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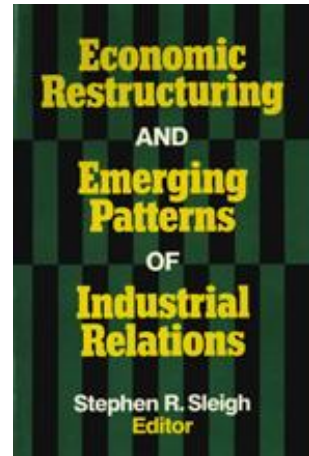
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Efforts:  
Textile and Apparel Labor-  
Management Innovation  
Network, Lehigh Valley,  
Pennsylvania

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# 6

## Collaborative Restructuring Efforts

### Textile and Apparel Labor-Management Innovation Network Lehigh Valley, Pennsylvania

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In 1989, the Pennsylvania Departments of Commerce and Labor and Industry designed the Manufacturing Innovation Network Initiative, or MAIN, to test whether the state could stimulate regional concentrations of related firms to organize consortia. Firms were considered to be related to each other if they served similar markets. These consortia were expected to strengthen the competitive position of the firms by developing new business services, transferring best practices between firms, and forming new production relationships among firms.

Rapidly changing technology and high standards for quality and speed of delivery are forcing firms to cooperate in new and significant ways.<sup>1</sup> The number of strategic partnerships is growing, and the range of issues around which they are organized is increasingly significant. For instance, companies are joining together for research and development, capital investment, concurrent engineering, product development, and to provide technical assistance to suppliers.

Most examples involve cooperation between large companies. However, there are many examples from Europe and Japan, and to a lesser extent the United States, of smaller firms joining together at a regional level to strengthen their competitive position.<sup>2</sup> These firms tend to be clustered in close geographic proximity to each other and are joining forces to achieve a number of goals, including: combining their complementary manufacturing capabilities to produce goods for the

final market; establishing service centers that provide shared marketing, engineering, design, and testing services; developing lending consortia that provide investment capital to member firms; and organizing export, training, and educational reform programs.

MAIN, which is managed by the Department of Commerce's Office of Technology Development, is built on two premises. First, some problems are simply too large for individual firms to address alone. Second, collaboration among firms and between firms and unions can create a learning system which can be a powerful force for manufacturing modernization and other innovations.

With respect to the first premise, about 95 percent of Pennsylvania's 17,500 manufacturing establishments employ fewer than 250 workers. Pennsylvania considers firms of this size to be small firms. While small firms are often innovative and flexible, they face certain vulnerabilities. These would include insufficient resources (capital and people) for research and development, training, marketing, and exporting. They often have problems securing investment capital for modernization. Finally, they are unable individually to improve the local business infrastructure that supports them; for example, they are unable to reform the educational system, open up new sources of investment capital, or strengthen the local economic development institutions that provide business services.<sup>3</sup>

The second premise of MAIN is that collaboration between firms, and among firms, associations, and labor organizations where they exist, creates the potential for a learning system that stimulates modernization and innovation. An example from the knitwear industry in Carpi, Italy illustrates this point.<sup>4</sup> About 10 years ago, 600 small knitwear firms in this northern Italian city designed and financed, with government assistance, a service center which enables them to share the costs of marketing research, design, training, and other activities that would be too expensive for individual firms to support. While these services alone are of value to the firms, the interaction between the firms' owners at the service center is of equal importance, for it leads to valuable information exchange and peer pressure to keep pace with the more innovative firms. This stimulates modernization and innovation. The MAIN initiative limited itself to supporting projects targeted at regional concentrations of related firms to maximize the

chances that firm representatives would personally interact with each other.

Through MAIN, the state is testing these two premises in four geographically concentrated industries: the apparel industry in the Lehigh Valley, where there are about 250 apparel companies employing 15,000 workers; the plastics industry in Erie, where there are 80 plastics companies employing over 8,000 workers; the tooling and machining industry clustered in Erie, Pittsburgh, Lancaster/York, and the Philadelphia areas; and the foundry industry in Pittsburgh, where there are between 50 and 60 foundries employing 6,000 workers.

