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Most firms are able to secure needed capital investment; some have experienced severe problems.

Minnesota companies appear to be undertaking quality improvement strategies—both through human and capital investments.

Businesses will demand an increasingly skilled labor pool, and there is some concern about shortages of required skills.

THE CHALLENGE TO CHANGE:

Minnesota businesses appraise current conditions, future plans and government roles in the 1990s.

Minnesota's manufacturers view product and technology innovation as increasingly important, and they plan to invest significantly in research and development.

Business groups have intense concerns about the quality and efficiency of primary and secondary schools.

Businesses recommend decreased public spending in most areas but are willing to spend more on programs and services that are important to their business.

Executive Summary

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The Challenge to Change:

Minnesota businesses appraise current conditions,
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Executive Summary

Table 1

Group Sample Size

| | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|----------------------------|----------------------|----------------------|-----------|--------------------|-------|
| Number of Surveys Mailed | 512 | 523 | 507 | 456 | 314 |
| Number of Surveys Returned | 293 | 240 | 240 | 223 | 155 |
| Rate of Return | 57% | 46% | 47% | 49% | 49% |

Overview and Findings

Minnesota's businesses look ahead to the 1990s as a time of growth and change. The change will challenge the way they do business and the services they require of employees, suppliers and government. Their chief concerns center on human resources — the skill and availability of skilled labor and the cost or effectiveness of employee benefit programs. They will demand an increasingly skilled laborforce. Reflecting their concern over the future of the workforce, they see a critical need for improving education — especially in primary and secondary schools. Workers' compensation and unemployment insurance levies, together with liability insurance requirements, are perceived as the most burdensome taxes or regulatory impositions. While wishing to hold down the costs of public services, they are willing to pay more for those that benefit them in tangible ways. Quality and productivity improvement strategies are apparent in both human and capital investment. They are actively involved in developing products and seeking technological solutions through research and development (R&D). They are satisfied with the state's physical and capital infrastructure.

These findings are among the results of *The 1990 Minnesota Enterprise Business Survey*. The study was conducted throughout 1990 by the Minnesota Department of Trade and Economic Development. Surveys were distributed to businesses in March and April of 1990. The survey, undertaken to assess business concerns and projected needs for the 1990s, is the most comprehensive business attitudes study undertaken in Minnesota in the past decade. (See Appendix for complete survey.)

Reflecting the major business constituents of the Department, survey samples were drawn from large firms, small to medium-sized fast-growing firms, Greater Minnesota manufacturers, high technology firms, and small-to-medium-sized exporters. More than 2,300 companies in the five groupings returned nearly 1,200 questionnaires, a response rate of almost 50 percent. Table 1 presents the sample size and return rate for the five groups. Samples were selected based on an expected rate of return of 50 percent. Thus, the rate of return allows a 95 percent confidence level that the margin of error of the results is within 5-7 percentage points.

Focus group sessions with company executives from the five groups were used to design the survey questionnaire. The same groups were also brought together after the survey was completed to assist in the interpretation of results.

In the body of this report, findings for each group are presented in considerable detail. The objective in this chapter is to summarize the findings of the survey and to highlight and discuss the major themes that emerged from this effort. Findings and themes are organized into three categories: 1) Current business conditions and issues; 2) Plans for the 1990s; and 3) Impact and role of government. Selected comments gained from business executives during the second set of focus group sessions helped the interpretation of the survey results and are included to illustrate and explain some results.

Table 2

Satisfaction with Energy Service (percent "somewhat satisfied" — rating 3 or 4)

| | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|--------------|-------------------|-------------------|-----------|-----------------|-------|
| Cost | 61% | 57% | 53% | 58% | 68% |
| Reliability | 91 | 89 | 88 | 84 | 89 |
| Availability | 92 | 89 | 93 | 90 | 92 |

Table 3

Importance Ratings of Energy Service Characteristics (percent distribution)

| | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|--------------|-------------------|-------------------|-----------|-----------------|-------|
| Cost | 68% | 71% | 68% | 57% | 72% |
| Reliability | 80 | 81 | 83 | 74 | 84 |
| Availability | 74 | 78 | 77 | 66 | 80 |

Major Themes: Current Issues and Concerns

The 1990 Minnesota Enterprise Business survey included questions about current business operating conditions, including adequacy of infrastructure, capital access, and laborforce.

MINNESOTA'S BUSINESSES ARE VERY SATISFIED WITH THE STATE'S INFRASTRUCTURE.

Companies in the five groups rated their satisfaction with their energy service systems and with their primary modes of transportation.

Energy

Natural gas is used as the predominant source of heating energy by Minnesota's manufacturers; more than 50 percent of firms in each group reported using it. Among manufacturing firms, electricity is the most-used process energy, followed by natural gas. Satisfaction levels with cost, reliability, and availability of energy systems were very high for all five groups (Table 2). The groups were most satisfied with the energy service characteristics that were also rated as most important — reliability and availability (Table 3). However, a majority of all five groups were also satisfied with the cost of their energy service.

Table 4

Primary Transportation Mode (percent distribution)

| | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|------------------|-------------------|-------------------|-----------|-----------------|-------|
| Truck | 60% | 52% | 55% | 53% | 60% |
| Air | 15 | 4 | 20 | 17 | 16 |
| Rail | 3 | 8 | 4 | 6 | 12 |
| Barge/Ship | 1 | 5 | 2 | 3 | 2 |
| Freight Services | 21 | 31 | 19 | 20 | 10 |

Table 5

Satisfaction with Transportation Mode (percent rating "satisfied" 3 or 4)

| | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|------------------|-------------------|-------------------|-----------|-----------------|-------|
| Truck | 89% | 93% | 91% | 92% | 96% |
| Air | 87 | 60 | 90 | 91 | 85 |
| Rail | 40 | 44 | 44 | 30 | 65 |
| Barge/Ship | 57 | 57 | 56 | 50 | 57 |
| Freight Services | 80 | 82 | 81 | 83 | 91 |

"Upkeep of rural roads is of special importance to firms in rural areas because, often, they supply rural markets and need good roads for access." (Focus group member)

Transportation

Businesses identified and evaluated their primary mode of transportation. Transportation modes included in the survey were truck, air, rail, barge/ship, and commercial freight services. As presented in Table 4, truck transport was the most important mode, with from 52 percent to 60 percent of firms in the five groups identifying it as their primary mode. Freight services were identified as the primary transportation mode used second most often, followed by air transport, rail, and barge/ship.

Levels of satisfaction with transportation service were also quite high. All groups expressed the highest satisfaction with truck service, with 90 percent of each group indicating that they were satisfied or very satisfied. More than 80 percent also reported that they were satisfied with the second most

important mode — freight services. In four of the five groups a majority reported that they were dissatisfied with rail, with from 70 percent to 56 percent reporting that they were dissatisfied with the mode (Table 5).

MOST FIRMS ARE ABLE TO SECURE NEEDED CAPITAL INVESTMENT; SOME HAVE EXPERIENCED SEVERE PROBLEMS.

With the exception of Greater Minnesota firms, roughly two-thirds of the companies in each group sought to obtain capital during the past five years. Small-to-medium-sized growing companies were more likely to have sought capital than the others, but generally the pattern is the same across the groups (Table 6).

Table 6

Percent Seeking Capital in Past Five Years

| | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|--|-------------------|-------------------|-----------|-----------------|-------|
| | 78% | 58% | 63% | 64% | 64% |

Table 7

Level of Difficulty in Securing Capital

| Levels | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|--------|-------------------|-------------------|-----------|-----------------|-------|
| 1-Low | 34% | 36% | 30% | 30% | 49% |
| 2 | 33 | 28 | 26 | 29 | 30 |
| 3 | 21 | 19 | 24 | 22 | 14 |
| 4-High | 12 | 17 | 20 | 19 | 7 |

More significantly, the respondents were generally successful in finding capital. Not surprisingly, 79 percent of large firms reported little or no problem getting capital. A majority of each group had a low or moderate level of difficulty securing capital. However, a small but significant proportion of each group reported severe problems finding adequate capital. Of these, the highest share of small-to-medium-sized exporters (20 percent) and high tech firms (19 percent) reported severe problems (Table 7).

These low levels of difficulty may in part be due to the sound financial profile of the sample. Very few are highly leveraged. Nearly half of each group reported a debt-to-equity ratio of 1:1 or less; and almost three-fourths had ratios of less than 2:1. Only 10 percent reported debt-to-equity exceeding 4:1. This profile suggests that those respondents experiencing difficulties may already carry a heavy burden of debt.

Barriers to Funding

Businesses were asked to rate the severity of 12 barriers to obtaining capital. Based on the responses to this question, most barriers were not rated as problematic and the chief roadblocks were high collateral or offsetting deposit requirements; prohibitive costs in the form of interest rates and loan origination fees; and cash flow requirements. Exporters, high technology companies, and small-to-medium growing companies cited the collateral/deposit problem as the most severe; large companies and Greater Minnesota firms cited capital costs as the leading barrier.

Since these areas of friction are, largely, functions of the competition in credit markets, it is instructive to look at other barriers. As presented in Table 8, these include lending limits imposed by banks and local availability of funds. Exporters and high technology firms cite the amount of business control required by equity investors and cash flow requirements as problematic. Lack of knowledge about funding sources and local availability are barriers for some Greater Minnesota companies.

