preference to aggregate demand...training should be transferable. (exp. Reverse 2 and 2 training).
- Didn’t hear: barriers to success within the industries identified and no broader institutional challenges identified.
- Health Care: quickly delivering
- Precision Manufacturing: Likes the BA...probably can apply to printing as well. What are the products?
- Taconite: Not a big issue
- Software: Involves economic anthropology; don’t hold to the 18 month deadline.
- Split up the software cluster and develop a coherent story of the industry.
- Printing: people don’t seem to trust the stakeholders...expand the table to include suppliers.
- Marketing piece: In two months (right after labor day) start advertising the project’s successes and have the private sector do the talking. Do this together! Include anecdotes and #’s.
APPENDIX H: REFERENCES


Community College/Cluster Connections: Specialization and Competitiveness in the U.S. and Europe, (1998), Stuart Rosenfeld.

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