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Hillsborough County 2003 Manufacturing Survey

An Analysis Performed by

CENTER FOR ECONOMIC DEVELOPMENT RESEARCH
College of Business Administration



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1. Preface and Executive Summary

Hillsborough County is located in west central Florida and is one of seven counties often collectively referred to as Tampa Bay. The Hillsborough County Economic Development Department administers programs that sustain and encourage the economic growth of the local economy, including programs that stimulate the creation of quality jobs for the skilled and semi-skilled work force. The Department's Corporate Business Development (CBD) section is committed to increasing quality job opportunities for the community's residents by helping to establish, maintain and project Hillsborough County's business friendly climate to corporations that create and sustain those desirable quality jobs.¹

The CBD section of the Hillsborough County Economic Development Department commissioned the *Hillsborough County 2003 Manufacturing Survey*. Innovation Insight, in accordance with its Cooperative Agreement with the Center for Economic Development Research (CEDR), conducted the survey and provided an analysis of the survey's findings.

CEDR is a unit of the College of Business Administration of the University of South Florida (USF), located in Tampa, Florida. CEDR provides information and conducts research on issues related to economic growth and development in the Nation, in the state of Florida, and particularly in the central Florida region. The Center serves the faculty, staff, and students of the College of Business Administration, the University, and individuals and organizations in the University's service area. CEDR's activities are designed to further the objectives of the University and specifically the objectives of the College of Business Administration.

578 manufacturing companies were selected from a commercial database provided by InfoUSA, courtesy of the Tampa Chamber of Commerce / Committee of 100. Surveys and cover letters were mailed by July 7th, with responses collected by mail (self-addressed stamped return envelopes included), facsimile, and internet until July 31, 2003. 75 responses were received, for an estimated response rate of approximately 13%.

Overall, the survey responses indicate that the participating manufacturers viewed Hillsborough County as competitive, at least comparable to other U.S. business climates overall. The quality of the overall business climate was rated as "better than average," with a 3.9 rating out of a possible 5. There are specific areas where the County excels, such as utilities, air transportation, sports and entertainment, arts and culture. The quality of these business climate factors are rated as better than average by both high-tech, and non high-tech designated respondents. This positive overall rating is due to the fact that the areas of greatest deficiency were still given roughly an "average" rating by respondents. These elements of Hillsborough County's business climate include insurance, road infrastructure, taxation structures, and financing methods. Insurance costs stands out as a topic that respondents indicated has the greatest disparity between its current quality and its importance to manufacturing. Although this report has paid particular attention to the most significant deficiencies, it is recommended that further assistance and economic development be committed to *all* of the business climate factors, in order to establish a higher overall standard for the County. Ongoing research will help set that goal, and monitor progress by exploring in more explicit detail how the most significant business climate issues affect manufacturers.

Statistical findings suggest that, as perceived by responding manufacturers, Hillsborough County's overall business climate is best explained by the availability of management professionals, insurance costs, the availability of skilled labor, and the quality of International trade (import / export) competitiveness. Consequently, perceptions of Hillsborough County's overall business climate could be improved through implementation of programs to address deficiencies in these areas, as well as communication efforts to build awareness of resources and programs that are available in them. Given the closely linked responses between "high-tech" and non high-tech manufacturers, such efforts will benefit both manufacturing sectors equally.

Footnotes:

1. Source is www.hillsboroughcounty.org/home.html on 8/14/03.

2. Detailed Results

Combined business climate ratings are shown in Figure 1 and Figure 2 (following pages). Each business climate factor corresponds to one item on the survey instrument. The figure displays the average rating of all responses as a blue circle, with possible ratings from 1 to 5. The bar spanning each score represents the standard deviation of responses, indicating an overall variability of responses. Detailed scores for each are listed in Table 2 (“quality”, page 9) and Table 3 (“importance”, page 11).

Quality

The highest rated business climate factors in terms of *quality* (in descending order) include “Air transportation infrastructure” (above average quality); “Sports and entertainment (above average quality); “Arts and culture activities” (slightly above average quality); “Electric power and utilities infrastructure” (slightly above average quality); and “Telecommunications infrastructure” (slightly above average quality);

The five lowest rated business climate factors in terms of *quality* (in order) include “Insurance costs” (slightly below average quality); “Local tax structure competitiveness” (slightly below average quality); “City Government responsiveness” (slightly below average quality); “Value of Useful Life depreciation schedule” (slightly below average quality); and “Road Transportation infrastructure” (slightly below average quality);

The average quality rating for all business climate factors was 3.18, indicating just slightly better than average quality of manufacturing business climate in Hillsborough County. Overall response rates were consistent with an average standard deviation of +/- .94, with the greatest variability of responses shown regarding “local markets for your company’s product”. Overall, the responses paint a picture of Hillsborough County as being more or less competitively “on par” with local manufacturers’ perceptions of other metropolitan manufacturing regions in the U.S.

Importance

In contrast with quality, Hillsborough County’s business climate factors were also rated on their respective *importance* to manufacturing (page 4). Comparison of importance ratings against perceived quality may be expected to help prioritize development efforts; e.g., a given business climate may have a low quality rating, but if it is not perceived as relatively important, development and improvement efforts could be directed elsewhere.

The highest rated business climate factors in terms of *importance* (in descending order) include “Insurance costs” (high importance); “Electric power and utilities infrastructure” (medium-high importance); “Telecommunications infrastructure” (medium-high importance); “Local market for manufacturers’ products” (medium-high importance); and “Local tax structure competitiveness” (medium-high importance).

The five lowest rated business climate factors in terms of *Importance* (in order) include “Access to primary financial markets for public offerings” (medium importance); “Access to angel and venture capital investment” (medium importance); “Need for new local degree programs” (medium importance); “Access to research technologies” (medium importance); and “Access to students for internships, co-ops and externships” (medium importance).

The average importance rating for all business climate factors was 3.57. Overall response rates were again consistent with an average standard deviation of +/- 1.07, with the greatest variability of responses shown regarding “Access to angel and venture capital”.

Figure 1. Business Climate Quality Rankings

Overall Quality of Business Climate Factors in Hillsborough County

Responses from the 2003 Manufacturing Survey

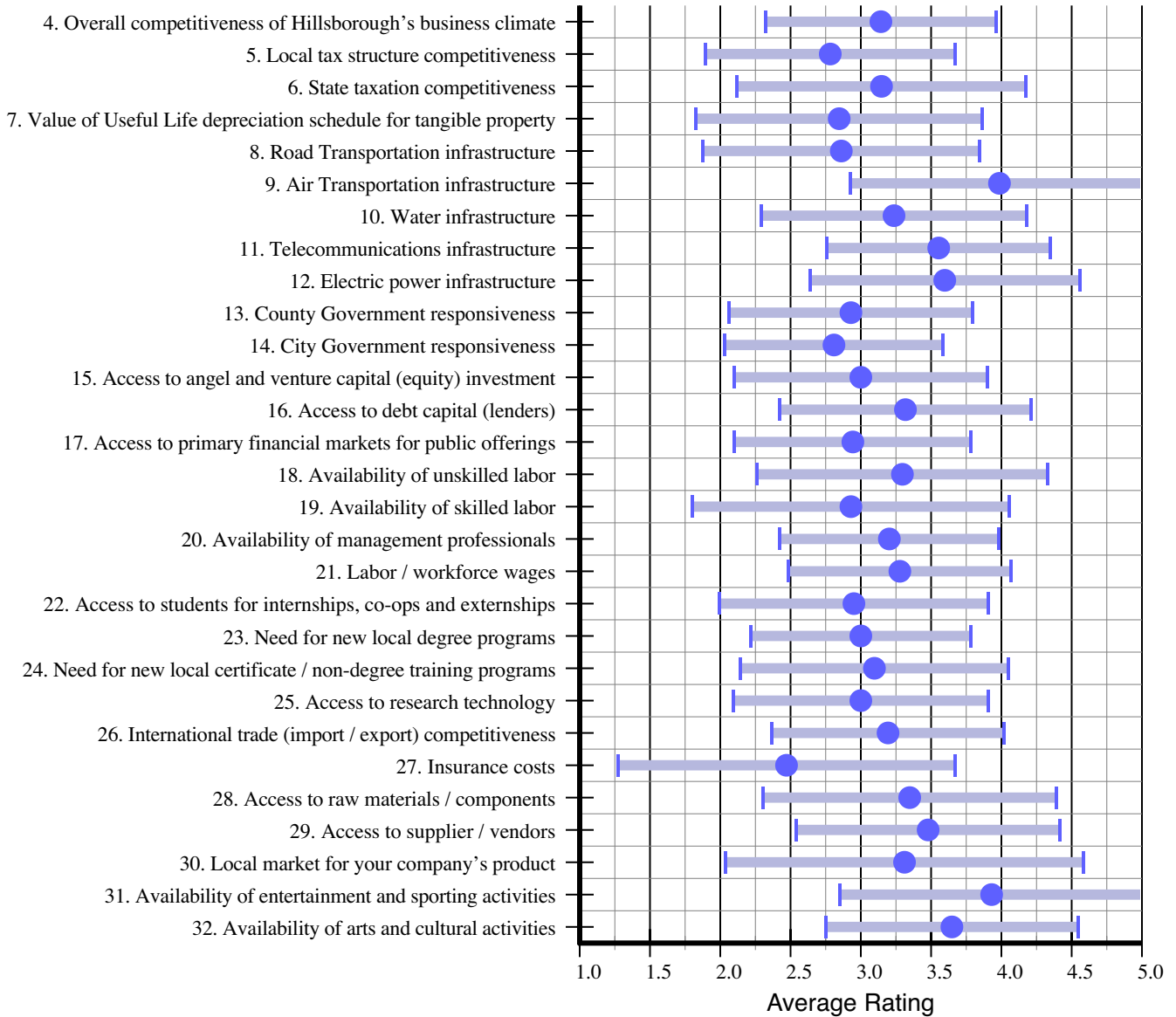
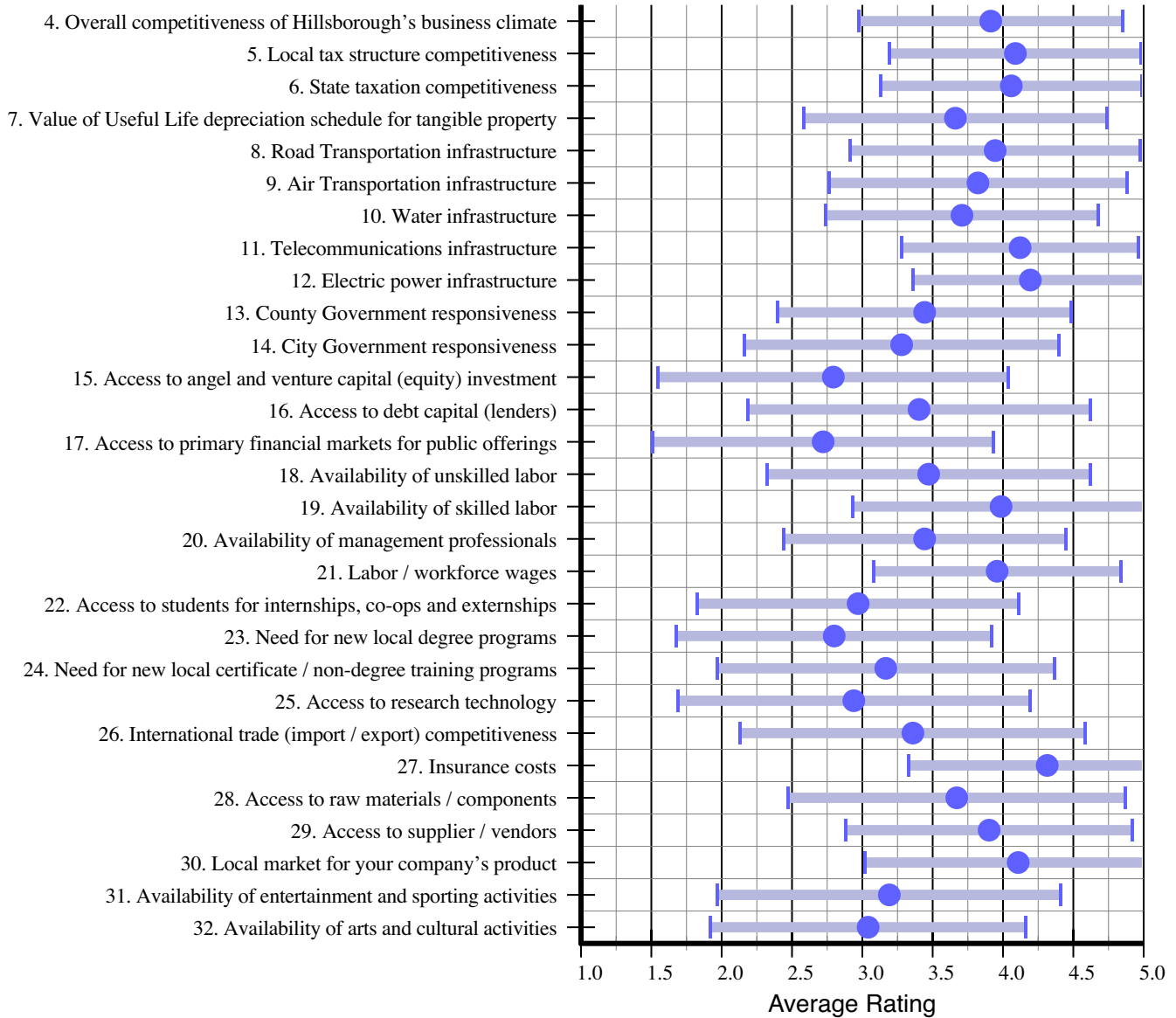