The state identified these industry clusters using a request-for-proposal process, not an extensive economic analysis. Trade associations, trade unions and nonprofit economic development organizations were encouraged to submit bids. It was especially hoped that trade associations would respond, assuming that firms would be most likely to identify with them. In addition, we expected that, as a result of this project, trade associations would discover new ways to help their members through the delivery of innovative services.

The state received eight responses from seven trade associations and one economic development organization. Proposals were evaluated by a team of representatives from the Departments of Commerce and Labor and Industry and from academia. The evaluation criteria were as follows: a demonstrated understanding of the industry; the formation of an industry-led steering committee; a realistic project design; the strength of the management team; and the level of private sector financial support.

Based upon the recommendations of the evaluation team, four projects were funded. Three of the four projects were managed by trade associations and one was managed by a nonprofit economic development organization. Two of the projects received \$90,000, one \$80,000, and one \$25,000.

While the proposal guidelines for MAIN were very general so that each industry could design a project tailored to its needs, the evaluation committee placed the greatest emphasis on two criteria. The first was the formation of a strong Steering Committee comprised, at a minimum, of business representatives from the industry and trade union representatives if the industry was unionized. The membership of the Steering Committee could be expanded to include others from the

community with a special interest in the industry. For example, some Steering Committees had representation from local economic development organizations, vocational-technical schools, and community colleges. The second requirement was a detailed description of how the Steering Committee would use a strategic audit process to identify the industry structure, key market trends, common problems and opportunities, patterns of innovation, and strategies for improvement.

The importance of the Steering Committee to the success of the MAIN projects must be emphasized. The Steering Committee had three roles; first, to direct all phases of the project and to ensure that it was industry-led and industry-driven; second, to coordinate and integrate services available in the region that can support the industry; and third, to resolve conflicts between stakeholder groups in the industry.

It is also useful to highlight the importance of the strategic audit process. The strategic audit produces information and often surprising results that can lead to what Chuck Sabel of the Massachusetts Institute of Technology has described as “cooperation through studied consensus.” This is especially true if the audit relies on personal interviews with industry leaders. Used in this way, the audit becomes a tool to draw more firms and unions into the project, uncover industry leaders, develop new cooperative relationships, and organize the industry for improvement projects.

Key problem areas emerged in all four projects almost immediately after the strategic audits started. Tooling and machining firms identified as their most critical problem a shortage of tool and die makers and, in partnership with high schools, launched a youth apprenticeship program; foundries began to develop a strategy for disposing of foundry sand; plastics companies identified the need for new types of equipment that would be shared by the firms, as well as new training and export programs; and apparel firms focused on developing technology, marketing, new services, work organization, and supervisory training strategies.

Since 1991, the MAIN initiatives have been managed by Pennsylvania's Industrial Resource Centers (IRCs). The IRCs, which were established by Governor Robert P. Casey in 1988, are regionally based, industry-led, nonprofit corporations. Overseen by the Office of Technology Development, the IRCs are the manufacturing equivalent of the agriculture extension service. Staffed by professionals with industrial

and economic development experience, they help firms in their regions adopt modern manufacturing technologies and techniques. The IRCs accomplish this goal by working one-on-one with individual companies, and by forming networks of related firms as in the MAIN approach.

This report focuses in detail on one of the MAIN initiatives—the Lehigh Valley Apparel and Textile Innovation Network. This project distinguishes itself from the others by a high degree of union involvement. As such, it is an important example of how a labor-management participation process at the industry level could help spark the restructuring and modernization of a regional industry.

### **The Lehigh Valley Apparel and Textile Innovation Network**

In 1988 there were approximately 125,000 people employed in the apparel and textile industry in the Commonwealth of Pennsylvania, accounting for 13 percent of the total manufacturing employment sector. Over 50,000 of these employees were members of either the Amalgamated Clothing and Textile Workers Union (ACTWU) or the International Ladies Garment Workers Union (ILGWU).

