Successful Government-Industry Models of Industrial Outreach

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The modernization of American manufacturing enterprises became a major concern of government and industry in recent years. The principal causes for this public-private concern over industrial strength and economic growth have been based on the perceived decline in American industries share of world markets, the dislocation of workers as a result of the cutback in defense spending, and the successful and massive introduction of foreign made products into American markets. The evidence of the economic problems are wage stagnation and job losses in many industries, a decline in world market share. , a loss of employment opportunities, and a severe imbalance in trade with foreign countries.

The responses to these problems, after the initial reactions such a restraints on imports, were that industry needed modernization, access to research, and incentives to bring new processes and products into the market. The long standing faith in technology combined with the realization that major competitor countries were focusing on manufacturing brought into focus the need to spur the introduction of technologies into the markets and processes. The need to interject appropriate technologies into products, processes and systems demanded interventions into the existing processes of transferring technologies. There was also the realization that large companies had the human and financial resources but the smaller companies lacked these capabilities. Technological solutions, along with the implementation of new management techniques and more attention to the needs of national and international customers, became the focus of industry and government. Along with this realization were the studies that revealed the dearth of automation in smaller American companies as compared to those in Japan.

Introducing new concepts and technologies that would make manufacturing companies more adept and modem, carried the assumptions that these technologies would mean lower costs, better products, and more employment. Firms producing better quality good at lower costs would be able to compete with foreign firms, thus solving many of the balance of payment, economic growth, and wage issues. Strengthening the manufacturing sectors would also mean a stronger nation in economic and military terms. The common good in government and private terms was seen as the reason for introducing new partnerships that would focus on modernizing manufacturing companies. Better products and lower costs would mean expansion of market share, wealth and influence.

The issue of how to accomplish the goals of economic growth through technology utilization under the constraints of a drive to reduce the federal budget. This meant that the states and industries would have to participate in the endeavor and that the results would need to be realized quickly in order to sustain political support. Politics of the day also demanded that the programs and incentives be directed at the smaller manufacturers. Large companies were assumed to have the capabilities to pursue modernization and foreign market penetration without the help of government. Many of the large companies already had proven their ability to successfully compete aircraft, electronics, computer, software, pharmaceutical and several other industrial sectors. But it was painfully clear that smaller companies lacking these capabilities and resources were not adopting newer technologies and were losing market share domestically and internationally. Smaller firms by nearly every measure used fewer technologies than larger firms and indeed fewer than their overseas counterparts.

A variety of alternatives were implemented by states and the federal government to remedy the problem. Lower corporate and personal taxes, public money to support applied research, tax incentives for investments in equipment and research, removal of some regulatory constraints, assistance in examining foreign market opportunities, and technical assistance programs were implemented. The later, industrial out reach, is the focus of this paper and is evidence of one of the most dramatic shifts in support for industry in several decades. The federal government, after years of offering

very small programs in technical assistance, decided that industrial outreach would be a major focus. The basis for the technical assistance, other than the problems to be addressed, was the successful agriculture extension service that helps farmers in every state access new techniques and research. The agricultural, or cooperative extension service, was a part of the effort that made American agriculture the most productive and efficient in the world. Perhaps a similar, but less extensive program would work in industry.

The federal government effort in industrial extension was welcomed by the handful of states that had committed resources to helping industry for many years. The state programs, except for a few instances, were small and located at public research universities. Several states including Iowa, Georgia, Tennessee, and Pennsylvania had university programs that assisted industry for decades, and offered models for the federal government to build upon. However, the uniqueness of this federal program, compared to many federal programs, was insistence upon industry-state-federal partnerships that focused the needs of industry rather than the needs perceived to be important by a government agency. The delivery model was also left to agreements between the states and the federal government.

Congress allocated a small amount of funds to the Manufacturing Extension Partnership (MEP) program in 1991. Congress dictated that the partnerships would address the needs of industry, improve international competitiveness, and concentrate on the technological needs of small and medium size companies. Funds were to be matched by the states or other entities and assistance would be given to states in planning these services. Congress also stipulated that existing organizations serving industry would become a part of the programs, thus avoiding conflicts with existing organizations. Starting with a few million dollars and three centers program MEP now has programs in 42 states and Puerto Rico. The 1996 federal portion of the program is $80 million, and this is more than matched by the nonprofit organizations offering the technical outreach services.