Figure 2. Business Climate Importance Rankings
Overall Importance of Business Climate Factors in Hillsborough County
 Responses from the 2003 Manufacturing Survey



Quality Versus Importance

Figure 3 (following page) weighs quality against importance for each business climate factor. The business climate factors with the largest apparent disparities are observable in the upper left corner of the figure (relatively high importance, low quality). These are the factors that would most benefit from improvement activities and coordinated economic development programs, from the perspective of the survey respondents. Listed in order of decreasing disparity, they include:

1. Insurance costs (ratio of quality to importance: .56)
2. Local tax structure competitiveness (ratio of quality to importance: .67)
3. Road transportation infrastructure (ratio of quality to importance: .71)
4. Availability of skilled labor (ratio of quality to importance: .71)
5. State taxation competitiveness (ratio of quality to importance: .76)

Figure 3. Business Climate Quality Versus Importance
Hillsborough County Business Factors: 2003 Manufacturing Survey

Quality Versus Importance

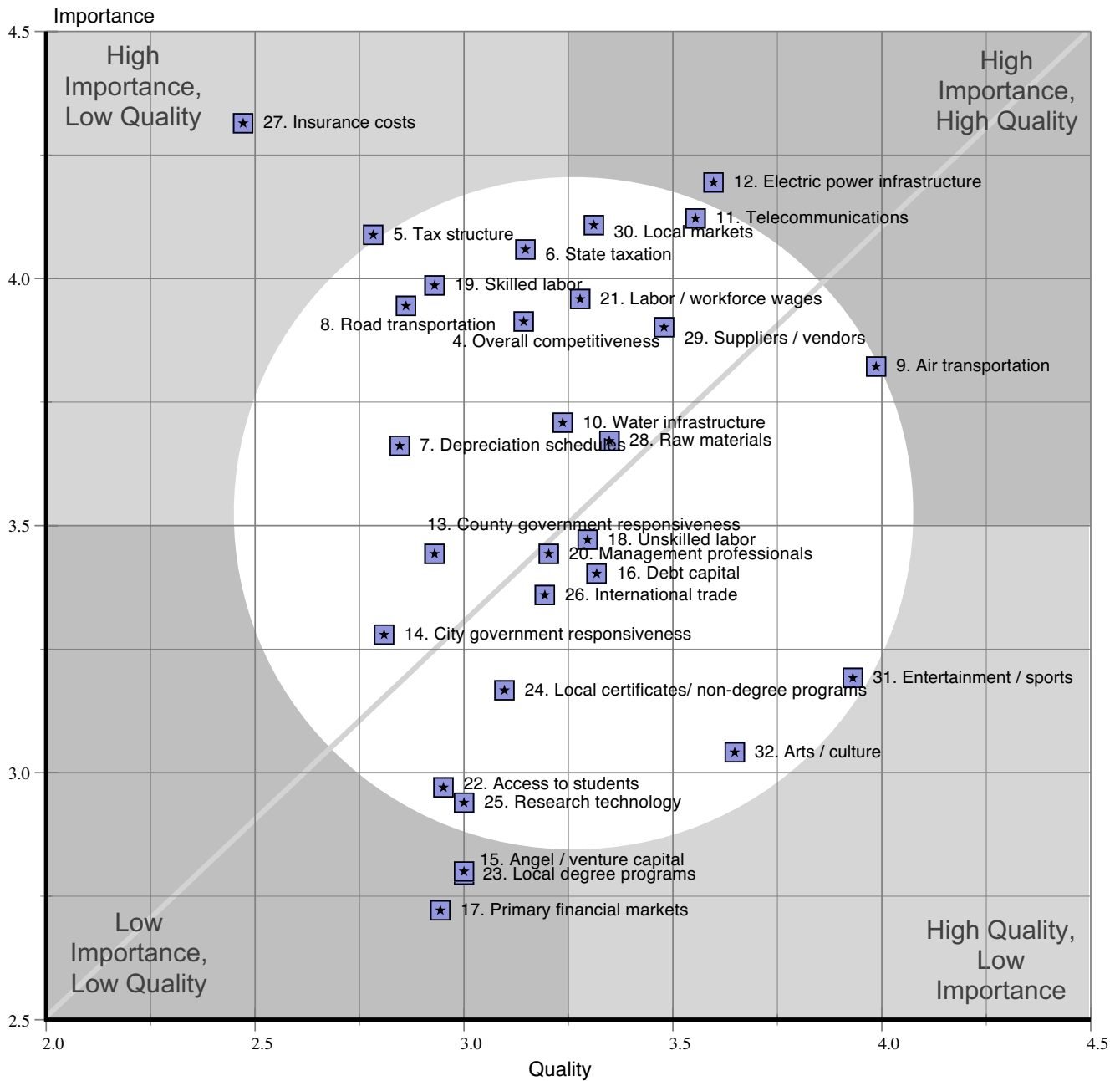


Table 1, below, lists the actual ratio values of perceived quality versus importance based upon local manufacturers' responses. These scores serve a descriptive purpose; particularly low ratios indicate a high discrepancy between high perceived importance relative to importance. However, only the ratios near the top of the table have particular significance to economic development; values near 1.0 merely indicate that perceived quality is near the perceived importance for that item.

Table 1. Quality Versus Importance Ratios

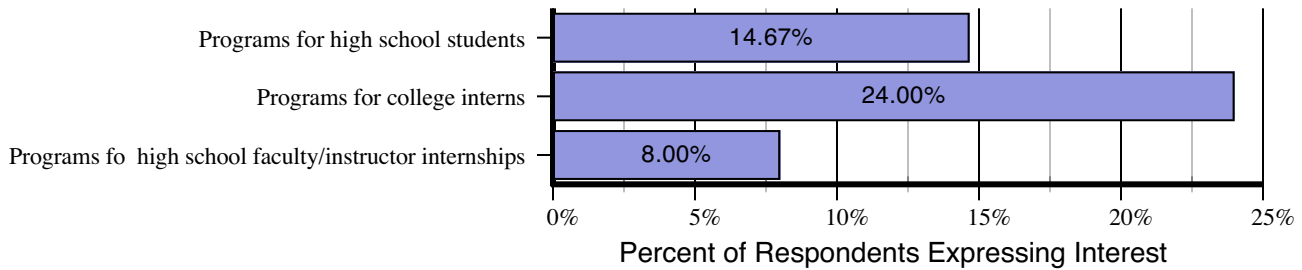
Quality versus Importance (Perceived Disparity)	Ratio
27. Insurance costs	0.56
05. Tax structure	0.67
08. Road Transportation	0.71
19. Skilled labor	0.71
06. State taxation	0.76
07. Depreciation schedule	0.77
21. Labor / workforce wages	0.79
30. Local markets	0.80
04. Overall competitiveness	0.82
14. City Government responsiveness	0.84
13. County Government responsiveness	0.85
11. Telecommunications infrastructure	0.86
12. Electric power infrastructure	0.86
16. Debt capital (lenders)	0.86
22. Access to students	0.86
10. Water infrastructure	0.87
29. Suppliers / vendors	0.87
24. Local certificate / non-degree programs	0.88
17. Primary financial markets	0.89
26. International trade	0.89
18. Unskilled labor	0.89
28. Raw materials / components	0.90
20. Management professionals	0.90
25. Research technology	0.91
15. Angel and venture capital	0.94
23. Local degree programs	0.95
09. Air Transportation	1.03
32. Arts and cultural activities	1.13
31. Entertainment and sporting activities	1.18

Interest in Students

Survey participants were asked whether they would be interested in supporting internships, co-ops, or externships for students and faculty at different levels. As shown in Figure 4, almost a quarter of respondents expressed interest in supporting college-level students (24.00%). Approximately one in six expressed interest in supporting high school students (14.67%), and 8.00% expressed interest in supporting faculty externships to familiarize high school teachers with manufacturing career opportunities. A list of respondents expressing interest has been provided to the Hillsborough County Economic Development Department.