Table 8

Barriers to Capital (percent rating "high")

| | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|------------------------------------|----------------------|----------------------|-----------|--------------------|-------|
| Cost | 21% | 28% | 29% | 22% | 7% |
| Collateral Requirements | 25 | 29 | 34 | 37 | 14 |
| Lending Limits | 20 | 22 | 24 | 20 | 15 |
| Cash Flow Requirements | 18 | 14 | 27 | 23 | 8 |
| Know Where to Go | 10 | 16 | 17 | 14 | 10 |
| Local Availability | 17 | 20 | 22 | 20 | 11 |
| Risk of Project | 10 | 9 | 17 | 17 | 3 |
| Discrimination | 2 | 1 | 4 | 2 | - |
| Return Requirements | | | | | |
| by Equity Investors | 12 | 6 | 12 | 10 | 7 |
| Control Requirements | | | | | |
| by Equity Investors | 13 | 6 | 28 | 14 | 8 |
| Lack of Market for Public Offering | 10 | 8 | 19 | 7 | 11 |

Table 9

Satisfaction with Sources of Capital (percent "somewhat satisfied" — score of 3 or 4)

| | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|------------------|----------------------|----------------------|-----------|--------------------|-------|
| Stock Off | 33% | 19% | 26% | 34% | 76% |
| Venture Capital | 22 | 23 | 26 | 31 | 44 |
| Personal Equity | 62 | 46 | 63 | 69 | 50 |
| Retained Earning | 57 | 53 | 46 | 55 | 82 |
| Bond Sale | 29 | 22 | 40 | 40 | 32 |
| Commercial Paper | 42 | 16 | 35 | 28 | 77 |
| Commercial Loan | 73 | 67 | 62 | 66 | 90 |
| Government Loan | 41 | 22 | 45 | 25 | 43 |
| Grant | 21 | 27 | 15 | 18 | 30 |

Again, it should be noted that the severity of these barriers was reported to be relatively low. No more than one-third of the respondents in each group ranked any single barrier as severe.

Sources and Uses of Capital

Businesses were also asked to rate their satisfaction with various sources of capital. As presented in Table 9, the most commonly used sources — personal equity and commercial loans — were also rated as the most satisfactory source of capital. The proportion of firms reporting that they were satisfied with commercial loans ranged from a high of 90 percent of the large firm group to 62 percent of the exporters group.

Table 10

Uses of Capital (percent by type)

| Uses | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|-----------------|-------------------|-------------------|-----------|-----------------|-------|
| Working Capital | 64% | 54% | 65% | 65% | 54% |
| Inventory | 44 | 56 | 55 | 51 | 24 |
| New Equipment | 63 | 61 | 60 | 59 | 65 |
| R&D Expenses | 12 | 15 | 29 | 32 | 17 |
| Land | 20 | 12 | 16 | 13 | 32 |
| Building | 49 | 36 | 39 | 35 | 47 |
| Extinguish Debt | 4 | 6 | 20 | 13 | 13 |
| Refinance Debt | 19 | 16 | 24 | 19 | 23 |

“Venture capital is quite difficult to secure in Minnesota, especially if the venture is risky. In such cases, seeking money from outside the state is imperative.” (Focus group member)

“Exporters have special problems because lenders are reluctant to include international sales as part of the borrowing base.” (Focus group member)

Among private sector sources, venture capital received the lowest satisfaction rating. Only 22 percent to 44 percent of the firms in the five groups rated it as even somewhat satisfactory. Government financing, especially grants, also received low satisfaction scores.

Funds were used primarily for purchasing new equipment, working capital, financing inventories, and purchasing buildings (Table 10). Surprisingly, nearly one-third of exporting and high-technology firms reported using capital for R&D expenses.

Table 11

Importance of Labor Groups (percent rating "very important")

| Groups | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|-----------------------------------|-------------------|-------------------|-----------|-----------------|-------|
| Management | 73% | 70% | 69% | 63% | 79% |
| Professional/Scientists/Engineers | 25 | 15 | 45 | 43 | 50 |
| Technical/Skilled | 46 | 34 | 36 | 42 | 48 |
| Clerical/Sales | 44 | 28 | 24 | 29 | 42 |
| Unskilled | 14 | 18 | 12 | 12 | 19 |

Table 12

Difficulty Recruiting (percent rating "somewhat difficult" — score 3 or 4)

| Groups | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|-----------------------------------|-------------------|-------------------|-----------|-----------------|-------|
| Management | 63% | 61% | 68% | 64% | 59% |
| Professional/Scientists/Engineers | 60 | 67 | 66 | 68 | 69 |
| Technical/Skilled | 61 | 71 | 60 | 53 | 51 |
| Clerical/Sales | 39 | 35 | 33 | 35 | 29 |
| Unskilled | 22 | 23 | 15 | 13 | 15 |

Difficulty Retaining

| Groups | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|-----------------------------------|-------------------|-------------------|-----------|-----------------|-------|
| Management | 30% | 39% | 38% | 33% | 23% |
| Professional/Scientists/Engineers | 29 | 50 | 33 | 40 | 33 |
| Technical/Skilled | 36 | 44 | 31 | 38 | 33 |
| Clerical/Sales | 29 | 24 | 24 | 23 | 26 |
| Unskilled | 38 | 32 | 29 | 23 | 28 |

**MINNESOTA BUSINESSES
REPORT DIFFICULTY
RECRUITING THE MOST
IMPORTANT AND HIGHLY
SKILLED LABOR GROUPS,
BUT LITTLE PROBLEM
RETAINING WORKERS.**

Businesses in each of the groups rated the importance of, and difficulty in, recruiting and retaining five occupational groups. At least 59 percent of each group reported some difficulty recruiting management — the occupational group rated as most important by all five groups (see Tables 11 and 12).

Table 13

Current Personnel Issues (percent rating "very important")

| Issues | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|----------------------------|-------------------|-------------------|-----------|-----------------|-------|
| Rising Labor Costs | 56% | 55% | 48% | 47% | 39% |
| Lack of Skills | 31 | 26 | 21 | 23 | 29 |
| Declining Labor Supply | 28 | 18 | 14 | 12 | 30 |
| Drug/AIDS Testing | 11 | 12 | 7 | 4 | 14 |
| Health Benefits | 56 | 47 | 51 | 50 | 53 |
| Parking/Communting | 4 | 1 | 2 | 0 | 4 |
| Day Care | 3 | 3 | 3 | 3 | 7 |
| Organized Labor | 14 | 12 | 11 | 5 | 19 |
| Work Force Diversity | 8 | 5 | 3 | 5 | 7 |
| Retirement/Pensions | 15 | 14 | 11 | 12 | 13 |
| Alternative Work Schedules | 6 | 6 | 5 | 6 | 4 |

"Lack of skilled labor prevents selectivity in hiring — with negative consequences for productivity." (Focus group member)

"Relocation of dual worker families is becoming a problem: the spouse of the relocated worker cannot always find appropriate work." (Focus group member)

A vast majority also reported difficulty recruiting the two next most important groups as well. From 60 percent to 69 percent of the firms in the groups reported some difficulty recruiting employees in the professional/scientists group. From 53 percent to 71 percent of the firms in the five groups reported difficulty recruiting skilled and technical workers.

In comparison, a far smaller proportion of firms reported difficulties retaining staff. Nearly two-thirds of firms in all groups reported little difficulty retaining the occupational groups rated most important, and less than 10 percent reported severe difficulty. The one exception is firms in Greater Minnesota, with 50 percent reporting some difficulty retaining professionals and scientists.

COST ISSUES RANK AS THE MOST IMPORTANT PERSONNEL ISSUES IN COMPANY OPERATIONS. LACK OF SKILLS ARE ALSO A CONCERN.

Minnesota's manufacturers viewed the costs of employee health benefits and the rising costs of labor generally as their top-ranking personnel issues at the time of the survey, and they see no relief in the next five years (Table 13). Reflecting this general concern with personnel costs, workers' compensation and unemployment insurance are the government costs cited as having the greatest impact on companies (see further discussion in Role of Government Section).

Table 14 Formal Training

| | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|--|-------------------|-------------------|-----------|-----------------|-------|
| Percent Providing Formal Training | 81% | 61% | 73% | 74% | 96% |
| <i>(percent rating very important)</i> | | | | | |
| Reasons | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
| Meet Increased Complexity of Jobs | 42% | 34% | 30% | 35% | 42% |
| Teach Company Procedures | 40 | 31 | 25 | 28 | 31 |
| Correct Basic Skills Deficit | 19 | 17 | 15 | 15 | 15 |
| Encourage Career Advancement | 20 | 13 | 18 | 17 | 20 |
| Improve Quality/Productivity | 67 | 62 | 67 | 53 | 66 |
| Manage Employee Turnover | 24 | 21 | 14 | 13 | 15 |
| Reduce Absenteeism | 13 | 17 | 11 | 9 | 8 |
| Increase Workplace Safety | 40 | 52 | 43 | 30 | 34 |

“Health benefits are a major concern, but it is not clear how the state government can address the issue.” (Focus group member)

Aside from costs, skill and availability of labor also emerge as significant concerns for firms in all five groups. Other issues, such as drug testing and day care, are not rated as very important.

MINNESOTA COMPANIES APPEAR TO BE UNDERTAKING QUALITY IMPROVEMENT STRATEGIES — BOTH THROUGH HUMAN AND CAPITAL INVESTMENTS.

Survey participants identified frequently offered training topics and reasons for offering training. As presented in Table 14, the vast majority of the firms in all of the groups provided formal training and the most common reason given was to improve the quality of goods and services and worker productivity. It is not surprising, then, that the two most frequently offered topics were quality control for manufacturing processes and customer service (see Table 15).

Business participants were also asked to rate the importance of four groups of technologies. The majority of firms rated systems to improve quality/productivity as currently important and three-fourths projected that they will be important to their business in the next five years (see Table 16).