The apparel and textile industry of Pennsylvania has been under severe competitive pressure in recent years. Both production and employment have declined sharply as a result. In 1988, apparel alone accounted for over \$21 billion or 15.5 percent of the total U.S. trade deficit. Approximately 60 percent of U.S. expenditure on apparel went to foreign-made garments, and the great bulk of these imports originated in low-wage countries. The failure of this industry to respond to competitive pressures was readily apparent, and Pennsylvania was particularly hard hit. For example, from 1974 to 1985, the industry declined more than 37 percent within the Commonwealth, while nationwide the decline was 16.5 percent.

This innovation effort centers on the Lehigh Valley, including the municipalities of Easton, Bethlehem, and Allentown, and the counties of Northampton and Lehigh. Textiles and apparel represent the largest employment sector in the area.

The industry in the Lehigh Valley has changed from one based on local competition for long runs of limited styles, to one facing short runs, new fabrics, rapid style changes, higher quality standards, and worldwide competition.

### ***Strategy***

It was believed that competitive advantage could be returned to this industry by improving production methods and work organization to meet the changing demands of retailers for quick response capability and improved quality. Firms in the Lehigh Valley can take advantage of their proximity to the market by moving from the lower price point niche to the higher end, which is less price-sensitive and more concerned with characteristics such as quality, design, delivery, and rapid response to style changes. Firms able to supply products with these attributes to manufacturers and retailers would be less vulnerable to competition from lower-priced imports.

### ***Relationships***

Over the past decade, joint labor-management efforts in planning and problemsolving have produced significant results in individual organizations. Improvements include fuller use of human resources, higher quality products and services, and closer coordination between departments, divisions, and plants. Most of these systems have been developed separately in individual firms. However, based on this experience we believe that many of these lessons could be applied to the problems of smaller firms in a specific industry clustered in a particular geographic region.

It was critical for the firms within the apparel and textile industry to be able to constantly adjust their responses to pressures from domestic and international competitive forces. Flexible and adaptive economies are dependent on a high level of trust among the participants. The industry needed to develop vehicles for increasing the trust level and productive working relationships.

### ***Goals***

There were four specific goals in mind as Pennsylvania developed this initiative:

(1) Create a joint effort on the part of labor unions, owners and managers of firms, trade associations, economic development agencies, educational institutions, and state and local government to design and direct an effort toward developing a common understanding of the problems of the apparel and textile industry in the Lehigh Valley, and develop a joint approach toward implementing solutions to these problems.

(2) Demonstrate that economic development efforts in this and other fragmented industries can more effectively be directed to a specific sector concentrated geographically, rather than to individual firms.

(3) Develop vertical and horizontal linkages between firms to deal with inefficiencies, and create new learning opportunities in this fragmented industry.

(4) Establish in the Lehigh Valley an ongoing structure and process dynamic enough to continue to evaluate the needs of the industry and generate solutions.

### *Steering Committee*

The first step of this project focused on the Steering Committee. This group met every month and represented the varied constituencies within the industry, as described above. In order to form a cohesive group, we wanted to establish a common base of understanding of both individual and group needs. The problem of industry fragmentation was mirrored in the Steering Committee, so the process of creating a common vision for the industry had to start with this group. Through a planning process, and by discussing the findings of the strategic audit, a common understanding of the problems of the industry and a common vision of a direction for the industry were developed. Relations between members began to improve, as members shared information on training, technology, marketing and labor force recruitment.

The Steering Committee's membership was as follows:

- the Executive Director of the Atlantic Apparel Contractors' Association and the President of the Valley Apparel and Textile Association
- four owners or senior managers of firms



- four International Union Vice-Presidents (two from the ILGWU, and two from ACTWU)
- the Executive Director of the Bethlehem Industrial Resource Center
- the Superintendent of the Easton Area School District
- the Director of the Computer-Integrated Manufacturing Laboratory at Lehigh University
- the Dean of Community Education, Northampton Community College
- the Principal of Northampton Vocational-Technical School

In organizing the Lehigh Valley Apparel and Textile Innovation Network, we attempted to ensure that:

- all stakeholding organizations were represented in a meaningful way;
- the Network continued to organize itself through working groups, allowing for the broadening and deepening of involvement;
- the activities of all groups resulted in a process of mutual education of each organization's needs, concerns and goals;
- the Network became a forum where the groups could work toward solutions to problems;
- trust relationships developed between the various stakeholders, which would serve as a foundation for additional activities.