**Figure 4. Interest in Supporting Internships and Externships
2003 Hillsborough County Manufacturing Survey**

Interest in supporting internships and externships

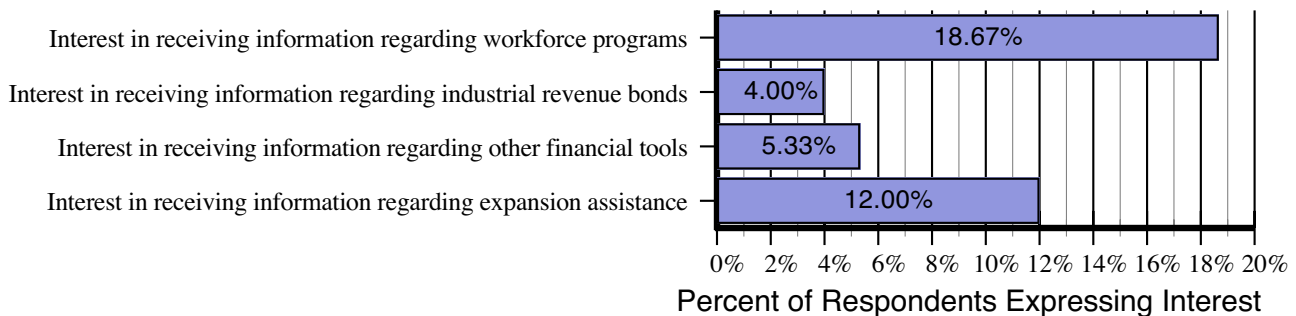


Interest in Receiving Economic Development Information

Participants were also asked regarding their interest in receiving additional information regarding economic development and workforce programs. The most interest was expressed regarding workforce programs - 18.67%. Expansion assistance information generated the next most interest, with 12.00%. Interest in receiving financing tools information generated a response of 5.33%, and industrial revenue bond information 4.00%. As with student internship / externship responses, a list of interested respondents was provided to the sponsor.

**Figure 5. Interest in Economic Development Information
2003 Hillsborough County Manufacturing Survey**

Interest in receiving economic development information



Open-End Responses

Three survey participants provided responses to the open-ended question #35: “Do you have any additional comments about competitiveness of business climate in Hillsborough County?” Response 3 was from a “high-tech” designated company; their response was truncated due to database limitations, though they appeared to have more feedback that was not recorded.

1. “Need vocational training programs.”
2. “We need to put sheet metal training back in to Tech Schools. We could triple our business if we could hire experienced or trained sheet metal fabricators.”
3. “There are a number of issues that I believe must be addressed by the local community if Hillsborough County is ever going to become an competitive (sic) area to be a manufacture or do business. [The first item includes] the tax structure within the City of Tampa....”

High Tech Manufacturers

The database of respondents was broken into “high technology” and non-high tech companies based upon their standard industry classification (SIC) codes, primarily as compared against definitions by the American Electronics Association (AEA) and the Florida High Tech Corridor Council (FHTC). A list of matching “high tech” Hillsborough County manufacturing industry codes is included as Appendix II.

The Hillsborough County Economic Development Department expressed interest in learning whether technology-based manufacturers would express different opinion regarding the business climate as compared to non-technology-oriented manufacturers. Of the 75 respondents, only 13 were identified as “high tech” in this fashion (17.3% of the respondents). Although this is too small of a sample for sophisticated statistical comparison, a side-by-side comparison of results can still be informative. Figures 1-3 are replicated as Figures 6-8, with the following tables and figures comparing “high tech” respondents versus non-high tech respondents.

As before, combined business climate ratings are shown in Figure 6 and Figure 7. Each business climate factor corresponds to one item on the survey instrument. The figure displays the average rating of all responses as a blue circle, with possible ratings from 1 to 5. The bar spanning each score represents the standard deviation of responses, indicating an overall consistency of responses.

Overall, the responses and rankings provided by high tech respondents are consistent with other responding manufacturers (without the “high tech” designation), except as noted.

Quality Ratings

Based upon responses from high-tech manufacturers, the highest rated business climate factors in terms of *quality* (in descending order) include “Air transportation infrastructure” (above average quality); “Sports and entertainment” (above average quality); “Arts and culture activities” (slightly above average quality); “Electric power and utilities infrastructure” (slightly above average quality); “Telecommunications infrastructure” (slightly above average quality).

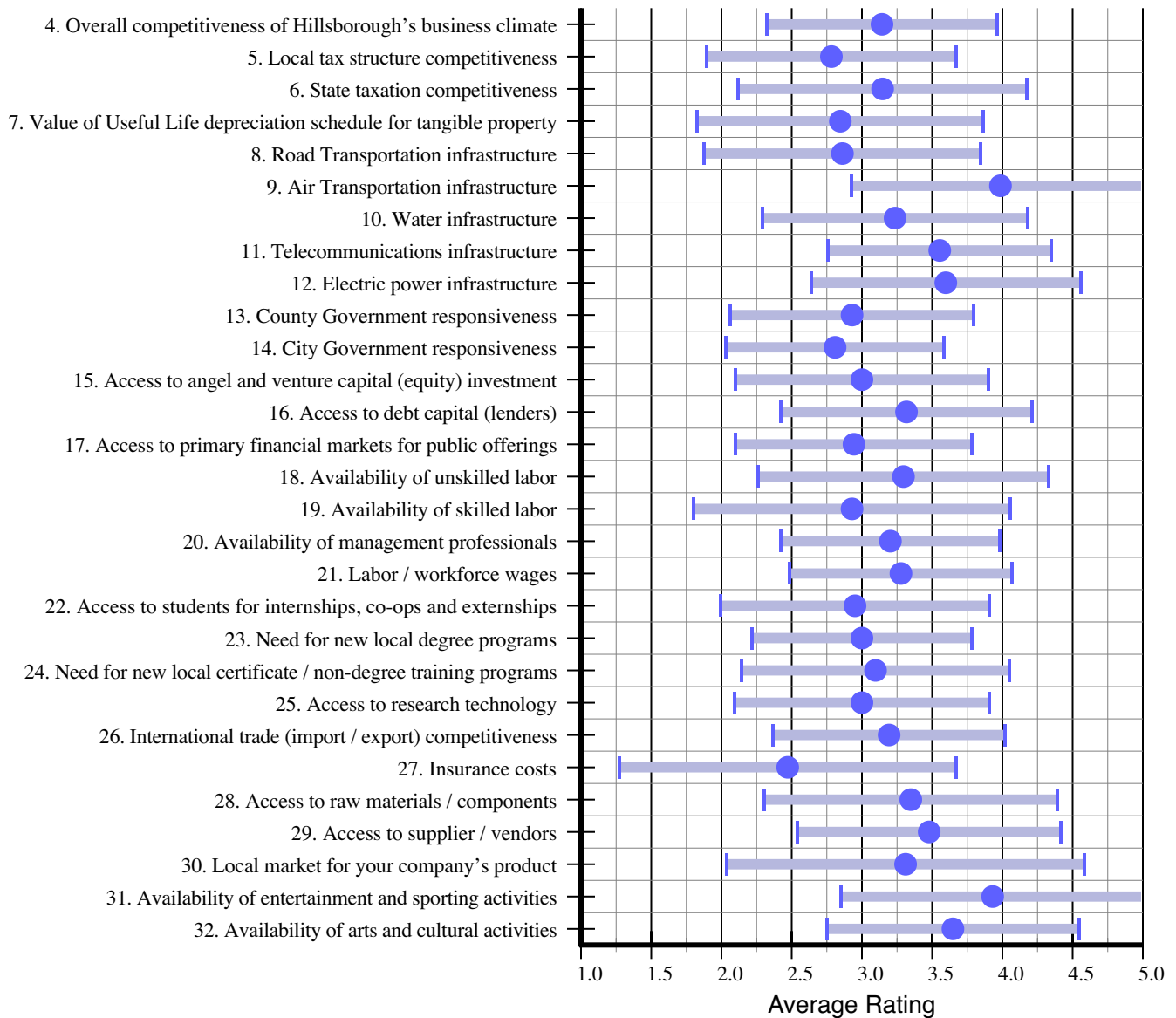
High-tech manufactures rated the following business climate factors lowest in terms of *quality*: “Insurance costs” (slightly below average quality); “Local tax structure” (average quality); “City government responsiveness” (average quality); “Road transportation infrastructure” (average quality), and “Value of Useful Life depreciation schedule for property” (average quality)

Although the specific order varies slightly between high-tech and non-high tech designated manufacturers, the top five and bottom five ranked categories are the same for both groups. The average quality rating for all business climate quality factors was 3.18 (all respondents), again indicating just slightly better than average quality of manufacturing business climate in Hillsborough County. Overall response rates were consistent with an average standard deviation of +/- .95, with the greatest variability of responses shown regarding “Local market for your company’s product”. Overall, the responding high-tech Hillsborough County manufacturers paint a picture of the county as being competitively “on par” with their perceptions of other metropolitan manufacturing regions in the U.S.