Table 15

Training Topics Covered (percent indicating "often")

| | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|-----------------------------------|----------------------|----------------------|-----------|--------------------|-------|
| Manufacturing | | | | | |
| Processes/Equipment | 38% | 36% | 41% | 41% | 39% |
| Engineering/Scientific Technology | 14 | 9 | 19 | 24 | 20 |
| Quality Control | 47 | 47 | 47 | 47 | 48 |
| Marketing/Sales | | | | | |
| Customer Service | 54 | 38 | 40 | 40 | 50 |
| International Sales | 5 | 2 | 5 | 6 | 2 |
| Foreign Language | 0 | 0 | 0 | 2 | 0 |
| Marketing/Sales | 37 | 20 | 22 | 31 | 30 |
| Administrative | | | | | |
| Clerical/Office | 15 | 10 | 12 | 16 | 15 |
| Computer Skills | 17 | 19 | 25 | 26 | 27 |
| Managerial | | | | | |
| Strategic Planning | 21 | 21 | 22 | 26 | 25 |
| Supervisory | 36 | 27 | 32 | 38 | 43 |
| General | | | | | |
| Basic Skills | 12 | 11 | 7 | 8 | 7 |
| Communication | 23 | 13 | 14 | 17 | 16 |
| Career Development | 6 | 9 | 7 | 10 | 8 |
| Interpersonal | 18 | 9 | 16 | 15 | 20 |

Table 16

Importance of Quality Improvement Systems

| Percent Reporting Important: | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|---------------------------------|----------------------|----------------------|-----------|--------------------|-------|
| Currently | 65% | 56% | 70% | 69% | 82% |
| In 5 years | 78 | 68 | 84 | 80 | 92 |

"Whether or not firms are fully committed to the quality movement, the important thing is that they are at least saying that quality is important." (Focus group member)

Table 17 Changes in Staffing (percent reporting "no change")

| | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|--|-------------------|-------------------|-----------|-----------------|-------|
| | 25% | 51% | 25% | 33% | 24% |
| <i>(percent increasing — score of 3 and 4)</i> | | | | | |
| Groups | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
| Management | 70% | 57% | 61% | 68% | 65% |
| Professional/Scientists/Engineers | 67 | 57 | 74 | 80 | 69 |
| Technical/Skilled | 82 | 75 | 85 | 86 | 74 |
| Clerical/Sales | 67 | 43 | 54 | 58 | 47 |
| Unskilled | 59 | 41 | 58 | 46 | 39 |

***"The unskilled worker will become extinct."
(Focus group member)***

***"Lack of skilled workers is becoming a crisis in the state."
(Focus group members)***

Major Themes: Issues and Plans for the 1990s

Participants in the survey were asked a series of questions regarding their plans for the 1990s and were asked to identify issues of importance to them in the years ahead. Minnesota's businesses are poised for change and growth in the 1990s. Two-thirds of the companies surveyed will introduce new products and three-fourths will change the basic profiles of their staffing within the next five years. One-half will change transportation modes. Firms in Greater Minnesota appear to be the exception to this pattern, with fewer companies reporting plans for change of any type.

BUSINESSES WILL DEMAND AN INCREASINGLY SKILLED LABOR POOL, AND THERE IS SOME CONCERN ABOUT SHORTAGES OF REQUIRED SKILLS.

Two-thirds to three-fourths of the firms surveyed reported plans to change staffing in the next five years. Greater Minnesota firms were the exception to this, with 51 percent reporting no plans for staffing changes. As presented in Table 17, within the next five years, companies planning changes in staffing are most likely to increase their employment of technically skilled staff (between 74 percent and 86 percent plan to do so); professionals, scientists, and engineers (from 59 percent to 80 percent anticipate increases); and managerial-level people (57 percent to 70 percent will expand this group). In contrast,

Table 18

Percent Introducing New Product/Service

| | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|--|-------------------|-------------------|-----------|-----------------|-------|
| | 64% | 53% | 83% | 82% | 78% |

Table 19

Importance of Research and Development in Five Years

| | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|---------------------------------|-------------------|-------------------|-----------|-----------------|-------|
| Percent Rating "Very Important" | 34% | 29% | 57% | 55% | 53% |

fewer than one-half of the firms in the Greater Minnesota, high technology and large firms groups report plans to add unskilled labor to the payroll.

Clearly the laborforce will become much more technical in the 1990s. Not surprisingly, the highest share of high technology companies expect to add technically trained staff. However, all groups without exception see the trend and expect to respond to it. Management employees rank third on the list of occupations to be increased. With some exceptions clerical/sales and unskilled labor will decline in relative proportion. Although a majority of small-to-medium-sized high growth and exporting companies plan to increase unskilled workers, higher shares plan to increase skilled and professional staff.

This shift up the skill hierarchy is likely to cause skill shortages and strain training institutions. Companies foresee lack of skill to be the most important non-cost personnel issue of the future. Nearly one-third of firms from each business group rate skill shortages as a very important problem to their business in the next five years.

**MINNESOTA'S
MANUFACTURERS VIEW
PRODUCT AND
TECHNOLOGICAL
INNOVATION AS
INCREASINGLY IMPORTANT
AND PLAN TO INVEST
SIGNIFICANTLY IN
RESEARCH AND
DEVELOPMENT.**

The vast majority of firms from all of the business groups, except Greater Minnesota manufacturers, plan to introduce a new product or service in the 1990s. As displayed in Table 18, from 64 percent of small, fast-growing firms, to more than 80 percent of high technology and exporting firms reported plans to develop a new product or service in the next five years. Only 53 percent of Greater Minnesota firms reported such plans.

Similarly, more than one-half of the companies in the exporters, high technology and large firm groups consider R&D investments as very important to their businesses in five years (Table 19). Small-to-medium growing companies and Greater Minnesota companies see technology as somewhat less central to their enterprises — now and in the future. Only 29 percent of Greater Minnesota firms reported that R&D

Table 20

Importance of Technologies in Five Years (percent rating "very important")

| | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|--|----------------------|----------------------|-----------|--------------------|-------|
| Automation Equipment | 47% | 40% | 49% | 40% | 57% |
| Communication Equipment/Systems | 44 | 29 | 30 | 31 | 53 |
| Quality/Productivity Equipment/Systems | 46 | 34 | 45 | 40 | 48 |
| Advanced Materials (Composites) | 30 | 31 | 34 | 35 | 32 |

"Research and development investment forecasts in the survey may seem high but are likely to turn out to be too low. High tech companies must continuously innovate to stay up with technology." (Focus group member)

"Low reliance on the university as an R&D supplier is surprising. One reason, perhaps, is academic reluctance to engage in the development aspect of research and development." (Focus group member)

"Low levels of research and development and introduction of new products in Greater Minnesota reflects the nature of the typical firm. It is a small shop mass-producing components for other firms." (Focus group member)

will be very important to their business operations in the next five years.

According to survey respondents, the bulk of research, generally more than 80 percent, is performed in-house. Less than 10 percent is conducted by or with academic or government institutions. As R&D investments increase in importance in the next five years, it will continue to be conducted in-house.

Very large majorities in each group plan to increase R&D expenditures over current levels in the next five years. A majority of the

companies in the large, high technology and exporters groups reported that R&D will be very important to them in the next five years. Small, fast-growing companies and Greater Minnesota companies also suggest that innovation will play a much greater role in their operations in the future. Firms in these groups increased their ratings of R&D by 20 percentage points, from "current" importance to importance "in five years."

Surveyed firms not only plan to develop and introduce new products, they also plan to use new technologies in the production and

Table 21 Changes in Transportation

| Percent Planning Change | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|-------------------------|-------------------|-------------------|-----------|-----------------|-------|
| Truck | 50% | 41% | 46% | 45% | 46% |
| Air | 67 | 28 | 59 | 66 | 61 |
| Rail | 67 | 23 | 59 | 63 | 63 |
| Barge | 69 | 19 | 64 | 64 | 66 |
| Freight | 67 | 37 | 63 | 63 | 60 |

Table 22 Severity of Future Transportation Problems (percent rating "very severe")

| | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|--|-------------------|-------------------|-----------|-----------------|-------|
| Reduction of Air Service Availability | 17% | 10% | 21% | 23% | 25% |
| Reduction of Air Service Quality | 15 | 13 | 19 | 16 | 16 |
| Airport Congestion | 9 | 7 | 16 | 15 | 16 |
| Lack of Rail Service | 7 | 16 | 6 | 7 | 9 |
| Deterioration of Roads/Bridges | 25 | 33 | 29 | 24 | 27 |
| Inadequate Shipping Services | 25 | 24 | 39 | 27 | 13 |
| Poor Road Access | 25 | 30 | 20 | 16 | 10 |
| Road Congestion | 26 | 27 | 17 | 16 | 20 |
| Lack of Mass Transit | 10 | 9 | 2 | 5 | 4 |
| Transportation of Hazard Waste | 11 | 11 | 11 | 12 | 10 |
| Increasing Cost | 49 | 44 | 50 | 47 | 35 |
| Reduction in Trucking Service Availability | 29 | 39 | 47 | 32 | 22 |

delivery of goods and services. When asked to rank the importance of four categories of technologies to their business operations in the next five years, at least one-third of businesses in all groups rated them as very important and more than two-thirds rated them as somewhat important. As displayed in Table 20, this pattern held true even for Greater Minnesota manufacturers.

INCREASED DEMAND FOR TRANSPORTATION SERVICES RESULTS IN BUSINESS CONCERNS FOR ROAD AND SERVICE ADEQUACY.

The majority of firms in each business group surveyed, except the Greater Minnesota

group, expect changes in transportation in the next five years. As displayed in Table 21, 60 percent of firms plan changes in air, freight, barge and rail use. The majority of firms planning changes intend to increase use of truck, air and freight services while decreasing use of barge and rail transportation.

Firms also rated the severity of future transportation problems. After cost issues, which always rank high, deteriorating roads and inadequate trucking services were ranked as most severely affecting their business in the next five years as displayed in Table 22. Exporters, high technology firms and large firms also rated reduction of air service availability as problematic. Evidently, Minnesota businesses fear that increasing demands for transportation services in the years ahead may strain current transportation systems.

