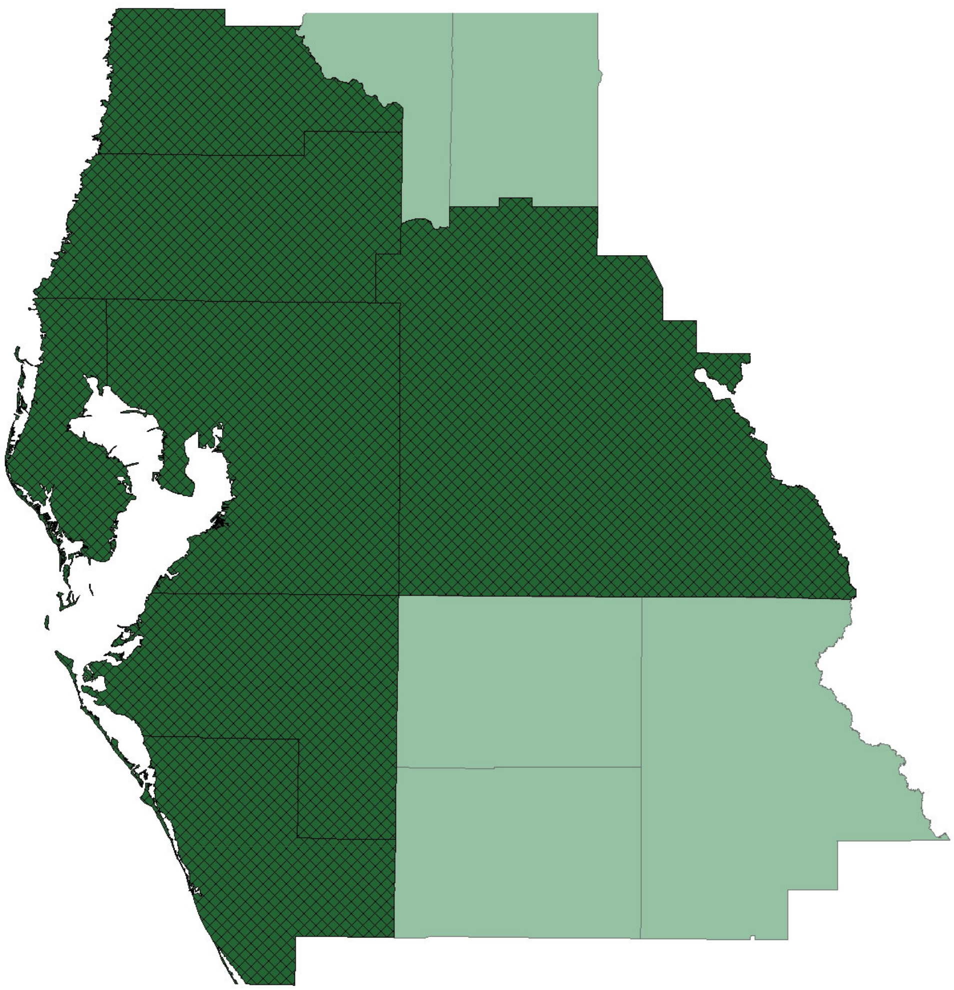
Tampa Bay Manufacturing Supply Chain Study



Tampa Bay Regional Planning Council

Preface

This report was compiled under a matching grant program between the EDA and the Tampa Bay Regional Economic Development District.

March 2006

Table of Contents

Tampa Bay Manufacturing Supply Chain Study
Final Report

Background

The Tampa Bay Regional Economic Development District received a matching grant from EDA to conduct a manufacturing supply chain study for the Tampa Bay Region. The Tampa Bay Regional Planning Council and the Tampa Bay Partnership were valuable financial and resource partners in this effort. The study includes all four council counties plus Hernando, Polk and Sarasota counties. Through survey methods, the project identified advantages and disadvantages that local manufacturers encounter when purchasing inputs produced by other local (regional) manufacturers and also explored the missing 'links' in local supply chains. Detailed information on the Survey Design and Methodology can be found in later sections of the report.

General Trade Patterns

The first two questions of the survey sought information about the general pattern of trade within the Tampa Bay Region, how much of that trade was conducted with firms inside respondents' own counties, how much within the larger region and how much within Florida, the rest of the United States and the world.

On average, firms sold most of their products throughout Florida (33%), followed by regional sales (20%), followed by county sales (19%), the US (14%) and the world (4%).