### ***Working Groups***

The Steering Committee formed working groups made up of its own members and representatives from individual firms, as well as outside resources. Such a mix results in a pool of skills and serves as a method to both broaden and deepen the industry's involvement. The working groups, which are both educational and organizing vehicles, were formed around labor force recruitment and retention, public relations, marketing, and technology.

The results of the Exit Survey, a study of employee turnover, helped the Labor Force Working Group develop an integrated approach to the

issues of recruitment and retention by developing an entry-level skills training course through the Commonwealth's Department of Commerce and a local community college; an industry-specific supervisory training program; and a strategy for upgrading the skills of the existing workforce in conjunction with the local vocational-technical high school.

These activities of the Labor Force Working Group had the added benefit of teaching the various stakeholding organizations about each others' concerns and issues. Another activity was the development of internal resources within individual firms to improve communications, problemsolving, quality, and planning. These internal resources are available as trainers in the plants and facilitate group problemsolving.

The Technology Working Group focused on the development of an apparel-specific technology training course at a local area community college. This activity also included the development of a videotape presentation of the new technology available to apparel firms in the hopes of encouraging broader use.

In addition to the above activities, another working group has been developing a program to promote the industry and to improve its image. Such an activity can help local recruitment as well as make New York City manufacturers (the source of most of the work sewn in the Lehigh Valley) aware of innovations taking place within the Lehigh Valley.

### ***Labor's Role in Economic Development***

Organized labor can play a unique role in this type of economic development activity. First, labor can project democratic values into decisions regarding the selection of new technologies (such as Unit Production systems, CAD/CAM applications, Programmable Sewing Machines, and Modular Manufacturing) and how these technologies are deployed. If the decisions are made without labor's input, then the cooperation needed to fully take advantage of these investments will be limited. Labor unions must be prepared to serve as the voice mechanism that resolves workers' fears about displacement, or fears of having their skills rendered obsolete. Furthermore, this voice function can encourage substantive input into the selection of the technology and the organizational design that accompanies the technology's deployment.

Second, labor competently trained in business strategy and management is uniquely able to add value, providing substantive input, contributing to the competitive success of the industry. Union officers have been trained by their unions to think critically about management decisionmaking, not simply in terms of economic costs and benefits and rates of return, but also in terms of social costs. Furthermore, both the ACTWU and ILGWU have long histories of providing industrial engineering and technical expertise to employers with whom they have contractual relations.

Labor unions can play a role that assures their traditional concerns for democratic values and principles are projected into the managerial decisionmaking process. Unions can provide a valuable review function by an independent, competent body. In order to fulfill these responsibilities, however, labor needs to obtain the required skills at all levels of its organization.

### *Strategic Audit*

The Steering Committee is responsible for defining and managing an economic development initiative for this industry. A critical tool in this effort is an audit of firm business, marketing, and human resource strategies to identify both the major pressures facing the firms in this industry and their most effective responses—what was working and what wasn't. Meaningful information regarding firms' strategic choices is needed in order to describe how successful firms compete. We expected the following results:

- Identification of overall industry strategies
- Judgments about future direction
- Identification of subgroups within the industry and the strategy of each
- Descriptions of patterns of development and opportunities these present for creating interfirm industry networks.

In conducting this audit we focused on 50 leading firms identified by the unions, employer associations, or other firms as examples of success, innovation, or leadership. Strategy, specific adjustments, and choices made over the last five years were examined, as well as trends the firms expect will shape direction over the next few years. It was

important to understand their market niche and any changes they anticipated in price point, quality, delivery, product mix, and batch size. Particular attention was paid to innovative relationships contractors developed with manufacturers and retailers involving new products and services.

The audits involved management and production systems, including the organization of production, and the integration of technology. The research also covered relationships between contractors, subcontracting arrangements, and opportunities for networks to share information, resources, and services. An assessment of training activity was included to determine the skill levels currently pursued by the industry.