Table 23

Overall Impact of Taxes and Regulations

| Impact | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|----------------------|-------------------|-------------------|-----------|-----------------|-------|
| 4 (Very Significant) | 61% | 60% | 55% | 53% | 59% |
| 3 | 29 | 26 | 32 | 35 | 35 |
| 2 | 6 | 6 | 7 | 7 | 5 |
| 1 (No Impact) | 4 | 8 | 6 | 5 | 1 |

Table 24

Rank of Taxes (rating 1 - 8, 1 equals "highest")

| Taxes | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|--------------------------------------|-------------------|-------------------|-----------|-----------------|-------|
| Workers' Compensation | 1 | 1 | 1 | 1 | 1 |
| Unemployment Insurance | 3 | 2 | 2 | 2 | 3 |
| Corporate Income Taxes | 2 | 4 | 3 | 3 | 2 |
| Commercial/Industrial Property Taxes | 4 | 3 | 4 | 4 | 4 |
| Personal Income | 5 | 5 | 5 | 5 | 5 |
| Residential Property | 7 | 7 | 6 | 7 | 7 |
| Sales Taxes | 6 | 6 | 7 | 6 | 6 |
| R&D Tax Credit | 8 | 8 | 8 | 8 | 8 |

"Government should recognize that Minnesota businesses are increasingly playing in an international marketplace; they need a level playing field." (Focus group member)

Major Themes: Impact and Role of Government

Many business climate studies, including the 1990 Minnesota Enterprise Business Survey, ask businesses to report on the impact of tax costs and regulations on their business operations. The Enterprise Survey is unique, however, because it also attempts to evaluate the quality of government technical assistance and to understand businesses' priorities for government services and recommendations for government spending.

MINNESOTA COMPANIES VIEW TAXES AND OTHER IMPOSED COSTS AS HAVING A MAJOR IMPACT ON OPERATING COSTS. WORKERS' COMPENSATION LEADS THE LIST.

The majority of Minnesota businesses surveyed in each of the groups rated taxes and other governmentally-imposed costs as having a very significant impact on the costs of doing business (Table 23).

In order to differentiate among various taxes and government costs, businesses ranked the impact of eight separate taxes for their impact

Table 25

Impact of Regulations (percent rating "very significant")

| | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|--------------------------------------|----------------------|----------------------|-----------|--------------------|-------|
| Pollution Control Regulations | | | | | |
| Air Pollution | 15% | 22% | 12% | 22% | 21% |
| Water Pollution | 14 | 25 | 15 | 27 | 23 |
| Toxic Waste | 14 | 18 | 18 | 29 | 19 |
| Solid Waste | 25 | 27 | 20 | 28 | 27 |
| Employment Regulations | | | | | |
| Hiring and Selection | 21 | 19 | 12 | 16 | 33 |
| Hours and Wage | 27 | 24 | 15 | 13 | 20 |
| Civil Rights | 10 | 8 | 6 | 6 | 22 |
| Health and Safety | 20 | 38 | 21 | 37 | 26 |
| Liability Insurance | 48 | 48 | 45 | 46 | 28 |

on their operations. Workers' compensation ranked highest by far — with every group ranking this category as having the most impact. Unemployment insurance levies were ranked second by three groups: Greater Minnesota firms, high technology firms and exporting companies. The corporate income tax ranked second for the small, high-growth firms and large firms groups (Table 24).

Somewhat surprisingly, personal income taxes, which have received sharp criticism from business groups, ranked fifth. This was especially surprising given the difficulty reported in attracting management and skilled employees. One reason reported by the survey respondents for recruiting difficulties is high personal income taxes in Minnesota.

**POLLUTION CONTROL
AND EMPLOYMENT
REGULATIONS ARE NOT
PERCEIVED AS HIGHLY
BURDENSOME.**

The surveyed companies rated the impact of regulations — specifically, pollution control, employment and liability insurance regulations — on the successful operation of their businesses. Only a minority of businesses rated regulatory programs as having a significant or very significant impact. With the exception of liability insurance,

far smaller proportions of firms rated these regulations as having a very significant impact than taxes and regulations as a whole, as displayed in Table 25. Employment regulations and product liability insurance were perceived as more burdensome than environmental compliance.

Pollution Control Regulation

The most significant impact from pollution control regulations reported by the companies in all groups was solid waste management. As presented in Table 25, roughly one-quarter of the firms from each group rated it as very significant, most likely because it touches the majority of operations and is a frequently encountered, recurring cost. Other pollution control regulations were rated similarly, with from 14 percent to 25 percent of firms rating their impact as very significant and less than 50 percent typically rating their impact as even somewhat significant (score of 3 and 4).

As presented in Table 26, technical assistance support from government for help in complying with pollution regulation was generally rated fair to poor by the majority of firms. No significant differences between programs (air, water, etc.) appeared, suggesting general difficulties in dealing with regulatory agencies. Large firms gave technical assistance far better ratings than the other groups, with a majority rating all programs good or excellent.

Table 26

Quality of Technical Assistance (percent rating "good" or "excellent" — score of 3 or 4)

| | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|--------------------------------------|----------------------|----------------------|-----------|--------------------|-------|
| Pollution Control Regulations | | | | | |
| Air Pollution | 32% | 39% | 40% | 40% | 63% |
| Water Pollution | 36 | 49 | 50 | 42 | 61 |
| Toxic Waste | 40 | 42 | 51 | 41 | 55 |
| Solid Waste | 35 | 45 | 45 | 39 | 57 |
| Employment Regulations | | | | | |
| Hiring and Selection | 37 | 39 | 41 | 37 | 59 |
| Hours and Wage | 42 | 45 | 47 | 35 | 65 |
| Civil Rights | 35 | 43 | 40 | 33 | 57 |
| Health and Safety | 45 | 61 | 48 | 42 | 69 |
| Liability Insurance | 43 | 51 | 40 | 34 | 62 |

"The computer industry has serious disposal problems. Survey results do not adequately reflect this fact." (Focus group member)

"OSHA is a reformed operation and very helpful — service and client oriented." (Focus group member)

Employment Regulation

The survey also investigated the impact of four programs that regulate employment standards. Of these, the program with the most significant impact was occupational health and safety standards (OSHA) with from 20 to 38 percent rating the impact as very high. Large firms reported hiring and selection regulations to be the most burdensome of all regulations.

On the whole, employment regulations were viewed as having somewhat more impact than rules associated with pollution control. In light of the companies' strongly-expressed concerns over the employment issue — availability, cost, skills, etc. — this result is not surprising.

Companies rated technical assistance available in each of the areas in roughly the same way as they rated compliance assistance received in the pollution area (Table 26). The OSHA program stands out, with 69 percent of large firms and 61 percent of Greater Minnesota firms rating technical assistance as good or excellent. This finding is especially notable given the high impact these particular regulations are reported to have on business operations.

Liability Insurance

Liability insurance requirements were rated as the most burdensome regulatory issues by far by four of the five groups. More than 40 percent of firms rated the impact of these requirements as "very significant" in the small, fast-growing, Greater Minnesota, high technology and exporters groups.

Table 27

Satisfaction with Training Providers (percent satisfied, score of 3 or 4)

| | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|----------------------------------|----------------------|----------------------|-----------|--------------------|-------|
| In-House | 82% | 77% | 70% | 68% | 82% |
| Vo-Tech Education | 58 | 51 | 67 | 44 | 55 |
| University/College | 59 | 53 | 67 | 46 | 56 |
| Primary/Secondary (Basic Skills) | 41 | 67 | 45 | 27 | 42 |

“The education system is not teaching the appropriate skills. Emphasis on soft subjects or irrelevant vocational specialties does not prepare students well for the workplace.” (Focus group member)

Surprisingly, only 28 percent of large firms rated this area as having significant impact on their operations. Technical assistance for this area is not highly rated, with as few as one-third of the high technology group rating it as good or excellent (see Table 26).

BUSINESS GROUPS HAVE INTENSE CONCERNS ABOUT THE QUALITY AND EFFICIENCY OF PRIMARY AND SECONDARY SCHOOLS.

Aside from in-house training programs, Minnesota companies consider primary and secondary schools as the **most important** source of formal training — and are also least satisfied with the performance of this segment of the educational establishment. Other public institutions — vocational schools, community colleges and universities — were all rated as more satisfactory than the primary/secondary education system. For example, only 27 percent of high technology firms rated primary/secondary institutions as even somewhat satisfactory. Greater Minnesota companies were more satisfied with their elementary and high schools than the other groups (Table 27).

The reasons for corporate dissatisfaction with the primary and secondary education system are not clear. For example, when asked why

they provided training, the response “Correction of Basic Skills Deficits” was rated relatively low, ranking sixth of the eight reasons listed. Furthermore, among the training topics they offer most frequently, the topic “Improvement of Basic Skills” ranked among the lowest now, and also for the future.

As will be discussed below in detail, the firms in the survey consider primary and secondary education to be the most important service of government and are willing to spend more money on these services. Low satisfaction with a government function considered to be so important by the business respondents suggests serious deficits in the current system.

BUSINESSES RECOMMEND DECREASED PUBLIC SPENDING IN MOST AREAS BUT ARE WILLING TO SPEND MORE ON PROGRAMS AND SERVICES THAT ARE IMPORTANT TO THEIR BUSINESS.