On average, firms bought most of their products from the rest of the US (26%), trailed by the firm's region (26%), the county (25%), rest of Florida (13%) and the rest of the world (9%).

A follow-up question looked at sources of regional firm competition. Given the high dependence of local firms on global inputs and the wide playing field for sale of their own goods, it was important to get a sense of the geographic distribution of firm competition.

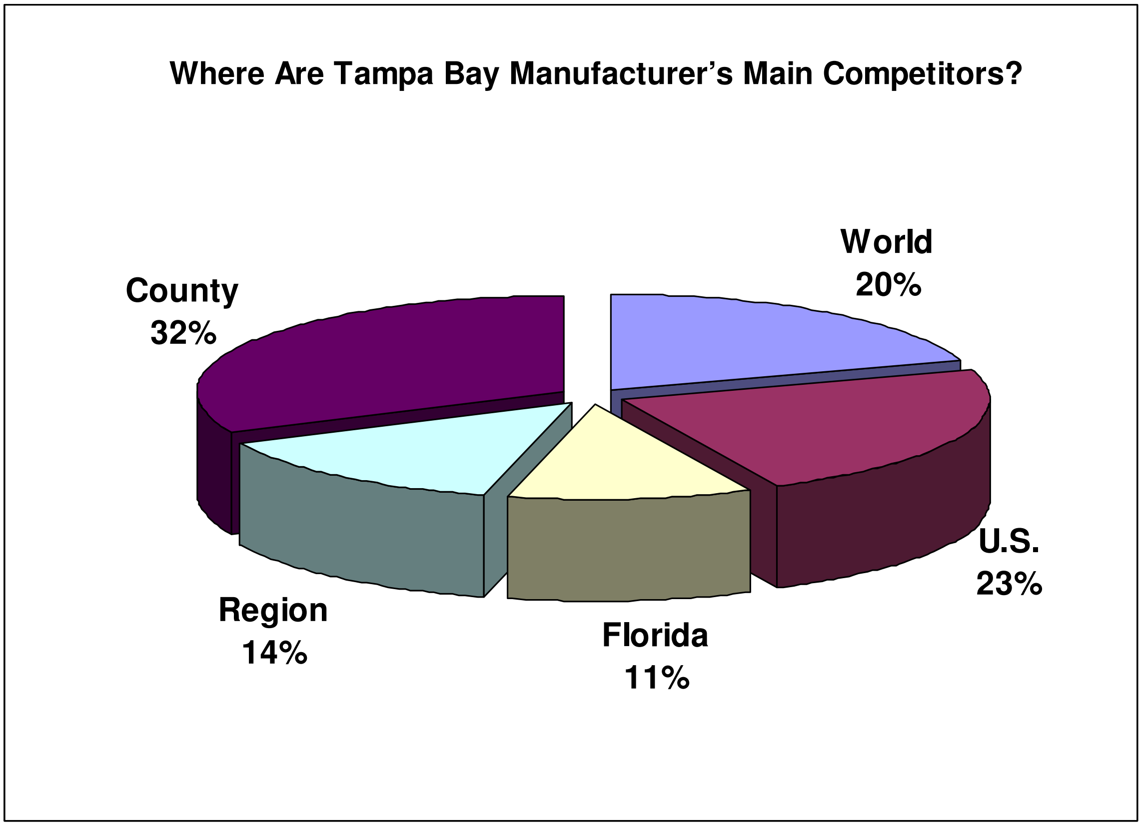
On average, firms considered their major competitors to be either in their own county (32%) or located outside of the United States (20%), followed by other regional firms (14%) and the rest of Florida (10%).

Where Firms Sold Most

Florida	**-**	**33%**
Regional	**-**	**20%**
County	**-**	**19%**
US	**-**	**14%**
World	**-**	**4%**

Where Firms Purchased Most

Florida	**–**	**13%**
County	**–**	**25%**
Regional	**–**	**26%**
US	**–**	**26%**
World	**–**	**9%**