Table 2. High Tech Versus Non-High Tech Quality Rankings

Business Climate Quality Ratings	Non High-Tech			High-Tech		
	Rank	Mean	StDev	Rank	Mean	StDev
09. Air Transportation infrastructure	1	3.99	1.06	1	3.97	1.08
31. Availability of entertainment and sporting activities	2	3.93	1.08	2	3.91	1.10
32. Availability of arts and cultural activities	3	3.65	0.90	3	3.63	0.92
12. Electric power infrastructure	4	3.60	0.96	4	3.57	0.94
11. Telecommunications infrastructure	5	3.55	0.80	5	3.54	0.81
29. Access to supplier / vendors	6	3.48	0.94	6	3.42	0.92
16. Access to debt capital (lenders)	8	3.32	0.89	7	3.32	0.88
28. Access to raw materials / components	7	3.35	1.04	8	3.29	1.00
21. Labor / workforce wages	11	3.28	0.79	9	3.28	0.81
30. Local market for your company’s product	9	3.31	1.27	10	3.27	1.28
18. Availability of unskilled labor	10	3.30	1.03	11	3.27	1.04
10. Water infrastructure	12	3.24	0.94	12	3.25	0.92
20. Availability of management professionals	13	3.20	0.78	13	3.20	0.79
26. International trade (import / export) competitiveness	14	3.19	0.83	14	3.19	0.84
04. Overall competitiveness of Hillsborough’s business climate	16	3.14	0.82	15	3.15	0.83
06. State taxation competitiveness	15	3.15	1.03	16	3.14	1.03
24. Need for new local certificate / non-degree training programs	17	3.01	0.95	17	3.09	0.94
15. Access to angel and venture capital (equity) investment	18	3.00	0.90	18	3.02	0.92
23. Need for new local degree programs	19	3.00	0.78	19	3.02	0.80
22. Access to students for internships, co-ops and externships	21	2.95	0.96	20	3.02	0.94
25. Access to research technology	20	3.00	0.91	21	3.00	0.92
19. Availability of skilled labor	24	2.93	1.13	22	2.99	1.11
13. County Government responsiveness	23	2.93	0.87	23	2.94	0.88
17. Access to primary financial markets for public offerings	22	2.94	0.84	24	2.94	0.87
07. Value of Useful Life depreciation schedule for tangible property	26	2.85	1.02	25	2.89	1.01
08. Road Transportation infrastructure	25	2.86	0.98	26	2.87	0.99
14. City Government responsiveness	27	2.81	0.78	27	2.85	0.75
05. Local tax structure competitiveness	28	2.78	0.89	28	2.80	0.90
27. Insurance costs	29	2.47	1.20	29	2.48	1.22

Figure 6. High Tech Business Climate Quality Rankings
Overall Quality of Business Climate Factors in Hillsborough County
 Responses from July, 2003 Manufacturing Survey



Importance Ratings

In contrast with quality, Hillsborough County's business climate factors were also rated on their respective *importance* to high-technology manufacturing. As stated previously, comparison of importance ratings against perceived quality may be expected to help prioritize development efforts.

The highest high-tech rated business climate factors in terms of *importance* (in descending order) include "Insurance costs" (high importance); "Electric power and utilities infrastructure" (medium-high importance); "Telecommunications infrastructure" (medium-high importance); "Local market for manufacturers' products" (medium-high importance); and "Local tax structure competitiveness" (medium-high importance).

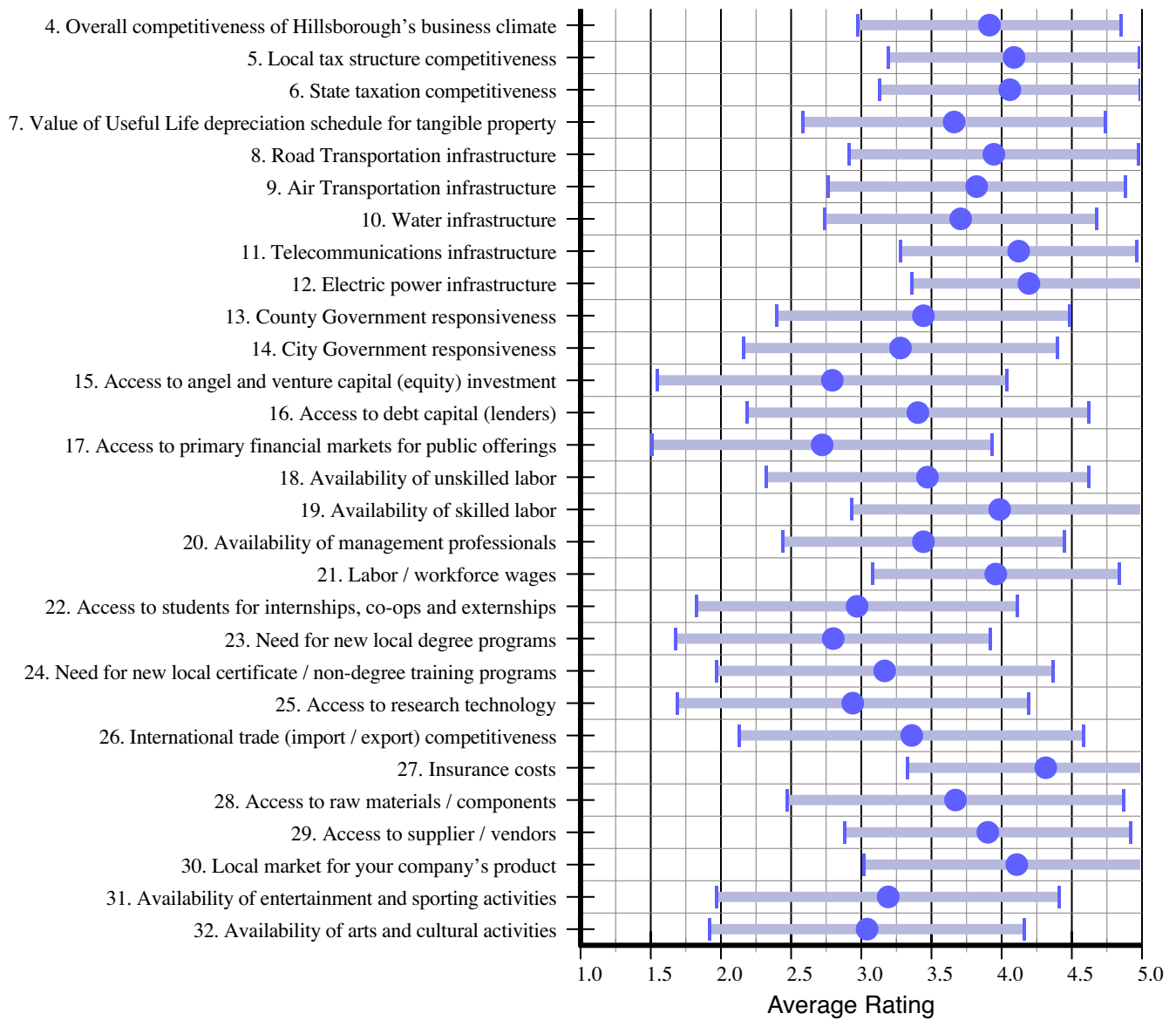
For responding high-tech manufacturers, the lowest rated business climate factors in terms of *Importance* include “Access to primary financial markets for public offerings” (medium importance); “Need for new local degree programs” (medium importance); “Access to angel and venture capital investment” (medium importance); “Access to research technologies” (medium importance); “Access to students for internships, co-ops and externships” (medium importance).

As with the *quality* ratings, the top and bottom five business climate importance factors are the same for both high tech and non-high tech designated companies, although the order varies slightly for the bottom categories. The average importance rating for all business climate factors was 3.57 (non high-tech) to 3.56 (high-tech). Overall response rates were again consistent with an average standard deviation of +/- 1.07 (all respondents), with the greatest variability of responses again shown regarding, “Access to angel and venture capital”.

Table 3. High Tech Versus Non-High Tech Importance Rankings

Business Climate Importance Ratings	Non High-Tech			High-Tech		
	Rank	Mean	StDev	Rank	Mean	StDev
27. Insurance costs	1	4.31	0.99	1	4.29	1.00
12. Electric power infrastructure	2	4.19	0.83	2	4.18	0.85
11. Telecommunications infrastructure	3	4.12	0.84	3	4.11	0.86
30. Local market for your company's product	4	4.11	1.09	4	4.10	1.11
05. Local tax structure competitiveness	5	4.09	0.89	5	4.06	0.90
06. State taxation competitiveness	6	4.06	0.93	6	4.03	0.94
21. Labor / workforce wages	8	3.96	0.88	7	3.97	0.88
19. Availability of skilled labor	7	3.99	1.05	8	3.96	1.06
08. Road Transportation infrastructure	9	3.94	1.03	9	3.93	1.04
04. Overall competitiveness of Hillsborough's business climate	10	3.91	0.94	10	3.91	0.93
29. Access to supplier / vendors	11	3.90	1.02	11	3.85	1.02
09. Air Transportation infrastructure	12	3.82	1.06	12	3.80	1.08
10. Water infrastructure	13	3.71	0.97	13	3.69	0.97
07. Value of Useful Life depreciation schedule for tangible property	15	3.66	1.08	14	3.63	1.09
28. Access to raw materials / components	14	3.67	1.20	15	3.59	1.19
18. Availability of unskilled labor	16	3.47	1.15	16	3.50	1.13
20. Availability of management professionals	18	3.44	1.00	17	3.48	0.98
16. Access to debt capital (lenders)	19	3.40	1.22	18	3.44	1.19
13. County Government responsiveness	17	3.44	1.04	19	3.42	1.05
26. International trade (import / export) competitiveness	20	3.36	1.23	20	3.38	1.25
14. City Government responsiveness	21	3.28	1.12	21	3.28	1.08
31. Availability of entertainment and sporting activities	22	3.19	1.22	22	3.19	1.25
24. Need for new local certificate / non-degree training programs	23	3.17	1.20	23	3.01	1.18
32. Availability of arts and cultural activities	24	3.04	1.12	24	3.04	1.14
22. Access to students for internships, co-ops and externships	25	2.97	1.14	25	2.97	1.16
25. Access to research technology	26	2.94	1.25	26	2.94	1.23
15. Access to angel and venture capital (equity) investment	28	2.79	1.25	27	2.85	1.26
23. Need for new local degree programs	27	2.80	1.12	28	2.82	1.12
17. Access to primary financial markets for public offerings	29	2.72	1.21	29	2.69	1.17

Figure 7. High Tech Business Climate Importance Rankings
Overall Importance of Business Climate Factors in Hillsborough County
 Responses from July, 2003 Manufacturing Survey