Drawing from categories listed in the United States Department of Commerce publication *Government Finances*, exporters were asked to rate the importance of, and recommend spending changes for, 19

Table 28

Importance of Government (percent rating "very important")

| | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|--------------------------------------|----------------------|----------------------|-----------|--------------------|-------|
| Education | | | | | |
| Elementary/Secondary | 69% | 59% | 63% | 57% | 67% |
| Higher Education | 49 | 39 | 47 | 52 | 58 |
| Libraries | 26 | 14 | 20 | 22 | 15 |
| Social Services | | | | | |
| Public Welfare | 10 | 8 | 7 | 8 | 7 |
| Hospitals | 18 | 16 | 14 | 24 | 22 |
| Health | 21 | 25 | 21 | 28 | 28 |
| Employment Security | 13 | 12 | 10 | 9 | 7 |
| Transportation | | | | | |
| Highway | 34 | 44 | 34 | 35 | 37 |
| Air | 16 | 6 | 23 | 27 | 26 |
| Water | 3 | 4 | 3 | 4 | 5 |
| Public Safety | | | | | |
| Police Protection | 26 | 24 | 29 | 25 | 31 |
| Fire Protection | 28 | 35 | 37 | 32 | 40 |
| Corrections | 11 | 9 | 14 | 15 | 10 |
| Protective Regulations | 8 | 8 | 7 | 9 | 9 |
| Environment and Housing | | | | | |
| Natural Resources | 22 | 27 | 19 | 22 | 21 |
| Parks & Recreation | 16 | 15 | 11 | 16 | 19 |
| Housing and Community Development | 13 | 14 | 9 | 11 | 16 |
| Sewerage | 14 | 19 | 14 | 17 | 17 |
| Other Sanitation | 10 | 17 | 11 | 16 | 10 |

"Willingness to spend more is a function of the objective and the benefit it may bring. Reluctance to spend more reflects doubt about effectiveness — either of the policy or its execution." (Focus group member)

government service categories. The survey provided both United States and Minnesota expenditures per capita for all 19 categories to allow comparisons of current spending levels.

As shown in Table 28, a majority of Minnesota companies in all five groups rated elementary and secondary education as the most important public sector activity, with roughly 60 percent rating it very important. Next in importance came higher education with between 40 percent and 50 percent of

firms in each group rating it very important, followed by highway construction/maintenance and fire and police protection. Roughly one-quarter of firms rated public health services and natural resource development as very important as well.

Government services rated least important were water transportation, employment security and public welfare programs, each with 5 percent or less of firms rating them as very important to their operations.

Table 29

Government Spending (percent rating "increase spending" — score of 3 or 4)

| | Small/High Growth | Greater Minnesota | Exporters | High Technology | Large |
|--------------------------------------|----------------------|----------------------|-----------|--------------------|-------|
| Education | | | | | |
| Elementary/Secondary | 66% | 56% | 63% | 58% | 65% |
| Higher Education | 60 | 51 | 55 | 57 | 59 |
| Libraries | 41 | 32 | 40 | 43 | 35 |
| Social Services | | | | | |
| Public Welfare | 7 | 9 | 7 | 11 | 11 |
| Hospitals | 32 | 32 | 25 | 30 | 30 |
| Health | 44 | 39 | 41 | 45 | 45 |
| Employment Security | 13 | 19 | 16 | 13 | 13 |
| Transportation | | | | | |
| Highway | 58 | 63 | 58 | 56 | 56 |
| Air | 32 | 21 | 39 | 40 | 40 |
| Water | 8 | 14 | 10 | 9 | 9 |
| Public Safety | | | | | |
| Police Protection | 53 | 51 | 56 | 54 | 57 |
| Fire Protection | 51 | 52 | 53 | 56 | 59 |
| Corrections | 33 | 31 | 34 | 36 | 32 |
| Protective Regulations | 18 | 20 | 18 | 20 | 20 |
| Environment and Housing | | | | | |
| Natural Resources | 49 | 42 | 51 | 40 | 47 |
| Parks and Recreation | 42 | 33 | 40 | 36 | 33 |
| Housing and Community Development | 29 | 31 | 24 | 6 | 24 |
| Sewerage | 36 | 46 | 36 | 8 | 39 |
| Other Sanitation | 38 | 54 | 37 | 8 | 37 |

As displayed in Table 29, the majority of companies recommended less public spending on most of the programs listed in the survey. However, a majority was willing to spend at least slightly more on those programs they rated as the most important to their business operations: elementary and secondary education, higher education, highways, and police and fire protection. Together, these

programs accounted for 40 percent of all state spending in 1988. Forty percent or more of the firms in each group also recommended somewhat increased spending on natural resource development and health care. Very small proportions of firms, generally less than 20 percent, recommended significantly increased spending, with a rating of 4, on any government service, even education.

Conclusion
Minnesota firms in key groups appear to find the state a good place to conduct business in terms of the physical and capital infrastructure. They report some difficulty recruiting key, specialized personnel but little problem retaining them. They are attempting to improve the quality of their goods and services.

They look to the future as a time of growth and appear to be planning for, and even embracing, change — in staffing, in product development and in technological innovation. Firms in Greater Minnesota do not report plans to change to the same extent planned by firms in the other groups.

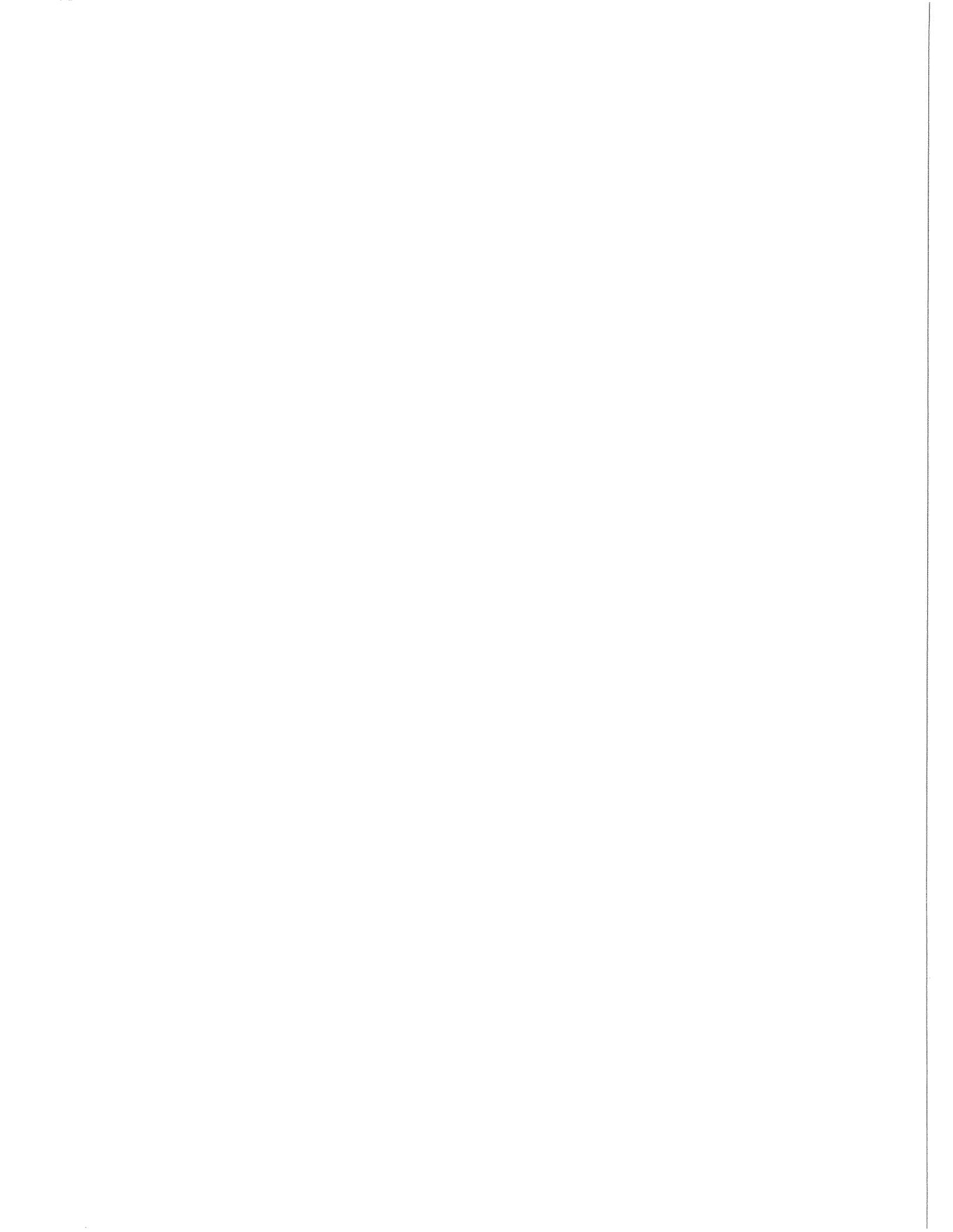
Firms are planning increased employment in skilled and professional occupations, relative to unskilled groups. This shift up the skill hierarchy may strain existing training institutions and firms are concerned about skill shortages.

The overall cost of government is considered burdensome and firms do not support increased government activity in general. Their responses suggest a view of government as laying the foundation that enables business to operate, rather than an activist to influence business decisions.

However, they perceive government playing an important role in providing basic public services, maintaining the infrastructure and educating the workforce, and they are willing to pay for those services.