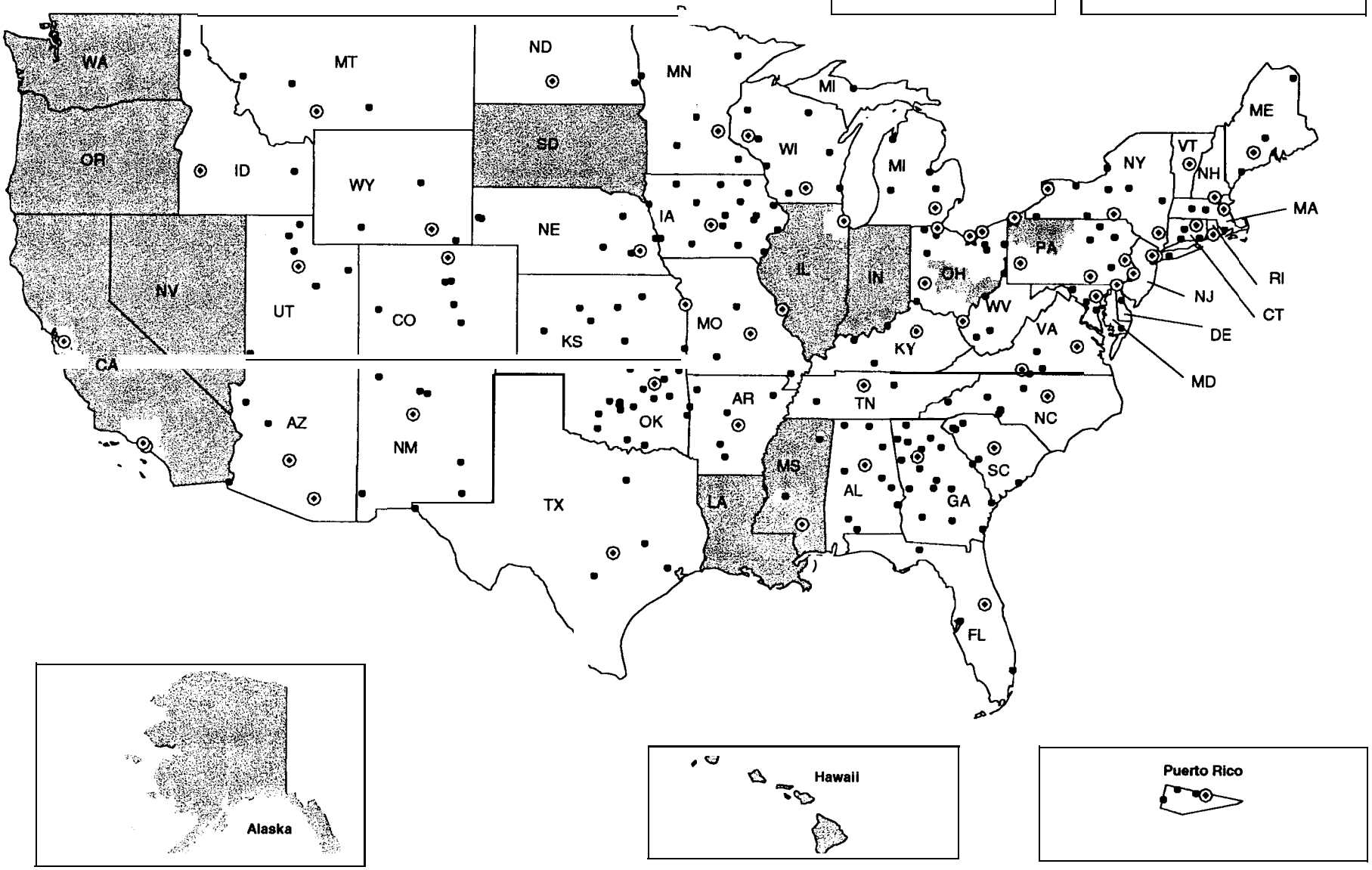
The Manufacturing Extension Partnership (MEP) has specific mandates: delivery of technical services through existing organizations, development of a national system to deliver technical assistance, the modernization of industry, improving the international competitiveness of industry, partnering with the states and other non profit entities in funding and management, addressing the needs of small and medium size industry, and offering technical services that are not readily available through the private sector.
The models developed in cooperation with MEP are based upon the needs and culture of the specific state joining the partnership. These models range from nonprofit stand alone corporations to state agencies or universities. Selecting the model for outreach is sometimes determined by the existence of an existing strong state wide program, but more frequently the model is selected after an intensive examination of the needs of industry and the type of services available in the state or region. In all cases federal support is dependent upon the identification of a well managed program that can coordinate existing services in solving the problems of industry. The planning process, critical to success, is called STEP, or State Technical Extension Program. The STEP funding and process leads to the need identification and the structure that will be used in the development of a statewide program, or center.