Finally, we explored the institutional responses of the ILGWU and ACTWU to the restructuring taking place. The unions' strategies for the future were of interest, as were the responses by the employers' associations, one of which bargains directly with the ILGWU representing its members.

In summary, the strategic audit has become a way for the Steering Committee to:

- describe where this industry is currently positioned and the strategic choices that have already been made;
- identify a strategic vision for the industry; and
- develop a plan to close the gap.

#### *Preliminary Results of Strategic Audit*

The apparel industry has changed from one based largely on domestic competition and regional markets, to one based on global markets and international competitors. This has meant a proliferation of products, an increase in season and style changes, and a growth of market niches. Products are more specialized for particular market segments, and quality demands have increased. Further, retailers have sought to minimize their risk and financing costs by dramatically reducing their inventory levels. By reducing inventories, they have also attempted to minimize the need for discounting. They have moved to smaller orders and shorter lead times, hoping to be able to respond to market trends through a reorder strategy dependent upon quick turnaround production. Since contractors typically have no experience in marketing, sales, piece-goods sourcing, design, and relations with retailers, they

are ill equipped to deal directly with these market changes. Finally, some low-cost market segments that have continued to provide long runs of standardized products have gravitated to low-wage countries.

There did not appear to be any single strategy followed by the majority of the 50 contractors we visited and interviewed. However, responses by firms to changes in the competitive environment seem to fall into three categories: integrative strategies, partial strategies, and nonresponse.

### *Integrative Strategies*

Our study revealed that 25 to 30 percent of the firms were experiencing significant growth in sales, profits, or employment. These successful firms were union as well as nonunion, some older and well established and others in business for less than 10 years. Our audit of firm business and marketing strategies revealed that these firms have developed innovative ways to deal effectively with the new competition by breaking out of the traditional contractor-manufacturer relationship and structure. The new relationships and strategies have some common characteristics which appear to be transferable to other firms.

The most general characteristic that these firms share is that they have increased the services they provide to manufacturers and retailers. These services include the following:

- product design and design for manufacturability
- pattern-making
- marker-making
- grading
- cutting
- packaging
- shipping
- coordinating production among a group of firms
- ensuring quality control in subcontractors
- sourcing and financing piece-goods
- managing all of the above services among a group of firms (total packaging)

While few contractors provide all of these services, it is important to note that traditionally these functions were controlled by manufacturers. Contractors are offering services they have traditionally never provided. They provide these services for retailers' private labels or for manufacturers who now want to shift responsibility to contractors for such services as design, patterns, grading, and marker-making, thus allowing for more rapid response to market trends through co-locating design and production, and involving multiple firms (contractors) in the design, marketing, and product development end of the business. Contractors in some cases collaborate with manufacturers on "design for manufacturability," so that they can increase the speed of design/style changes for new seasons. These collaborations are also geared to lower production costs and improve quality. Multiple innovative contractors are able to specialize in a variety of market niches and thereby simultaneously offer a range of products and delivery times that single manufacturers could not develop on their own. Those who provide these services have broken out of the mold of the typical contractor and benefit through increased sales.

Contractors decrease turnaround time and their ability for quick delivery response by increasing their line flexibility for rapid changeovers and broader product mix. In some cases "lead contractors" go beyond their own firms and take responsibility for coordinating large orders among a network of contractors for a given manufacturer. Contractors also go beyond the boundaries of their own shop and take responsibility for quality assurance away from the manufacturer, in some cases sending their inspectors to other subcontractors.