Appendix:

The Minnesota Enterprise 1990 Survey of Business





THE MINNESOTA ENTERPRISE 1990 SURVEY OF BUSINESS

BACKGROUND INFORMATION

1. How many years has your company been in business? _____ years _____

2. What type of company is your facility? (Circle one) _____
 1. Independent
 2. U.S. headquarters of a multi-location company
 3. Branch/Division/Subsidiary of U.S. company
 4. Branch/Division/Subsidiary of a foreign company

3. What is your primary product/service and its SIC Code classification (if known)? _____

Primary Product _____

SIC Code _____

4. How many people does your company employ in: _____

| | |
|-------------------------------|--|
| <i>Minnesota (Circle one)</i> | <i>Worldwide, including Minnesota (Circle one)</i> |
| 1. Fewer than 20 | 1. Fewer than 20 |
| 2. 20 to 99 | 2. 20 to 99 |
| 3. 100 to 499 | 3. 100 to 499 |
| 4. 500 or more | 4. 500 or more |

5. In 1988, what were your company's: (Circle one) _____

| | | |
|-------------------------------------|-----------|-------------------------------------|
| <i>Annual Revenues</i> | <i>or</i> | <i>Assets Managed</i> |
| 1. Less than \$0.5 million | | 1. Less than \$25 million |
| 2. \$0.5 million to \$0.9 million | | 2. \$25 million to \$49.9 million |
| 3. \$1 million to \$4.9 million | | 3. \$50 million to \$74.9 million |
| 4. \$5 million to \$24.9 million | | 4. \$75 million to \$99.9 million |
| 5. \$25 million to \$99.9 million | | 5. \$100 million to \$249.9 million |
| 6. \$100 million to \$249.9 million | | 6. More than \$250 million |
| 7. More than \$250 million | | |

6. Where do you sell your products? Please indicate the approximate percentage: _____

| | |
|----------------------------|-------|
| _____ % Local (Minnesota) | _____ |
| _____ % Regional (Midwest) | _____ |
| _____ % National | _____ |
| _____ % International | _____ |
| 100 % Total | |

7. If you currently do not export to foreign countries do you plan to export in the next five years? _____

_____ Yes _____ No

LABOR AVAILABILITY AND COSTS

8. Is your business labor intensive or capital intensive? (Circle appropriate number.)

| | | | | |
|------------------|---|---|---|------------------|
| <i>Labor</i> | | | | <i>Capital</i> |
| <i>Intensive</i> | | | | <i>Intensive</i> |
| 1 | 2 | 3 | 4 | |

9. Indicate the importance of the following occupational groups in your business. (Circle appropriate numbers.)

| | <i>Not</i> | | <i>Very</i> | |
|--------------------------------------|------------------|---|------------------|---|
| | <i>Important</i> | | <i>Important</i> | |
| | 1 | 2 | 3 | 4 |
| Management | 1 | 2 | 3 | 4 |
| Professionals/Scientists & Engineers | 1 | 2 | 3 | 4 |
| Technical/Skilled | 1 | 2 | 3 | 4 |
| Clerical/Sales | 1 | 2 | 3 | 4 |
| Unskilled | 1 | 2 | 3 | 4 |

10. How difficult is it to recruit and retain staff with appropriate training and experience? (Circle appropriate numbers and rate only those categories which apply.)

| | <i>Recruit</i> | | | | <i>Retain</i> | | | |
|--|----------------|---|---|------------------|---------------|---|---|------------------|
| | <i>Easy</i> | | | <i>Difficult</i> | <i>Easy</i> | | | <i>Difficult</i> |
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Management | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Professionals/ Scientists & Engineers | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Technical/Skilled | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Clerical/Sales | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Unskilled | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |

11. If it is difficult to recruit or retain employees, how important are the following reasons: (Circle appropriate numbers.)

| | <i>Recruiting</i> | | | | <i>Retaining</i> | | | |
|-----------------|-------------------|---|------------------|---|------------------|---|------------------|---|
| | <i>Not</i> | | <i>Very</i> | | <i>Not</i> | | <i>Very</i> | |
| | <i>Important</i> | | <i>Important</i> | | <i>Important</i> | | <i>Important</i> | |
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Cost of Labor | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Lack of Skills | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Labor Shortage | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Personal Taxes | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Climate-Weather | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Other _____ | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |

(Explain)

12. Indicate any changes in staffing you plan in the next five years. (Circle appropriate numbers and rate only those categories which apply.)

| _____ No Changes Planned | <i>Decrease</i> | | <i>Increase</i> | |
|--------------------------------------|----------------------|---|----------------------|---|
| | <i>Significantly</i> | | <i>Significantly</i> | |
| | 1 | 2 | 3 | 4 |
| Management | 1 | 2 | 3 | 4 |
| Professionals/Scientists & Engineers | 1 | 2 | 3 | 4 |
| Technical/Skilled | 1 | 2 | 3 | 4 |
| Clerical | 1 | 2 | 3 | 4 |
| Unskilled | 1 | 2 | 3 | 4 |

13. How important are the following personnel issues to your company and employees now and how important do you expect them to be in five years?
(Circle appropriate numbers.)

| | <i>Currently</i> | | | | <i>In Five Years</i> | | | | |
|------------------------------------|----------------------|---|---|-----------------------|----------------------|---|---|-----------------------|-----|
| | <i>Not Important</i> | | | <i>Very Important</i> | <i>Not Important</i> | | | <i>Very Important</i> | |
| Rising Labor Costs | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| Lack of Appropriate Skills | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| Declining Labor Supply | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| Drug/AIDS Testing | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| Employee Health Benefits | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| Employee Parking/Commuting | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| Day Care | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| Organized Labor Issues | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| Work Force Diversity | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| Retirement/Pension | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| Flexible/Alternative Work Schedule | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| Other Issues | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| _____ | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| _____ | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |

EMPLOYEE TRAINING

14. How much formal training (i.e. training that is professionally designed and conducted for or by your company) do you provide now compared to five years ago?
(Circle appropriate number.)

| <i>No Formal Training</i> | <i>less</i> | <i>same</i> | <i>more</i> | <i>much more</i> | |
|---------------------------|-------------|-------------|-------------|------------------|-----|
| _____ | 1 | 2 | 3 | 4 | --- |

☞ If you indicated “No Formal Training” go to question 19.

15. How important are the following sources of formal training to your company, and how satisfied are you with the results of the training in terms of employee performance?
(Circle appropriate numbers.)

| | <i>Importance</i> | | | | <i>Satisfaction</i> | | | | |
|---|----------------------|---|---|-----------------------|----------------------|---|---|-----------------------|-----|
| | <i>Not Important</i> | | | <i>Very Important</i> | <i>Not Satisfied</i> | | | <i>Very Satisfied</i> | |
| In-House | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| Apprenticeship/Internship for licensure | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| Consultant/Commercial Course | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| Vocational/Technical Educ. | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| Community College | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| University/College | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| Primary/Secondary Institutions (Basic Skills) | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| Other _____ | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |

16. What topics are most frequently covered in your company's training programs?
 (Circle appropriate numbers and rate only those categories which apply.)

| | <i>Never</i> | | <i>Often</i> | |
|---|--------------|---|--------------|---|
| Manufacturing | | | | |
| Processes/Equipment (including computer skills) | 1 | 2 | 3 | 4 |
| Engineering/Scientific Techniques | 1 | 2 | 3 | 4 |
| Quality Improvement/Control | 1 | 2 | 3 | 4 |
| Marketing/Sales | | | | |
| Customer Service | 1 | 2 | 3 | 4 |
| International Skills (customs regulations, etc.) | 1 | 2 | 3 | 4 |
| Foreign Languages | 1 | 2 | 3 | 4 |
| Marketing/Sales Techniques | 1 | 2 | 3 | 4 |
| Administrative | | | | |
| Clerical/Office Skills | 1 | 2 | 3 | 4 |
| Computer Skills for Administrative Functions | 1 | 2 | 3 | 4 |
| Managerial | | | | |
| Strategic Planning | 1 | 2 | 3 | 4 |
| Supervisory/Leadership Techniques | 1 | 2 | 3 | 4 |
| General | | | | |
| Basic Skills (reading, writing, math) | 1 | 2 | 3 | 4 |
| Communications Skills | 1 | 2 | 3 | 4 |
| Career Development | 1 | 2 | 3 | 4 |
| Interpersonal/Personal skills | 1 | 2 | 3 | 4 |

17. Why do you provide formal training? (Circle appropriate numbers.)

| | <i>Not</i> | | <i>Very</i> | |
|--|------------------|---|------------------|---|
| | <i>Important</i> | | <i>Important</i> | |
| Meet increased technical complexity of jobs | 1 | 2 | 3 | 4 |
| Teach company procedures | 1 | 2 | 3 | 4 |
| Correct basic skills deficit | 1 | 2 | 3 | 4 |
| Encourage career advancement | 1 | 2 | 3 | 4 |
| Improve productivity/quality | 1 | 2 | 3 | 4 |
| Manage employee turnover | 1 | 2 | 3 | 4 |
| Reduce absenteeism | 1 | 2 | 3 | 4 |
| Increase workplace safety | 1 | 2 | 3 | 4 |
| Other _____ | 1 | 2 | 3 | 4 |

18. In the coming five years please indicate how important each of the following types of training will be for your company's economic growth.

(Circle appropriate numbers and rate only those categories which apply.)

| | <i>Not</i> | | <i>Very</i> | |
|---|------------------|---|------------------|---|
| | <i>Important</i> | | <i>Important</i> | |
| Manufacturing | | | | |
| Processes/Equipment (including computer skills) | 1 | 2 | 3 | 4 |
| Engineering/Scientific Techniques | 1 | 2 | 3 | 4 |
| Quality Improvement/Control | 1 | 2 | 3 | 4 |
| Marketing/Sales | | | | |
| Customer Service | 1 | 2 | 3 | 4 |
| International Skills (customs regulations, etc.) | 1 | 2 | 3 | 4 |
| Foreign Languages | 1 | 2 | 3 | 4 |
| Marketing/Sales Techniques | 1 | 2 | 3 | 4 |
| Administrative | | | | |
| Clerical/Office Skills | 1 | 2 | 3 | 4 |
| Computer Skills for Administrative Functions | 1 | 2 | 3 | 4 |
| Managerial | | | | |
| Strategic Planning | 1 | 2 | 3 | 4 |
| Supervisory/Leadership Techniques | 1 | 2 | 3 | 4 |
| General | | | | |
| Basic Skills (reading, writing, math) | 1 | 2 | 3 | 4 |
| Communications Skills | 1 | 2 | 3 | 4 |
| Career Development | 1 | 2 | 3 | 4 |

IMPACT OF TAXES AND REGULATIONS

19. What overall impact do state business taxes and regulations have on your business operating costs? (Circle appropriate number.)

| | | | | |
|--|------------------|---|-------------------------|---|
| | <i>No Impact</i> | | <i>Very Significant</i> | |
| | | | <i>Impact</i> | |
| | 1 | 2 | 3 | 4 |

 If you circled "1" please go to question 23.