As a result of the infusion of federal funds and a planning process MEP currently has 60 partnerships in 42 states. There is also an effective evaluation system that is used by all centers, frequent meetings of center directors for the exchange of ideas, and management support systems to help the centers become more effective in their outreach.

The models used in delivering technical assistance are an amalgam. Mid America MTC (Kansas) is entrepreneurial and offers fee based services in several states. The program is the most unique and sometimes controversial among the MTC'S, but clearly offers effective programs. The Mid America agents assess company problems, offer solutions, contract with others for the delivery of more complex services, and collect fees for the service. Aggressive, entrepreneurial, and bottom line.

The Georgia Manufacturing Alliance is based on a statewide 35 year old engineering extension program with strong state support. Concentrating upon engineering related issues in manufacturing and free services for the first five days, the Alliance has numerous partners for training and management problems, including Small Business Development Centers, a utility company and the technical colleges. The engineering services are delivered through regionally based full time staff with industrial experience in

MEP Coverage/Center Locations - January 1996



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This map shows the growing network of manufacturing centers including established operations and new centers coming on-line. The symbols encompass headquarters and field office locations. Since 1989, MEP has made 60 awards for extension center operations in 42 states and Puerto Rico.

advanced manufacturing.

The Iowa MTC has another unique model. The MTC contract from MEP is through Iowa State University but is based in a community college and contracts for all technical assistance through other providers. University extension, the small business development center, community colleges, state technology transfer centers and others are all sub contractors that provide assistance directly to industry.

The technical service programs in the 42 states may appear very different in management structure and design, but they do have common features: all having matching funds from non federal sources, all provide services in a specific geographical area, all are committed to addressing the needs of small and medium size industry, all have clear management structure and controls, all have evaluation systems to measure their effectiveness, all have partners that can provide services, all have plans for implementation, and all understand that the federal support may not be available in the future.

The continuation of federal and state support for outreach programs to industry depends on the ability to deliver useful services. Plant layouts, JIT, new equipment recommendations, 1S0 9000, quality programs, new materials, other advice must be measured in these programs. The evaluation measures used by the centers vary internally, but all report on the hard measures of cost savings, increased sales, new capital investments, and jobs added or saved. Additionally some centers measure reduction of waste, increased exports, company hours dedicated to the solutions, profitability increases, and general satisfaction with the services. Reports indicate benefit multiples of 20:1 to 3:1. A less reliable, but important measure of success is perception. Measures of satisfaction and timeliness are common. A recent soft measure of effectiveness was political. During 1995 manufacturing executives sent over 1,000 letters of support to Congress when the MEP program appropriations were threatened.

The publicly funded technical outreach programs for industry are evolving, but they are clearly a part of the industrial and governmental frame of reference today. The federal role may diminish, but systems have been set in place that should assure a nationally linked system. The models that remain will vary in structure, but they will have common elements. The elements are:

- Dedication to improving manufacturing profitability
- A secure public funding base
- Availability of competent and experienced staff
- Unbiased recommendations
- Responsiveness to the needs of industry
- Excellent leadership and management
- Accurate evaluation systems
- Cost effective delivery systems
- Political and industrial support
- Links to training, education and research
- Defined plans and objectives

Biographical Information

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