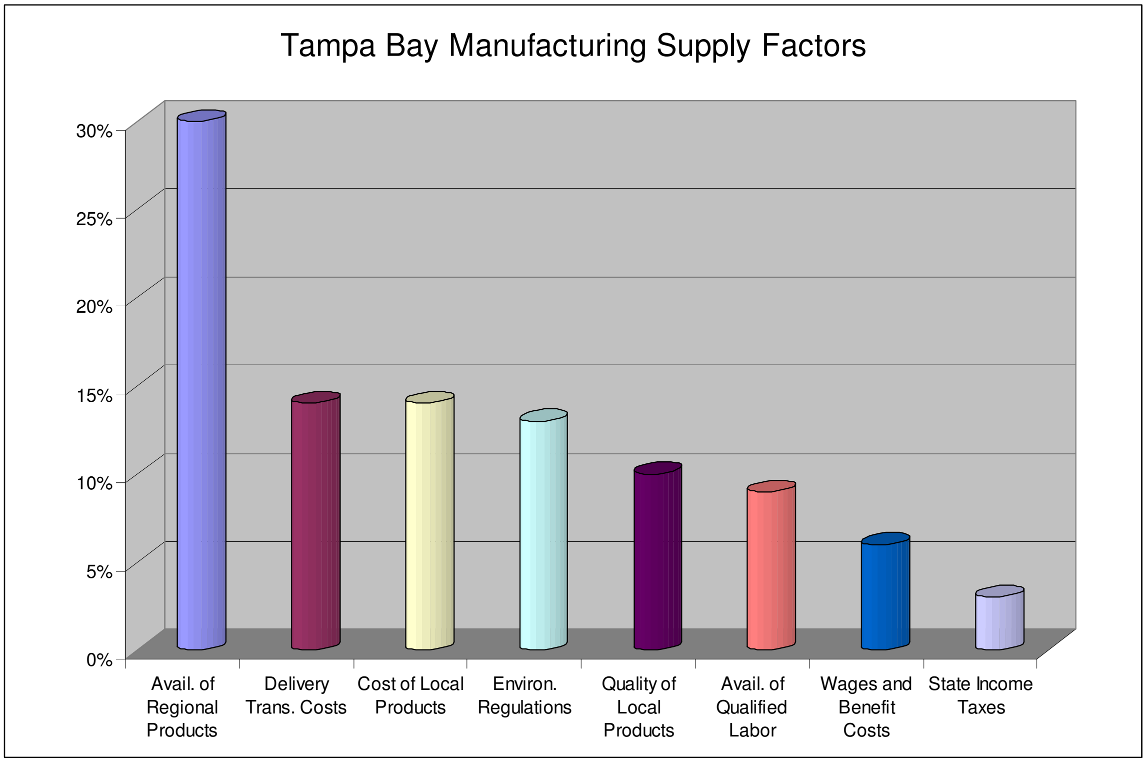
Because 39% of sales went to regional customers with another third of sales going to other Florida customers, the location decisions firms face are also important to consider, aside from proximity to customers.

Factors Important to Manufacturers

Respondents were asked to choose three of the most important factors from the following list. The frequency with which the factors were chosen is stated parenthetically next to each factor.

- Availability of regionally produced products (30%)
- Quality of locally produced products (10%)
- Availability of qualified labor (9%)
- Cost of transportation of finished products to customers (14%)
- Cost of locally produced products (14%)
- Wage and fringe benefit costs (6%)
- Environmental regulations (13%)
- State income taxes (3%)

The chart below shows the average response in the region.