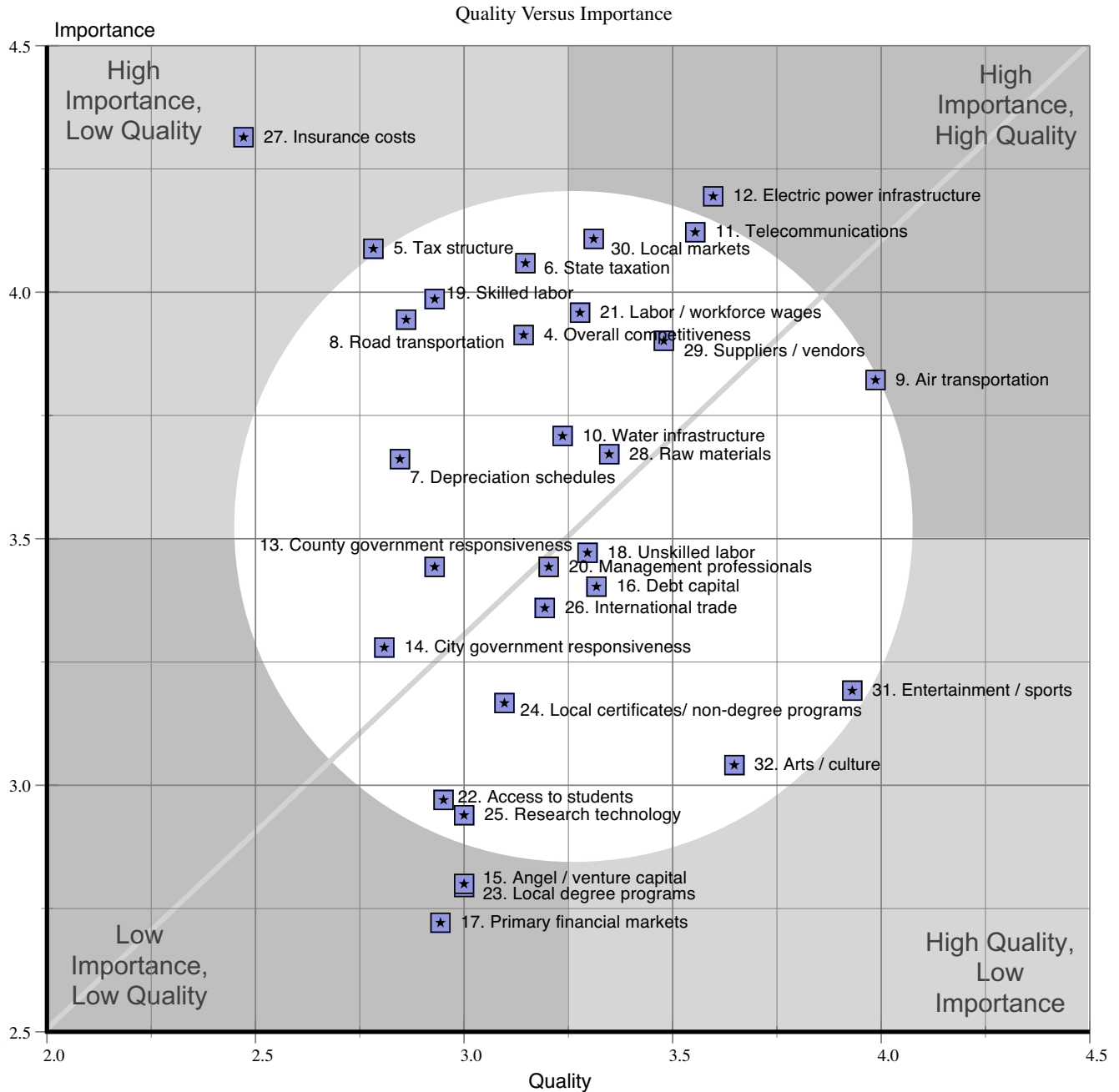


Quality Versus Importance (High Tech Respondents)

Figure 8 (next page) maps high-tech manufacturers' responses regarding quality versus importance for each business climate factor. For most factors, importance and quality appear to be consistent, with the most apparent disparities observable in the upper left corner of the figure (relatively high importance, low quality). Perception regarding these factors would most benefit from improvement activities and coordinated economic development programs, from the perspective of the survey respondents.

Listed in order of decreasing disparity, these business factors include “Insurance costs”, “Local tax structure competitiveness”, “Road transportation infrastructure”, “Availability of skilled labor”, and “State taxation competitiveness.”

**Figure 8. High Tech Business Climate Quality Versus Importance
Hillsborough County Business Factors: 2003 Manufacturing Survey**



Actual quality versus importance perceived disparity ratios are listed as Table 4. Again, only the top listed items (with the lowest ratios) have particular significance to economic development, indicating that high tech manufacturers perceive a disparity in the quality of these subjects versus their relative importance. Ratios near 1.0 indicate that high-tech respondents perceive quality to be commensurate with importance.

Table 4. Quality Versus Importance Ratios

Quality versus Importance (Perceived Disparity)	Ratio
27. Insurance costs	0.58
05. Tax structure	0.69
08. Road Transportation	0.73
19. Skilled labor	0.75
06. State taxation	0.78
07. Depreciation schedule	0.80
30. Local markets	0.80
04. Overall competitiveness	0.81
21. Labor / workforce wages	0.83
12. Electric power infrastructure	0.86
13. County Government responsiveness	0.86
11. Telecommunications infrastructure	0.86
14. City Government responsiveness	0.87
10. Water infrastructure	0.88
29. Suppliers / vendors	0.89
28. Raw materials / components	0.92
20. Management professionals	0.92
18. Unskilled labor	0.93
26. International trade	0.94
16. Debt capital (lenders)	0.96
24. Local certificate / non-degree programs	1.00
22. Access to students	1.02
25. Research technology	1.02
09. Air Transportation	1.05
15. Angel and venture capital	1.06
23. Local degree programs	1.07
17. Primary financial markets	1.09
32. Arts and cultural activities	1.19
31. Entertainment and sporting activities	1.23

Statistical Comparison of non-High Tech Manufacturers versus High Tech Manufacturers

A multiple correlation test was performed on the survey responses. The responses do not fit a normal distribution, and there was no significant connection between a company's designation of "high technology" and its responses regarding business climate ($P > .05$).

Statistical Comparison of Business Climate Quality Factors

A number of statistical tests were run on the survey responses to identify correlations between business climate factors, or between business climate factors and characteristics of the responding companies. The findings for most of these are discussed separately, but the most important findings related to “*what factors most explain the overall business climate quality of Hillsborough County as perceived by all responding manufacturers?*”

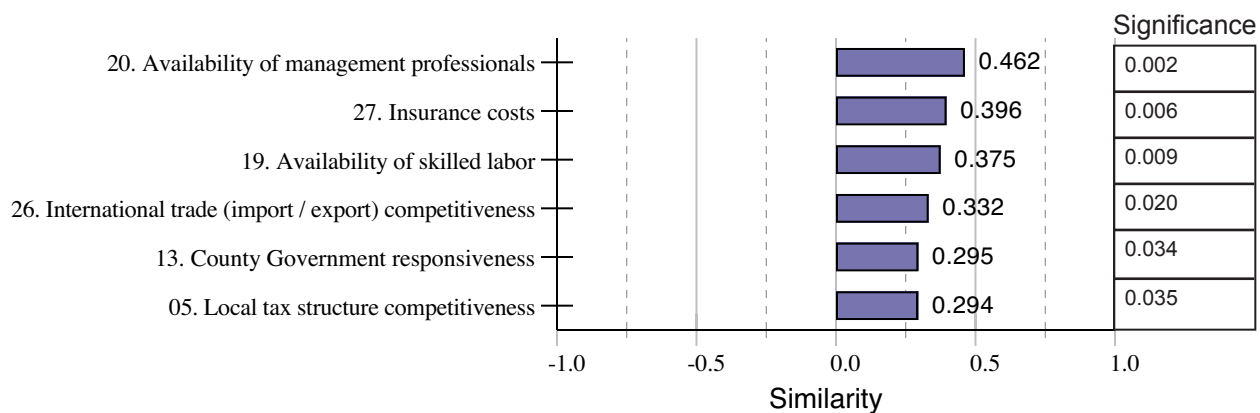
To determine this, a linear regression test was run on the business climate factor ratings (Pearson correlation similarity matrix, with 1-tailed significance test using interval data). The results from this test take the form of a matrix; the similarity between any two business climate factors can be found by matching the appropriate row and column. Matrix values range from -1.0 (maximum dissimilarity) to +1.0 (maximum similarity). The complete results matrices are included as Appendix I.

The correlation matrix indicates that overall business climate quality is best explained by the following business climate factors (in order); actual correlation values and significance scores are listed in Figure 9.

- Question 20, Availability of management professionals (extremely significant)
- Question 27, Insurance costs (extremely significant),
- Question 19, Availability of skilled labor (extremely significant),
- Question 26, International trade (import / export) competitiveness (significant)
- Question 13, County government responsiveness (significant),
- Question 5, Local tax structure competitiveness (significant)

Figure 9. Most Influential Business Climate Factors

Business Climate Factors Supporting Overall Business Climate



The analysts are confident in stating that availability of management professionals, insurance costs, and availability of skilled labor are perceived by local manufacturers as important contributors to the competitiveness of Hillsborough County’s business climate.

Statistical Comparison of Other Business Climate Factors

The correlation matrices also indicated significant correlations among other business climate factors. The factors most significantly correlated have been listed here. The majority of these correlations also have apparent semantic similarities in terms of business climate factors.

“IMPORTANCE”

- Question 11 with 12 (Telecommunications and Power infrastructures)
- Question 13 with 14 (City government responsiveness and County government responsiveness)
- Question 15 with 16 (Access to angel / venture capital, and Access to debt capital)
- Question 23 with 24 (Need for new local degree programs, and Need for new non-degree programs)
- Question 28 with 29 (Access to raw materials/ components, and Access to suppliers and vendors)

“QUALITY”

- Question 13 with 14 (City government responsiveness and County government responsiveness)

“QUALITY / IMPORTANCE” (discrepancy ratio)

- Question 5, 6 (Local tax structure competitiveness, and State tax structure competitiveness)
- Question 13, 14 (City government responsiveness and County government responsiveness)
- Question 15, 17 (Access to angel / venture capital, and Access to public markets)
- Question 17, 25 (Access to public markets, access to research technology)
- Question 23 with 24 (Need for new local degree programs, and Need for new non-degree programs)
- Question 27, 29 (Insurance costs, and Access to suppliers and vendors)

Other Statistical Findings

The statistics suggest that company interest in supporting student internships, externships and co-op programs is significantly associated with company size; specifically, medium-sized companies (between 10 and 100 employees) were most likely to express interest (chi-squared test for independence, $P=.0032$).