20. Rank the impact of the following state and local taxes on the successful operation of your business (one through eight, where one is highest).

| | <i>Rank</i> | |
|--------------------------------------|-------------|-----|
| Worker's Compensation | _____ | ___ |
| Unemployment Insurance | _____ | ___ |
| Corporate Income Taxes | _____ | ___ |
| Sales Taxes | _____ | ___ |
| Commercial/Industrial Property Taxes | _____ | ___ |
| Research & Development Tax Credit | _____ | ___ |
| Personal Income Taxes | _____ | ___ |
| Residential Property Tax | _____ | ___ |
| Other (explain) _____ | _____ | ___ |

21. Rate the impact of the following regulations on the successful operation of your business.

| <i>Pollution Control Regulations</i> | <i>N/A</i> | <i>No Impact</i> | | <i>Very Significant Impact</i> | | |
|--------------------------------------|------------|------------------|---|--------------------------------|---|-----|
| | | 1 | 2 | 3 | 4 | |
| Air Pollution | _____ | 1 | 2 | 3 | 4 | ___ |
| Water Pollution | _____ | 1 | 2 | 3 | 4 | ___ |
| Toxic Waste | _____ | 1 | 2 | 3 | 4 | ___ |
| Solid Waste | _____ | 1 | 2 | 3 | 4 | ___ |
| Other (explain) _____ | _____ | 1 | 2 | 3 | 4 | ___ |

| <i>Employment Regulations</i> | <i>N/A</i> | <i>No Impact</i> | | <i>Very Significant Impact</i> | | |
|------------------------------------|------------|------------------|---|--------------------------------|---|-----|
| | | 1 | 2 | 3 | 4 | |
| Hiring and Selection Practices | | 1 | 2 | 3 | 4 | ___ |
| Hours and Wage Regulations | | 1 | 2 | 3 | 4 | ___ |
| Civil Rights (Discrimination) | | 1 | 2 | 3 | 4 | ___ |
| Health and Safety Standards (OSHA) | | 1 | 2 | 3 | 4 | ___ |
| Liability Insurance | | 1 | 2 | 3 | 4 | ___ |
| Other (explain) _____ | | 1 | 2 | 3 | 4 | ___ |

 If no impact, go to question 23.

22. Rate the quality of technical assistance available to help you comply with the following regulations.

| <i>Pollution Control Regulations</i> | <i>N/A</i> | <i>Poor</i> | | <i>Excellent</i> | | |
|--------------------------------------|------------|-------------|---|------------------|---|-----|
| | | 1 | 2 | 3 | 4 | |
| Air Pollution | _____ | 1 | 2 | 3 | 4 | ___ |
| Water Pollution | _____ | 1 | 2 | 3 | 4 | ___ |
| Toxic Waste | _____ | 1 | 2 | 3 | 4 | ___ |
| Solid Waste | _____ | 1 | 2 | 3 | 4 | ___ |
| Other (explain) _____ | _____ | 1 | 2 | 3 | 4 | ___ |

| <i>Employment Regulations</i> | <i>N/A</i> | <i>Poor</i> | | <i>Excellent</i> | | |
|------------------------------------|------------|-------------|---|------------------|---|-----|
| | | 1 | 2 | 3 | 4 | |
| Hiring and Selection Practices | | 1 | 2 | 3 | 4 | ___ |
| Hours and Wage Regulations | | 1 | 2 | 3 | 4 | ___ |
| Civil Rights (Discrimination) | | 1 | 2 | 3 | 4 | ___ |
| Health and Safety Standards (OSHA) | | 1 | 2 | 3 | 4 | ___ |
| Liability Insurance | | 1 | 2 | 3 | 4 | ___ |
| Other (explain) _____ | | 1 | 2 | 3 | 4 | ___ |

23. Rate the importance of the following state and local government services and programs to the successful operation of your business. Please also rate your perception of the appropriateness of the level of expenditure on those services based on the per capita expenditure data provided below. (Circle appropriate numbers.)

| | <i>Importance</i> | | | | <i>Cost</i> | | <i>Spending</i> | | | | |
|---|----------------------|---|-----------------------|---|-----------------------------|----------------|-------------------|---|-------------------|---|-----|
| | <i>Not Important</i> | | <i>Very Important</i> | | <i>Average Expenditures</i> | | <i>Spend Less</i> | | <i>Spend More</i> | | |
| | 1 | 2 | 3 | 4 | MN | U.S. | 1 | 2 | 3 | 4 | |
| Education | | | | | | | | | | | |
| Elementary/Secondary | 1 | 2 | 3 | 4 | \$ 799 | \$ 690 | 1 | 2 | 3 | 4 | --- |
| Higher Education | 1 | 2 | 3 | 4 | 327 | 255 | 1 | 2 | 3 | 4 | --- |
| Libraries | 1 | 2 | 3 | 4 | 16 | 14 | 1 | 2 | 3 | 4 | --- |
| Social Services and Income Maintenance | | | | | | | | | | | |
| Public Welfare | 1 | 2 | 3 | 4 | 497 | 362 | 1 | 2 | 3 | 4 | --- |
| Hospitals | 1 | 2 | 3 | 4 | 211 | 177 | 1 | 2 | 3 | 4 | --- |
| Health | 1 | 2 | 3 | 4 | 73 | 75 | 1 | 2 | 3 | 4 | --- |
| Employment Security | 1 | 2 | 3 | 4 | 19 | 12 | 1 | 2 | 3 | 4 | --- |
| Transportation | | | | | | | | | | | |
| Highway | 1 | 2 | 3 | 4 | 330 | 226 | 1 | 2 | 3 | 4 | --- |
| Air Transportation | 1 | 2 | 3 | 4 | 16 | 22 | 1 | 2 | 3 | 4 | --- |
| Water Transport | 1 | 2 | 3 | 4 | 26 | 7 | 1 | 2 | 3 | 4 | --- |
| Public Safety | | | | | | | | | | | |
| Police Protection | 1 | 2 | 3 | 4 | 89 | 107 | 1 | 2 | 3 | 4 | --- |
| Fire Protection | 1 | 2 | 3 | 4 | 31 | 48 | 1 | 2 | 3 | 4 | --- |
| Corrections | 1 | 2 | 3 | 4 | 53 | 77 | 1 | 2 | 3 | 4 | --- |
| Protective Regulation | 1 | 2 | 3 | 4 | 16 | 19 | 1 | 2 | 3 | 4 | --- |
| Environment and Housing | | | | | | | | | | | |
| Natural Resources | 1 | 2 | 3 | 4 | 62 | 42 | 1 | 2 | 3 | 4 | --- |
| Parks & Recreation | 1 | 2 | 3 | 4 | 71 | 49 | 1 | 2 | 3 | 4 | --- |
| Housing & Community Development | 1 | 2 | 3 | 4 | 80 | 54 | 1 | 2 | 3 | 4 | --- |
| Sewerage | 1 | 2 | 3 | 4 | 67 | 66 | 1 | 2 | 3 | 4 | --- |
| Other Sanitation | 1 | 2 | 3 | 4 | 18 | 30 | 1 | 2 | 3 | 4 | --- |
| TOTAL | | | | | \$3,932 | \$3,365 | | | | | |

Source: *Government Finances in 1987-1988* U.S. Department of Commerce, Bureau of the Census.

FINANCE ISSUES

24. Has your company sought investment and/or working capital in the past five years?
 Yes No

☞ If no, go to question 29.

If yes, rate your company's difficulty in getting the capital:

Level of Difficulty

| | | | | |
|------------|---|---|---|-------------|
| <i>Low</i> | | | | <i>High</i> |
| 1 | 2 | 3 | 4 | |

25. Rate your satisfaction with the primary sources of investment and/or working capital for your company in the past five years. (Circle appropriate numbers.) Please indicate if these sources were local or out of state. (Check Minnesota or Non-Minnesota where appropriate.)

| Type/Source | Level of Satisfaction | | | | Source Location | | |
|-------------------|-----------------------|---|---|------|-----------------|--------|-------|
| | Low | | | High | MN | Non-MN | |
| Stock Offering | 1 | 2 | 3 | 4 | _____ | _____ | _____ |
| Venture Capital | 1 | 2 | 3 | 4 | _____ | _____ | _____ |
| Personal Equity | 1 | 2 | 3 | 4 | _____ | _____ | _____ |
| Retained Earnings | 1 | 2 | 3 | 4 | _____ | _____ | _____ |
| Bond Sale | 1 | 2 | 3 | 4 | _____ | _____ | _____ |
| Commercial Paper | 1 | 2 | 3 | 4 | _____ | _____ | _____ |
| Commercial Loan | 1 | 2 | 3 | 4 | _____ | _____ | _____ |
| Government Loan | 1 | 2 | 3 | 4 | _____ | _____ | _____ |
| Grant | 1 | 2 | 3 | 4 | _____ | _____ | _____ |
| Other _____ | 1 | 2 | 3 | 4 | _____ | _____ | _____ |

26. Rate any barriers your company has faced in obtaining investment and/or working capital in the past five years. (Circle appropriate numbers.)

| Barrier | Level of Barrier | | | | |
|---|------------------|---|---|------|-------|
| | Low | | | High | |
| Cost (interest rates and loan origination fees) | 1 | 2 | 3 | 4 | _____ |
| Collateral Requirements and/or | | | | | |
| Offsetting Deposit Requirements | 1 | 2 | 3 | 4 | _____ |
| Lending Limits | 1 | 2 | 3 | 4 | _____ |
| Cash Flow Requirements | 1 | 2 | 3 | 4 | _____ |
| Knowing Where to Go | 1 | 2 | 3 | 4 | _____ |
| Local Availability | 1 | 2 | 3 | 4 | _____ |
| Risk of Project | 1 | 2 | 3 | 4 | _____ |
| Discrimination | 1 | 2 | 3 | 4 | _____ |
| Amount and Timing of | | | | | |
| Return Required by Equity Investors | 1 | 2 | 3 | 4 | _____ |
| Amount of Business Control Required by Equity Investors | 1 | 2 | 3 | 4 | _____ |
| Lack of Market for Public Offering | 1 | 2 | 3 | 4 | _____ |
| Cost of Public Offering, | | | | | |
| Limited Offering or Private Placement | 1 | 2 | 3 | 4 | _____ |
| Other _____ | 1 | 2 | 3 | 4 | _____ |
| None of the Above _____ | | | | | _____ |

27. What uses did the company make of the capital it raised? (Circle each number that applies.)

1. Inventory _____
2. Acquisition or Improvement of Land _____
3. Acquisition or Improvement of Buildings _____
4. Acquisition of New Equipment _____
5. Research and Development Expenses _____
6. Extinguish Existing Debt _____
7. Refinance Existing Debt _____
8. Working Capital (to include uses for basic operations, rent, leases, salaries and wages, costs of goods, marketing and the like). _____
9. Other _____

28. If your company raised capital through a commercial loan, was that loan secured by:
(Circle the number that applies for your largest loan.)