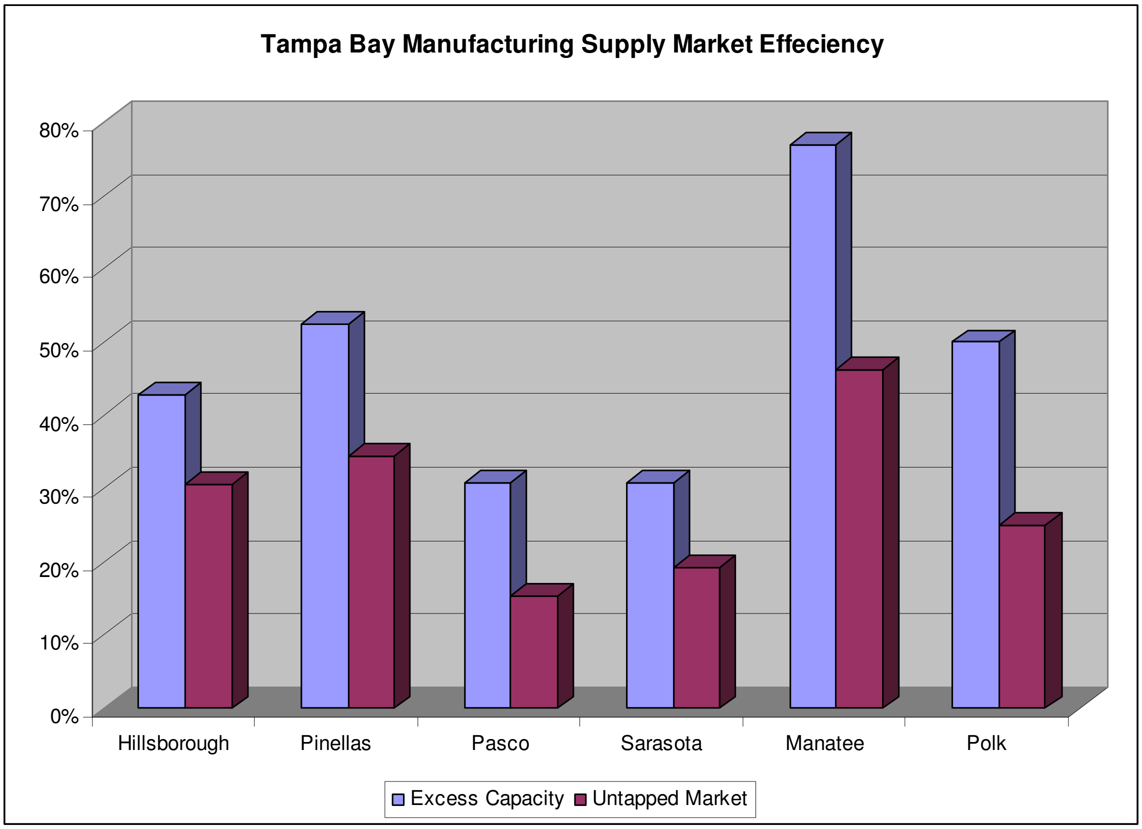


Market Efficiency

More than half of all respondents (53%) said their plants had excess manufacturing capacity and a third of the respondents felt that there was an untapped market for their products within the Tampa Bay region.

The last two questions were open-ended items asking for the single most difficult part of doing business in the Tampa Bay Region and the greatest advantage their location in the region gave their business.

Below is a chart that represents the response results by county in both excess manufacturing capacity and untapped market potential.



Regional Advantages and Disadvantages

Respondents were also asked to indicate which products they usually had to import from outside the region. The most frequently cited items were aluminum and products made with aluminum, followed by fabrics, molds, plastic resins and unspecified chemicals.

The most frequently cited problem in the Tampa Bay region was the lack of skilled labor. Some respondents qualified their statements by also adding terms like lack of work ethic, or workers were plentiful but not qualified, or costs associated with employment, such as fringe benefits, were expensive. There were many other cited concerns, including traffic congestion, location and competition from other firms.

Most Imported

1. **Aluminum**
2. **Fabrics**
3. **Molds**

Biggest Disadvantages

1. **Lack of Skilled Labor**
2. **Traffic Congestion**
3. **Competition**

Biggest Advantages

1. **Access to Markets**
2. **Low Wages**
3. **Weather**

The most frequently cited advantages in the Tampa Bay region were access to markets, low wages and the weather.