Although a battery of different statistical tests were run against business climate factors, company size, industry category, and high-tech / low-tech designation of responding companies, no other significant correlations were identified.

Summary Observations

Overall, the survey responses indicate that the participating manufacturers viewed Hillsborough County as competitive, at least comparable to other U.S. business climates overall. The quality of the overall business climate was rated as “better than average,” with a 3.9 rating out of a possible 5. There are specific areas where the County excels, such as utilities, air transportation, sports and entertainment, arts and culture. The quality of these business climate factors are rated as better than average by both high-tech and non high-tech designated respondents.

This positive overall rating is due to the fact that the areas of greatest deficiency were still given roughly an “average” rating by respondents. These elements of Hillsborough County’s business climate include insurance, road infrastructure, taxation structures, and financing methods. Insurance costs stand out as a topic that respondents indicated has the greatest disparity between its current quality and its importance to manufacturing. Although this report has paid particular attention to the most significant deficiencies, it is recommended that further assistance and economic development be committed to *all* of the business climate factors, in order to establish a higher overall standard for the County. “Average” may be a commendable rating for the areas of greatest deficiency, but we expect that community leaders would prefer the business climate to be superior in all categories. Ongoing, periodic research will help set that goal, and monitor progress by exploring in more explicit detail how the most significant business climate issues affect manufacturers.

This study was essentially an opinion research project, a report of the perceptions that Hillsborough County manufacturers have regarding their business climate. While it is acknowledged that perceptions about business climate issues may or may not be accurate to reality, perceptions influence reality as manufacturing executives base their decisions to expand, invest, hire, or relocate upon them. Further, these perceptions can be communicated to businesses outside of Hillsborough County, which can further influence opportunities for sales and investment. Although perceptions may not always reflect reality, they can influence it and become self-fulfilling.

By extension, programs addressing perception issues can be effective tools in improving actual business climates. It is important to augment outreach and economic development programs with dissemination and education efforts. As manufacturing leaders become more aware of resources and programs within their community, perceptions of Hillsborough County’s overall business climate can be expected to improve. Based upon the findings, improvements and dissemination efforts regarding the availability of management professionals, insurance costs, and the availability of skilled labor will be most effective in improving both the local perceptions and the actual business climate of Hillsborough County’s manufacturing community. Given the closely linked responses between “high-tech” and non high-tech manufacturers, such efforts should benefit both manufacturing sectors equally.

Appendix I. Research Instruments

July 11, 2003

«Contact_First_Cap» «Contact_Last_Cap»
«NAME»
«Location_Address»
«Location_City», FL «Location_ZIP»

RE: Hillsborough County Competitiveness Survey

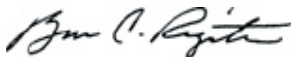
To «Contact1»:

On behalf of the Hillsborough County's Economic Development Department, I am requesting your feedback regarding issues of importance to our manufacturing and business environment. Your response will be used to guide our strategic planning efforts.

Please complete the attached survey, and return it by July 31, 2003 by mail or fax to our offices. If you prefer, you can complete the survey online at <http://innovationInsight.com/hc>. Either way, the survey only takes about 15 minutes to complete, and I think you will find that the survey addresses salient business issues. Your responses will be considered confidential.

Your company is a very important part of Hillsborough County's economy and we consider your opinion valuable. We look forward to receiving your response!

Sincerely,



Bruce C. Register
Corporate Business Development Manager
Hillsborough County Economic Development Department

The Hillsborough County Department of Economic Development is conducting a survey of manufacturing firms. Your response will help us better target our services and programs to meet your needs and increase the competitiveness of Hillsborough County as a pro-manufacturing environment. The survey takes less than 15 minutes to complete; please return the completed survey by mail or fax by **July 31** to:

Bruce Register Hillsborough County Economic Development 601 E. Kennedy Blvd, PO Box 1110 Tampa, FL 33601	Fax: (813) 276-2638 Or complete online at: http://innovationInsight.com/hc
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Your responses will be held **strictly confidential**, will not be distributed or published unless in aggregated data, and is primarily for the use of the Economic Development Department. **Your feedback is very important to us!**

1. Please provide your name (required): _____
2. Please provide your company's name (required): _____
3. Please indicate your company's primary product: _____

From the perspective of your company, please rate Hillsborough County for the following factors. For overall quality circle a number where 1="low" and 5="high." For overall importance circle a number where 1="low" and 5="high." A category may have low quality and high importance, or vice versa.

Category	Overall Quality	Overall Importance
4. Overall competitiveness of Hillsborough's business climate	1-2-3-4-5	1-2-3-4-5
5. Local tax structure competitiveness	1-2-3-4-5	1-2-3-4-5
6. State taxation competitiveness	1-2-3-4-5	1-2-3-4-5
7. Value of Useful Life depreciation schedule for tangible property	1-2-3-4-5	1-2-3-4-5
8. Road Transportation infrastructure	1-2-3-4-5	1-2-3-4-5
9. Air Transportation infrastructure	1-2-3-4-5	1-2-3-4-5
10. Water infrastructure	1-2-3-4-5	1-2-3-4-5
11. Telecommunications infrastructure	1-2-3-4-5	1-2-3-4-5
12. Electric power infrastructure	1-2-3-4-5	1-2-3-4-5
13. County government responsiveness	1-2-3-4-5	1-2-3-4-5
14. City government responsiveness	1-2-3-4-5	1-2-3-4-5
15. Access to angel and venture capital (equity) investment	1-2-3-4-5	1-2-3-4-5
16. Access to debt capital (lenders)	1-2-3-4-5	1-2-3-4-5
17. Access to primary financial markets for public offerings	1-2-3-4-5	1-2-3-4-5
18. Availability of unskilled labor	1-2-3-4-5	1-2-3-4-5
19. Availability of skilled labor	1-2-3-4-5	1-2-3-4-5
20. Availability of management professionals	1-2-3-4-5	1-2-3-4-5
21. Labor/ workforce wages	1-2-3-4-5	1-2-3-4-5
22. Access to students for internships, co-ops and externships	1-2-3-4-5	1-2-3-4-5
23. Need for new local degree programs	1-2-3-4-5	1-2-3-4-5
24. Need for new local certificate / non-degree training programs	1-2-3-4-5	1-2-3-4-5
25. Access to research technology	1-2-3-4-5	1-2-3-4-5
26. International trade (import / export) competitiveness	1-2-3-4-5	1-2-3-4-5
27. Insurance costs	1-2-3-4-5	1-2-3-4-5
28. Access to raw materials / components	1-2-3-4-5	1-2-3-4-5
29. Access to supplier / vendors	1-2-3-4-5	1-2-3-4-5
30. Local market for your company's product	1-2-3-4-5	1-2-3-4-5
31. Availability of entertainment and sporting activities	1-2-3-4-5	1-2-3-4-5
32. Availability of arts and cultural activities	1-2-3-4-5	1-2-3-4-5

33. Is your company interested in workforce programs for internships or externships? Please check any that apply:
 High School students College interns High School faculty/instructor internships

34. Is your company interested in information on any of the following? Please check all that apply:
 Workforce Programs Industrial Revenue Bonds Other financial tools Expansion assistance

35. Do you have any additional comments about competitiveness of business climate in Hillsborough County? Please note them by attaching a separate page.

Appendix II. Identified High Tech Research Industry Codes

The following industry codes were selected to represent “high tech”: manufacturers of technology and research based products. The categories that were identified among the list of respondents is in the first table; unrepresented categories are contained in the second.

High tech industry codes identified among survey respondents:

3569-07	Automation Systems & Equipment-Mfrs
3579-08	Copying Machines & Supplies-Mfrs
3612-98	Power Distr/Specialty Transformer (Mfrs)
3625-05	Industrial Instrumentation (Mfrs)
3663-02	Communication Equipment-Manufacturers
3672-01	Printed & Etched Circuits-Mfrs
3679-01	Electronic Equipment & Supplies-Mfrs
3691-01	Storage-Batteries (Manufacturers)
3695-98	Magnetic/Optical Recording Media (Mfrs)
3699-02	Electric Equipment-Manufacturers
3841-04	Physicians & Surgeons Equip & Supls-Mfrs

Selected high tech industry codes not identified among survey respondents:

2834	3844	7371
3559	3845	7372
3571	3851	7373
3577	3861	7374
3661	3999	7375
3669	4813	7378
3674	4899	7379
3728	5047	7629
3812	5048	8399
3821	5049	8711
3823	5063	8731
3825	5065	8734
3826	5082	8742
3827	5085	8748
3829	5122	8999
3842	5734	
3843	7336	

Appendix III. Web Survey



The Hillsborough County Department of Economic Development is conducting a survey of manufacturing firms. Your response will help us better target our services and programs to meet your needs and increase the competitiveness of Hillsborough County as a pro-manufacturing environment. The survey takes less than 15 minutes to complete; please complete this survey by July 31.

Your responses will be held **strictly confidential**, will not be distributed or published unless in aggregated data, and is primarily for the use of the Hillsborough County Economic Development Department.

1. Please provide your name (required):	
2. Please provide your company's name (required):	
3. Please indicate your company's primary product:	

From the perspective of your company, please rate Hillsborough County for the following factors. A category may have low quality and high importance, or vice versa.