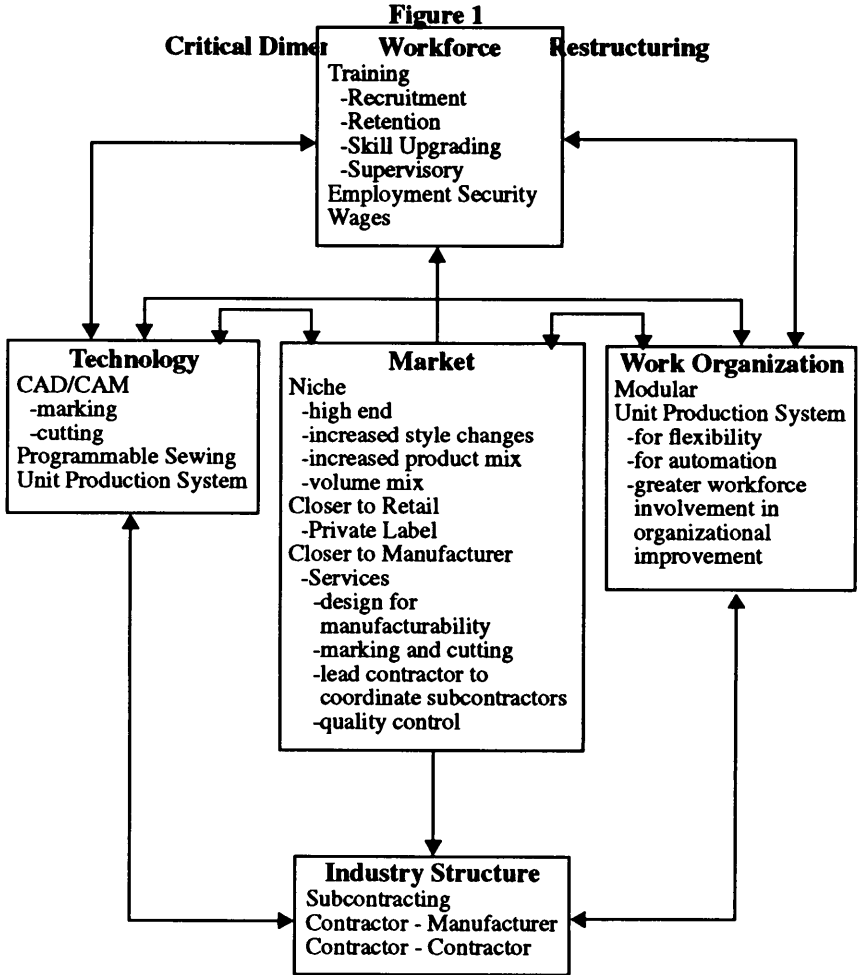
Firms in this category have been able to successfully change their relationship to the market, offering new products and services to manufacturers and retailers, and asserting control in relationships where previously there existed only dependency.

These firms attempted to institute changes in each of the critical dimensions identified (see Figure 1). Further, they appear to have achieved some measure of internal consistency in their systems, integrating across multiple dimensions.

### *Partial Strategies*

These responses were directed toward a particular dimension, i.e., technology, workforce, or other related topics. They tend to be specific programmatic changes in the operations, such as new equipment or

training programs. These responses were not directed toward changing the relationship to the market, i.e., manufacturers or retailers. Further, they tended not to be integrated across dimensions. Approximately 40 percent of the firms interviewed fell into this category.



### *Nonresponse*

Firms in this category were simply hoping their competitive situation would improve, and they were not proactive in responding through strategic changes in their operations. Approximately 30 percent of the firms interviewed fell into this category.

### *Making the Transition*

In trying to understand how the innovative plants were able to break out of the traditional relationships between contractors and manufacturers, we detected three general patterns which distinguished them from the balance of the firms in the sample. We have called these patterns *generational*, *skill-based*, and *new entrants*. The firms characterized as *generational* appear to be making the shift into new services or business strategies as a generation of new owners takes over from the earlier generation. Members of this new generation either ignore the structural boundaries that define the role of a contractor, or simply do not feel the constraints their parents did, and are expanding what contractors typically offer.

The group characterized as making a *skill-based* shift are people who come into the contracting business with nontraditional skill bases such as design, sales, or expertise in computer technology. These people use their skills to drive new competitive strategies, such as product design, CAD/CAM production, or piece-goods sourcing.

The group characterized as *new entrants* is based on a population of new immigrants to the Lehigh Valley from both the Far East and Middle East. These immigrants contract in a nontraditional way, possibly because they had a different tradition in their country of origin, or they didn't see the same constraints. The innovative firms identified have one of these characteristics, having redefined their business by breaking out of traditional patterns.