- 1. Cash or Cash Equivalents
- 2. A Secured Interest in Hard Assets (e.g., equipment, buildings)
- 3. Inventory
- 4. Accounts Receivable
- 5. Other _____

—
—
—
—
—

29. What is the present ratio of debt to equity in your company? (Circle one)

- 1. Less than 1:1
- 2. More than 1:1, but less than 2:1
- 3. Between 2:1 and 4:1
- 4. More than 4:1

—
—
—
—

30. How many non-trade secured creditors does the company have? (Circle one)

- 1. One
- 2. Two - Four
- 3. Four - Six
- 4. more than Six

—
—
—
—

ENERGY AND TRANSPORTATION

 If energy costs are not an important share of your company's operations, go to question 33.

31. Identify your company's primary heating source and process energy source.
(Check one in each column that applies to your business.)

| | <i>Heating</i> | <i>Processing</i> |
|----------------------------|----------------|-------------------|
| Electricity | — | — |
| Natural Gas | — | — |
| Fuel Oil | — | — |
| Propane | — | — |
| Coal | — | — |
| Own Source (specify) _____ | — | — |
| Other (specify) _____ | — | — |

—
—
—
—
—
—
—
—

32. Rate the importance and your satisfaction with your company's energy service.
(Circle appropriate number.)

| | <i>Importance</i> | | | | <i>Satisfaction</i> | | | |
|---------------------------|----------------------|---|-----------------------|---|----------------------|---|-----------------------|---|
| | <i>Not Important</i> | | <i>Very Important</i> | | <i>Not Satisfied</i> | | <i>Very Satisfied</i> | |
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Cost | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Reliability | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Availability (sufficient) | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |

—
—
—

33. How important is transportation of products in the operation of your business?
(Circle one number.)

| | | | |
|------------------|---|------------------|---|
| <i>Not</i> | | <i>Very</i> | |
| <i>Important</i> | | <i>Important</i> | |
| 1 | 2 | 3 | 4 |

☞ If you circled "1" go to question 37.

34. Select the primary mode of transportation used by your business for shipments of your product. Indicate your level of satisfaction with the selected mode of transportation. (Check mode and circle satisfaction level.)

| <i>Mode</i> | <i>Not</i> | | <i>Very</i> | |
|----------------------|------------------|---|------------------|---|
| | <i>Satisfied</i> | | <i>Satisfied</i> | |
| ___ Truck | 1 | 2 | 3 | 4 |
| ___ Air | 1 | 2 | 3 | 4 |
| ___ Rail | 1 | 2 | 3 | 4 |
| ___ Barge/Ship | 1 | 2 | 3 | 4 |
| ___ Freight Services | 1 | 2 | 3 | 4 |

35. Below is a list of transportation characteristics. Indicate the importance of each characteristic to your company as well as your current level of satisfaction with it. (Circle appropriate numbers.)

| | <i>Importance</i> | | | | <i>Satisfaction</i> | | | |
|----------------------------|-------------------|---|------------------|---|---------------------|---|------------------|---|
| | <i>Not</i> | | <i>Very</i> | | <i>Not</i> | | <i>Very</i> | |
| | <i>Important</i> | | <i>Important</i> | | <i>Satisfied</i> | | <i>Satisfied</i> | |
| Speed | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Cost | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Frequency | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Reliability | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Traceability | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Safety | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Quality of Service | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Preferred Mode Unavailable | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Other _____ | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |

36. What major changes in your use of transportation modes do you expect in the next five years? (Check those that apply.)

| | <i>No</i> | <i>Decrease</i> | | <i>Increase</i> | |
|------------------|---------------|----------------------|---|----------------------|---|
| | <i>Change</i> | <i>Significantly</i> | | <i>Significantly</i> | |
| Truck | ___ | 1 | 2 | 3 | 4 |
| Air | ___ | 1 | 2 | 3 | 4 |
| Rail | ___ | 1 | 2 | 3 | 4 |
| Barge/Ship | ___ | 1 | 2 | 3 | 4 |
| Freight Services | ___ | 1 | 2 | 3 | 4 |

37. Is business travel an important element in the operation of your business?
(Circle one number.)

| | | | |
|------------------|---|------------------|---|
| <i>Not</i> | | <i>Very</i> | |
| <i>Important</i> | | <i>Important</i> | |
| 1 | 2 | 3 | 4 |

☞ If you circled "1" go to question 40.

38. What is your primary mode of business travel, and how satisfied are you with that mode? Please also indicate your reason.

| Mode | Not Satisfied | | | | Very Satisfied | | | | Reason | | | | |
|------------|---------------|---|---|---|----------------|---|---|---|--------|-------------|-------|----------------------|-------|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | Cost | Reliability | Speed | Service Availability | |
| Air | 1 | 2 | 3 | 4 | | | | | --- | --- | --- | --- | ----- |
| Automobile | 1 | 2 | 3 | 4 | | | | | --- | --- | --- | --- | ----- |

39. As a business, what transportation problems will inhibit your economic growth in the next five years? (Rate only those that apply to your business.)

| None Expected | Severity of Problem | | | |
|----------------------------------|---------------------|---|---|-------------|
| | Not Severe | 1 | 2 | Very Severe |
| Reduction of | | | | |
| Air Service Availability | 1 | 2 | 3 | 4 |
| Reduction in Air Service Quality | 1 | 2 | 3 | 4 |
| Airport Congestion | 1 | 2 | 3 | 4 |
| Lack of Rail Service | 1 | 2 | 3 | 4 |
| Deteriorating Roads and Bridges | 1 | 2 | 3 | 4 |
| Inadequate Shipping Services | 1 | 2 | 3 | 4 |
| Poor Road Access | 1 | 2 | 3 | 4 |
| Road Congestion | 1 | 2 | 3 | 4 |
| Lack of Mass Transit | 1 | 2 | 3 | 4 |
| Problems Transporting | | | | |
| Hazardous Materials and Waste | 1 | 2 | 3 | 4 |
| Increasing Costs | 1 | 2 | 3 | 4 |
| Reduction in Trucking | | | | |
| Service Availability | 1 | 2 | 3 | 4 |
| Other (specify) _____ | 1 | 2 | 3 | 4 |

TECHNOLOGY AND RESEARCH AND DEVELOPMENT INVESTMENTS

40. Do you plan to introduce a new product or service in the next five years?
 Yes No

41. How important are R&D investments to the success of your business operations now and in the next five years?

| Currently | | | | In Five Years | | | |
|---------------|---|----------------|---|---------------|---|----------------|---|
| Not Important | | Very Important | | Not Important | | Very Important | |
| 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |

 If you circled "1" go to question 43.

42. What is your primary method of conducting R&D? (Check one)
 Do you plan to change your method of conducting R&D in the next five years?
 (Circle appropriate numbers, and rate only those categories which apply.)

| <i>Primary Method (Check One)</i> | <i>In Five Years</i> | | | | |
|---|-----------------------------------|---|-----------------------------------|---|-----|
| | <i>Decrease Significantly</i> | | <i>Increase Significantly</i> | | |
| <input type="checkbox"/> In-house/internal | 1 | 2 | 3 | 4 | --- |
| <input type="checkbox"/> Subcontract or venture with other firms | 1 | 2 | 3 | 4 | --- |
| <input type="checkbox"/> Subcontract or venture with academic institution | 1 | 2 | 3 | 4 | --- |
| <input type="checkbox"/> Subcontract or venture with federal government | 1 | 2 | 3 | 4 | --- |

43. Rate the importance of the following technologies to the success of your business operations now and in the next five years. (Circle appropriate number.)

| <i>Technology</i> | <i>Currently</i> | | | | <i>In Five Years</i> | | | | |
|--|--------------------------|---|---------------------------|---|--------------------------|---|---------------------------|---|-----|
| | <i>Not Important</i> | | <i>Very Important</i> | | <i>Not Important</i> | | <i>Very Important</i> | | |
| Equipment for more fully automating your production process (e.g. computer integrated manufacturing, etc.) | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| Equipment/systems for communication of information (data, voice or visual) | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| Other equipment/systems to improve quality or productivity (e.g. computer aided design, etc.) | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |
| Advanced materials to improve product or processes (e.g. composites, etc.) | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | --- |

ADDITIONAL COMMENTS

44. Please discuss any other significant changes in your business operations you have planned for the 1990's:

Mail to: Minnesota Enterprise Survey of Business
 Department of Trade and Economic Development
 900 American Center Building
 150 East Kellogg Boulevard
 St. Paul, Minnesota 55101

Please send me a copy of the final results.