Category	Overall Quality	Overall Importance
4. Overall competitiveness of Hillsborough's business climate	Please Select One ▼	Please Select One ▼
5. Local tax structure competitiveness	Please Select One ▼	Please Select One ▼
6. State taxation competitiveness	Please Select One ▼	Please Select One ▼
7. Value of Useful Life depreciation schedule for tangible property	Please Select One ▼	Please Select One ▼
8. Road Transportation infrastructure	Please Select One ▼	Please Select One ▼
9. Air Transportation infrastructure	Please Select One ▼	Please Select One ▼
10. Water infrastructure	Please Select One ▼	Please Select One ▼
11. Telecommunications infrastructure	Please Select One ▼	Please Select One ▼
12. Electric power infrastructure	Please Select One ▼	Please Select One ▼
13. County Government responsiveness	Please Select One ▼	Please Select One ▼
14. City Government responsiveness	Please Select One ▼	Please Select One ▼
15. Access to angel and venture capital (equity) investment	Please Select One ▼	Please Select One ▼
16. Access to debt capital (lenders)	Please Select One ▼	Please Select One ▼
17. Access to primary financial markets for public offerings	Please Select One ▼	Please Select One ▼
18. Availability of unskilled labor	Please Select One ▼	Please Select One ▼
19. Availability of skilled labor	Please Select One ▼	Please Select One ▼
20. Availability of management professionals	Please Select One ▼	Please Select One ▼
21. Labor / workforce wages	Please Select One ▼	Please Select One ▼
22. Access to students for internships, co-ops and externships	Please Select One ▼	Please Select One ▼
23. Need for new local degree programs	Please Select One ▼	Please Select One ▼
24. Need for new local certificate / non-degree training programs	Please Select One ▼	Please Select One ▼
25. Access to research technology	Please Select One ▼	Please Select One ▼
26. International trade (import / export) competitiveness	Please Select One ▼	Please Select One ▼
27. Insurance costs	Please Select One ▼	Please Select One ▼
28. Access to raw materials / components	Please Select One ▼	Please Select One ▼
29. Access to supplier / vendors	Please Select One ▼	Please Select One ▼
30. Local market for your company's product	Please Select One ▼	Please Select One ▼
31. Availability of entertainment and sporting activities	Please Select One ▼	Please Select One ▼
32. Availability of arts and cultural activities	Please Select One ▼	Please Select One ▼

33. Is your company interested in workforce programs for internships or externships? Please check any that apply:

<input type="checkbox"/> High School students
<input type="checkbox"/> College interns
<input type="checkbox"/> High School faculty/instructor internships

34. Is your company interested in information on any of the following? Please check all that apply:
Workforce Programs Industrial Revenue Bonds Other financial tools Expansion assistance

<input type="checkbox"/> Workforce Programs
<input type="checkbox"/> Industrial Revenue Bonds
<input type="checkbox"/> Other financial tools
<input type="checkbox"/> Expansion assistance

35. Do you have any additional comments about competitiveness of business climate in Hillsborough County?

--

Please review to make certain that you have answered all questions; some browsers don't retain form entries if you have to return! Thank you for your participation; your help is critical to our efforts!

Submit Survey Now Reset

Appendix IV. Business Climate Quality Factors: Correlation Matrix

The following matrix contains the results of a linear regression test, including the Pearson correlation similarity matrix and the 1-tailed pairwise significance matrix. Similarity between any two factors can be found by finding the intersection of a row and a column. Row and column labels refer to question numbers on the survey questionnaire, each regarding *quality* only. Note, every element of the matrix diagonal (where each factor intersects with itself) will have a +1.0 similarity.

Pearson's Correlation Similarity Matrix

	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18
Q4	1.000	0.294	0.160	0.177	-0.005	0.014	0.043	-0.113	0.009	0.295	0.240	0.150	0.126	-0.106	0.266
Q5	0.294	1.000	0.621	0.422	-0.012	0.041	0.137	0.096	0.132	0.278	0.301	-0.060	-0.058	-0.152	0.296
Q6	0.160	0.621	1.000	0.367	0.256	0.137	0.109	0.283	0.176	0.175	0.133	-0.267	-0.098	-0.142	0.230
Q7	0.177	0.422	0.367	1.000	0.083	0.003	0.213	-0.008	0.135	0.148	0.151	0.219	0.328	0.094	0.042
Q8	-0.005	-0.012	0.256	0.083	1.000	-0.113	0.003	0.181	0.042	0.159	-0.116	0.018	-0.012	0.123	0.057
Q9	0.014	0.041	0.137	0.003	-0.113	1.000	0.496	0.317	-0.002	0.254	0.201	-0.190	0.091	0.010	0.343
Q10	0.043	0.137	0.109	0.213	0.003	0.496	1.000	0.680	0.364	0.232	0.320	0.119	0.343	0.171	-0.014
Q11	-0.113	0.096	0.283	-0.008	0.181	0.317	0.680	1.000	0.422	-0.024	0.020	-0.012	0.177	0.174	-0.082
Q12	0.009	0.132	0.176	0.135	0.042	-0.002	0.364	0.422	1.000	0.142	0.330	0.222	0.472	0.158	-0.035
Q13	0.295	0.278	0.175	0.148	0.159	0.254	0.232	-0.024	0.142	1.000	0.745	0.149	0.114	0.023	0.298
Q14	0.240	0.301	0.133	0.151	-0.116	0.201	0.320	0.020	0.330	0.745	1.000	0.066	0.107	-0.019	0.025
Q15	0.150	-0.060	-0.267	0.219	0.018	-0.190	0.119	-0.012	0.222	0.149	0.066	1.000	0.676	0.557	-0.025
Q16	0.126	-0.058	-0.098	0.328	-0.012	0.091	0.343	0.177	0.472	0.114	0.107	0.676	1.000	0.607	-0.002
Q17	-0.106	-0.152	-0.142	0.094	0.123	0.010	0.171	0.174	0.158	0.023	-0.019	0.557	0.607	1.000	-0.375
Q18	0.266	0.296	0.230	0.042	0.057	0.343	-0.014	-0.082	-0.035	0.298	0.025	-0.025	-0.002	-0.375	1.000
Q19	0.375	0.275	0.303	0.405	0.190	-0.066	-0.047	-0.033	0.330	0.357	0.268	0.086	-0.009	-0.264	0.052
Q20	0.462	0.165	0.256	0.127	0.283	-0.204	0.126	0.123	0.387	0.276	0.219	0.271	0.132	0.235	-0.170
Q21	-0.131	-0.026	-0.044	0.119	-0.030	0.234	0.140	-0.151	0.110	0.190	0.048	0.034	0.175	-0.252	0.283
Q22	0.083	0.204	-0.150	0.074	-0.153	0.186	0.229	-0.013	-0.164	0.411	0.304	0.193	0.139	0.082	0.413
Q23	0.134	0.074	0.187	0.036	0.252	0.169	0.140	-0.040	0.000	0.405	0.226	-0.207	0.000	-0.046	0.089
Q24	-0.149	0.151	0.475	0.111	0.227	0.108	0.057	0.022	0.291	0.330	0.203	-0.270	-0.073	-0.277	0.150
Q25	0.259	-0.241	-0.407	0.141	-0.085	0.069	0.275	-0.021	0.233	0.165	0.113	0.651	0.679	0.503	-0.222
Q26	0.332	-0.114	-0.170	0.433	0.144	0.149	0.139	-0.152	0.137	0.401	0.257	0.404	0.372	-0.003	0.311
Q27	0.396	0.172	0.143	0.272	0.081	-0.082	-0.240	-0.307	-0.181	0.090	-0.091	-0.130	-0.142	-0.358	0.283
Q28	0.266	-0.013	-0.013	0.046	-0.160	0.339	0.178	0.104	0.186	0.230	-0.031	0.216	0.493	0.218	0.413
Q29	0.237	-0.152	-0.245	0.041	-0.048	0.033	0.267	0.188	0.473	0.160	-0.042	0.542	0.673	0.408	0.021
Q30	0.044	-0.279	-0.167	-0.144	-0.119	0.152	0.044	0.147	-0.068	-0.046	-0.205	0.343	0.284	0.329	-0.007
Q31	0.128	0.151	-0.021	0.143	0.032	0.347	0.336	0.378	0.358	0.258	0.283	0.059	0.242	0.127	-0.008
Q32	0.004	-0.079	-0.071	0.236	0.039	0.371	0.165	0.122	0.146	0.068	-0.017	0.108	0.221	0.202	0.150

Pearson's Correlation Similarity Matrix, Continued

	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	Q31	Q32
Q4	0.375	0.462	-0.131	0.083	0.134	-0.149	0.259	0.332	0.396	0.266	0.237	0.044	0.128	0.004
Q5	0.275	0.165	-0.026	0.204	0.074	0.151	-0.241	-0.114	0.172	-0.013	-0.152	-0.279	0.151	-0.079
Q6	0.303	0.256	-0.044	-0.150	0.187	0.475	-0.407	-0.170	0.143	-0.013	-0.245	-0.167	-0.021	-0.071
Q7	0.405	0.127	0.119	0.074	0.036	0.111	0.141	0.433	0.272	0.046	0.041	-0.144	0.143	0.236
Q8	0.190	0.283	-0.030	-0.153	0.252	0.227	-0.085	0.144	0.081	-0.160	-0.048	-0.119	0.032	0.039
Q9	-0.066	-0.204	0.234	0.186	0.169	0.108	0.069	0.149	-0.082	0.339	0.033	0.152	0.347	0.371
Q10	-0.047	0.126	0.140	0.229	0.140	0.057	0.275	0.139	-0.240	0.178	0.267	0.044	0.336	0.165
Q11	-0.033	0.123	-0.151	-0.013	-0.040	0.022	-0.021	-0.152	-0.307	0.104	0.188	0.147	0.378	0.122
Q12	0.330	0.387	0.110	-0.164	0.000	0.291	0.233	0.137	-0.181	0.186	0.473	-0.068	0.358	0.146
Q13	0.357	0.276	0.190	0.411	0.405	0.330	0.165	0.401	0.090	0.230	0.160	-0.046	0.258	0.068
Q14	0.268	0.219	0.048	0.304	0.226	0.203	0.113	0.257	-0.091	-0.031	-0.042	-0.205	0.283	-0.017
Q15	0.086	0.271	0.034	0.193	-0.207	-0.270	0.651	0.404	-0.130	0.216	0.542	0.343	0.059	0.108
Q16	-0.009	0.132	0.175	0.139	0.000	-0.073	0.679	0.372	-0.142	0.493	0.673	0.284	0.242	0.221
Q17	-0.264	0.235	-0.252	0.082	-0.046	-0.277	0.503	-0.003	-0.358	0.218	0.408	0.329	0.127	0.202
Q18	0.052	-0.170	0.283	0.413	0.089	0.150	-0.222	0.311	0.283	0.413	0.021	-0.007	-0.008	0.150
Q19	1.000	0.506	0.092	-0.151	0.084	0.282	0.084	0.303	0.249	0.013	0.144	-0.057	0.183	0.016
Q20	0.506	1.000	-0.108	-0.067	0.174	0.160	0.293	0.184	-0.001	0.103	0.345	0.038	0.044	-0.015
Q21	0.092	-0.108	1.000	0.102	0.254	0.333	0.059	0.251	0.083	0.043	0.124	-0.115	-0.173	0.250
Q22	-0.151	-0.067	0.102	1.000	0.312	-0.190	0.125	0.188	-0.060	0.319	-0.008	-0.078	0.085	0.079
Q23	0.084	0.174	0.254	0.312	1.000	0.478	-0.036	0.000	0.177	0.299	0.084	-0.053	0.074	0.000
Q24	0.282	0.160	0.333	-0.190	0.478	1.000	-0.276	0.042	0.275	0.104	0.029	-0.083	-0.072	-0.091
Q25	0.084	0.293	0.059	0.125	-0.036	-0.276	1.000	0.340	-0.140	0.269	0.550	0.216	0.354	0.258
Q26	0.303	0.184	0.251	0.188	0.000	0.042	0.340	1.000	0.173	0.266	0.334	-0.023	0.042	0.231
Q27	0.249	-0.001	0.083	-0.060	0.177	0.275	-0.140	0.173	1.000	0.206	-0.024	-0.101	-0.142	-0.204
Q28	0.013	0.103	0.043	0.319	0.299	0.104	0.269	0.266	0.206	1.000	0.679	0.434	0.280	0.165
Q29	0.144	0.345	0.124	-0.008	0.084	0.029	0.550	0.334	-0.024	0.679	1.000	0.511	0.252	0.163
Q30	-0.057	0.038	-0.115	-0.078	-0.053	-0.083	0.216	-0.023	-0.101	0.434	0.511	1.000	-0.013	0.015
Q31	0.183	0.044	-0.173	0.085	0.074	-0.072	0.354	0.042	-0.142	0.280	0.252	-0.013	1.000	0.565
Q32	0.016	-0.015	0.250	0.079	0.000	-0.091	0.258	0.231	-0.204	0.165	0.163	0.015	0.565	1.000