### *Labor Force Retention*

The apparel and textile industry of the Lehigh Valley in Pennsylvania has faced a severe labor shortage. The industry has experienced great difficulty in its efforts to recruit and retain workers. An assumption by both unions and management has been that the majority of peo-



ple who left this industry did so primarily because of layoffs, shop closings, or dissatisfaction with compensation levels.

We conducted a survey of 3,213 people who have left this industry in the Lehigh Valley over the past few years in order to better understand what improvements could be made to retain the current workforce. Almost 60 percent of those leaving the industry in the last five years left voluntarily, not as the result of layoffs or shop closings. Further, the primary factors cited were “treatment” issues—supervisors, underutilized abilities, lack of opportunities for advancement, and the pressures of the piece-rate system. These four treatment issues accounted for more than 51 percent of the responses when people indicated what would be their primary reason for departure, while pay was the main factor for only 26 percent of the respondents.

The importance of these treatment factors was reinforced when the new jobs people have taken in other industries were compared with their old apparel jobs. The new jobs were rated consistently higher on factors such as treatment by supervisor, opportunities for promotion, and whether workers felt a sense of accomplishment.

Further, workers in the apparel and textile industry perceived that their old sewing jobs required less skill than their new jobs. This perception might exist, in part, because of the lack of formal training in the apparel industry and the significant amount of training reported by employees in their new jobs.

Improvement of treatment factors may provide the apparel and textile industry the greatest opportunity to retain workers, and the industry itself has significant control over this area.

## **Conclusions and Implications**

These findings have implications for the management systems used by apparel firms in the Lehigh Valley. If this industry is to be successful in retaining the skilled workforce necessary to compete in a global marketplace, it will have to adopt new methods of training, supervision, and compensation. In addition, new systems of production are necessary to meet the changing demands of the market for higher quality products in smaller volumes, with more rapid style changes and

quick turnaround production. We believe that the same factors of work organization and skill development that have implications for workforce retention are also critical for marketplace competition. While addressing treatment factors will not solve all of the competitive problems this industry faces, increasing skill levels and allowing for greater use of workers' capabilities can contribute to building and retaining a skilled and motivated workforce, thereby improving quality, productivity, and market responsiveness. This means integrating technology and participation in a way that supports positive human resource practices as well as the changing needs of the market. The Lehigh Valley Apparel and Textile Innovation Network must explore and demonstrate new ways to solve both the competitive problems this industry faces from outside and the very human problems it faces from within.

The effort in the Lehigh Valley is developing some new approaches for solving problems associated with industrial restructuring and increasing competitiveness. One of these innovations is a process of joint labor-management strategic planning at the industry level to identify a future direction for this region, as well as to put in place a more supportive infrastructure. The systems emerging are both social and technical, involving the development of new relationships as well as new systems of production.

The Lehigh Valley Network attempts to help contractors unable to make these changes on their own by providing workshops, conferences, training, direct technical assistance, and access to best-practice examples. The Network helps noncompetitive firms improve by exposing them to new models, and providing the resources and leadership necessary to make the transition.

## NOTES

1. "Learning From Japan," *Business Week*, January 27, 1992, p. 52.
2. See, for example, Charles F. Sabel, "Flexible Specialization and the Re-emergence of Regional Economies," in *Reversing Industrial Decline*, ed., Paul Hirsch and Jonathan Witlin (Oxford: Berg Publishers, 1989); Walter H. Plosila, "Developing Networking Relationships: The Experiences of Denmark, Germany, Italy and Sweden" (Rockville, MD: Montgomery County High Technology Council, 1989); and Brian Bosworth, "Getting It Together: Economic Development, Manufacturing Modernization and Collaboration" (Hudson Institute. Forthcoming), pp. 66-75.
3. Philip Shapira, "Modernizing Manufacturing" (Washington, DC: Economic Policy Institute, 1990), pp. 15-18.
4. Walter H. Plosila, p. 35.