Appendix IV. Business Climate Quality Factors, Continued

1-Tailed Significance Matrix

	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18
Q4		0.035	0.165	0.141	0.487	0.466	0.396	0.246	0.478	0.034	0.071	0.180	0.221	0.260	0.051
Q5	0.035		0.000	0.004	0.472	0.402	0.202	0.280	0.211	0.043	0.032	0.358	0.362	0.177	0.034
Q6	0.165	0.000		0.011	0.058	0.204	0.254	0.040	0.142	0.143	0.210	0.050	0.276	0.194	0.079
Q7	0.141	0.004	0.011		0.308	0.493	0.097	0.481	0.206	0.184	0.179	0.090	0.021	0.285	0.400
Q8	0.487	0.472	0.058	0.308		0.247	0.493	0.136	0.399	0.167	0.241	0.456	0.470	0.227	0.365
Q9	0.466	0.402	0.204	0.493	0.247		0.001	0.025	0.496	0.059	0.110	0.124	0.291	0.477	0.016
Q10	0.396	0.202	0.254	0.097	0.493	0.001		0.000	0.011	0.077	0.024	0.236	0.016	0.149	0.467
Q11	0.246	0.280	0.040	0.481	0.136	0.025	0.000		0.004	0.442	0.451	0.470	0.140	0.145	0.310
Q12	0.478	0.211	0.142	0.206	0.399	0.496	0.011	0.004		0.194	0.020	0.087	0.001	0.169	0.416
Q13	0.034	0.043	0.143	0.184	0.167	0.059	0.077	0.442	0.194		0.000	0.182	0.244	0.445	0.033
Q14	0.071	0.032	0.210	0.179	0.241	0.110	0.024	0.451	0.020	0.000		0.346	0.258	0.454	0.440
Q15	0.180	0.358	0.050	0.090	0.456	0.124	0.236	0.470	0.087	0.182	0.346		0.000	0.000	0.440
Q16	0.221	0.362	0.276	0.021	0.470	0.291	0.016	0.140	0.001	0.244	0.258	0.000		0.000	0.495
Q17	0.260	0.177	0.194	0.285	0.227	0.477	0.149	0.145	0.169	0.445	0.454	0.000	0.000		0.009
Q18	0.051	0.034	0.079	0.400	0.365	0.016	0.467	0.310	0.416	0.033	0.440	0.440	0.495	0.009	
Q19	0.009	0.045	0.030	0.005	0.123	0.346	0.387	0.421	0.020	0.013	0.050	0.302	0.478	0.052	0.376
Q20	0.002	0.158	0.058	0.220	0.041	0.107	0.222	0.227	0.007	0.045	0.090	0.048	0.212	0.075	0.150
Q21	0.213	0.437	0.395	0.235	0.429	0.075	0.198	0.179	0.252	0.123	0.386	0.419	0.143	0.061	0.040
Q22	0.308	0.107	0.182	0.327	0.176	0.128	0.081	0.469	0.160	0.005	0.030	0.120	0.200	0.310	0.004
Q23	0.207	0.327	0.127	0.413	0.061	0.151	0.197	0.404	0.500	0.005	0.083	0.103	0.500	0.391	0.294
Q24	0.182	0.179	0.001	0.251	0.082	0.256	0.365	0.447	0.036	0.020	0.107	0.048	0.330	0.044	0.181
Q25	0.055	0.069	0.005	0.196	0.303	0.338	0.045	0.449	0.077	0.157	0.246	0.000	0.000	0.001	0.088
Q26	0.020	0.245	0.151	0.003	0.190	0.182	0.199	0.177	0.202	0.006	0.057	0.005	0.010	0.494	0.027
Q27	0.006	0.147	0.193	0.047	0.311	0.309	0.071	0.028	0.135	0.293	0.290	0.215	0.195	0.013	0.041
Q28	0.051	0.469	0.468	0.391	0.165	0.017	0.139	0.265	0.128	0.079	0.427	0.093	0.001	0.091	0.004
Q29	0.073	0.178	0.066	0.401	0.385	0.422	0.050	0.126	0.001	0.166	0.399	0.000	0.000	0.005	0.450
Q30	0.396	0.043	0.154	0.191	0.235	0.177	0.395	0.186	0.339	0.390	0.105	0.016	0.040	0.020	0.482
Q31	0.219	0.179	0.449	0.193	0.423	0.015	0.018	0.009	0.013	0.056	0.040	0.361	0.069	0.220	0.480
Q32	0.490	0.316	0.333	0.074	0.406	0.010	0.158	0.231	0.188	0.341	0.460	0.256	0.088	0.108	0.181

1-Tailed Significance Matrix, Continued

	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	Q31	Q32
Q4	0.009	0.002	0.213	0.308	0.207	0.182	0.055	0.020	0.006	0.051	0.073	0.396	0.219	0.490
Q5	0.045	0.158	0.437	0.107	0.327	0.179	0.069	0.245	0.147	0.469	0.178	0.043	0.179	0.316
Q6	0.030	0.058	0.395	0.182	0.127	0.001	0.005	0.151	0.193	0.468	0.066	0.154	0.449	0.333
Q7	0.005	0.220	0.235	0.327	0.413	0.251	0.196	0.003	0.047	0.391	0.401	0.191	0.193	0.074
Q8	0.123	0.041	0.429	0.176	0.061	0.082	0.303	0.190	0.311	0.165	0.385	0.235	0.423	0.406
Q9	0.346	0.107	0.075	0.128	0.151	0.256	0.338	0.182	0.309	0.017	0.422	0.177	0.015	0.010
Q10	0.387	0.222	0.198	0.081	0.197	0.365	0.045	0.199	0.071	0.139	0.050	0.395	0.018	0.158
Q11	0.421	0.227	0.179	0.469	0.404	0.447	0.449	0.177	0.028	0.265	0.126	0.186	0.009	0.231
Q12	0.020	0.007	0.252	0.160	0.500	0.036	0.077	0.202	0.135	0.128	0.001	0.339	0.013	0.188
Q13	0.013	0.045	0.123	0.005	0.005	0.020	0.157	0.006	0.293	0.079	0.166	0.390	0.056	0.341
Q14	0.050	0.090	0.386	0.030	0.083	0.107	0.246	0.057	0.290	0.427	0.399	0.105	0.040	0.460
Q15	0.302	0.048	0.419	0.120	0.103	0.048	0.000	0.005	0.215	0.093	0.000	0.016	0.361	0.256
Q16	0.478	0.212	0.143	0.200	0.500	0.330	0.000	0.010	0.195	0.001	0.000	0.040	0.069	0.088
Q17	0.052	0.075	0.061	0.310	0.391	0.044	0.001	0.494	0.013	0.091	0.005	0.020	0.220	0.108
Q18	0.376	0.150	0.040	0.004	0.294	0.181	0.088	0.027	0.041	0.004	0.450	0.482	0.480	0.181
Q19		0.001	0.290	0.179	0.307	0.041	0.305	0.030	0.064	0.468	0.190	0.364	0.132	0.461
Q20	0.001		0.257	0.343	0.144	0.165	0.035	0.131	0.498	0.265	0.016	0.410	0.394	0.465
Q21	0.290	0.257		0.269	0.059	0.019	0.362	0.062	0.307	0.398	0.226	0.243	0.146	0.062
Q22	0.179	0.343	0.269		0.027	0.123	0.224	0.126	0.357	0.024	0.481	0.319	0.304	0.316
Q23	0.307	0.144	0.059	0.027		0.001	0.415	0.500	0.140	0.032	0.305	0.375	0.328	0.500
Q24	0.041	0.165	0.019	0.123	0.001		0.044	0.399	0.045	0.265	0.431	0.309	0.330	0.291
Q25	0.305	0.035	0.362	0.224	0.415	0.044		0.017	0.198	0.049	0.000	0.094	0.014	0.057
Q26	0.030	0.131	0.062	0.126	0.500	0.399	0.017		0.146	0.051	0.019	0.444	0.399	0.079
Q27	0.064	0.498	0.307	0.357	0.140	0.045	0.198	0.146		0.104	0.443	0.270	0.193	0.106
Q28	0.468	0.265	0.398	0.024	0.032	0.265	0.049	0.051	0.104		0.000	0.003	0.042	0.158
Q29	0.190	0.016	0.226	0.481	0.305	0.431	0.000	0.019	0.443	0.000		0.000	0.061	0.160
Q30	0.364	0.410	0.243	0.319	0.375	0.309	0.094	0.444	0.270	0.003	0.000		0.470	0.463
Q31	0.132	0.394	0.146	0.304	0.328	0.330	0.014	0.399	0.193	0.042	0.061	0.470		0.000
Q32	0.461	0.465	0.062	0.316	0.500	0.291	0.057	0.079	0.106	0.158	0.160	0.463	0.000	