Individual County Dynamics

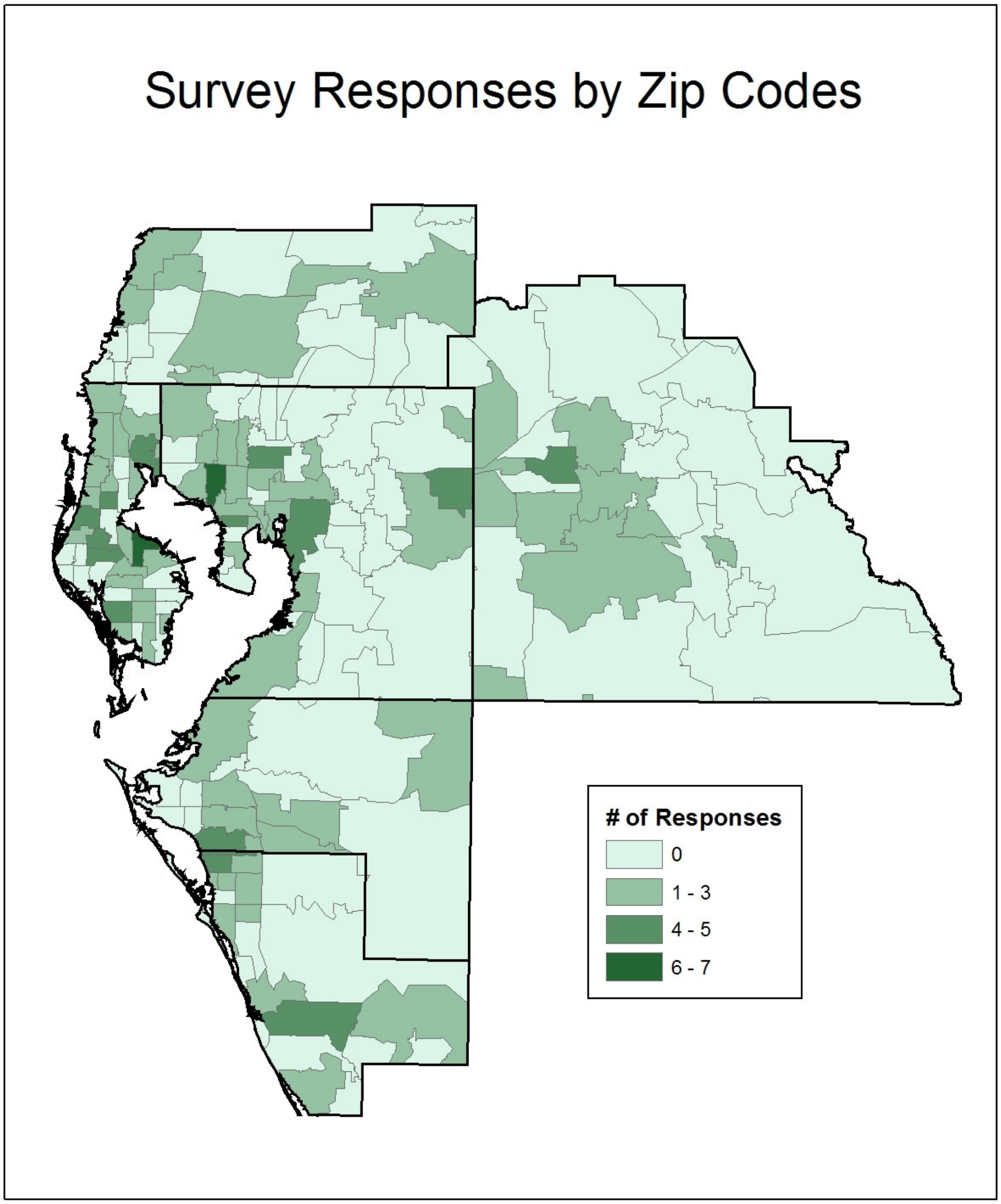
The results were then mined further, to examine the individual characteristics of each county as it relates to itself, the region, Florida, U.S. and globally. The goal of this additional effort was not to list each county and individual relative statistics, but rather to find discrepancies among the counties compared to its regional averages. Hernando County was excluded from the following conclusions due to a low response rate. The lack of responses could skew the results of the survey to portray the county in a fashion that may not be consistent with reality.

Noticeable differences were detected among the six counties. Hillsborough and Manatee counties both had sales of almost 50% within their respective communities and very little sales within the region or the state. Meanwhile, Pinellas only had a quarter of their sales within the county, but 15% in the region and 13% in the state. The Pinellas gap may be derived from Hillsborough's size (area and business power) consuming and demanding goods from a local neighbor. Pinellas would be the most likely candidate to fulfill the Hillsborough demand. Pinellas is essentially built out and considered to be in a mature growth phase, compared to emerging growth of the other neighboring counties. Emerging growth often leads to a lack of supply, which would cause a bigger county like Hillsborough to look elsewhere.

Looking at purchases within the county, Manatee bought almost half of its materials within its own county. This means that Manatee buys and sells half of what it produces within its own county. This self-sufficiency results in an increased amount of revenues from sales tax and extra employment which equals more tax revenues and numerous other indirect benefits that multiply out exponentially. In comparison, the other counties purchase approximately a quarter of their supply in their own counties. At 34%, Pinellas led all counties in the percentage it purchased from the region. Combine this importing with the large percentage of exporting Pinellas performs and you get a county that is dependent on the region for the health of its own county. Pinellas County happens to be the smallest and most densely populated county in Florida; growing or producing raw materials may be difficult compared to more rural areas.

Hillsborough and Manatee had the highest number of competitors within the county at around 50%, while Pinellas was the lowest of at 25%. The numbers for Hillsborough and Manatee counties also suggested that they least felt the pressure of regional competitors, further solidifying the self-sufficient argument. Pinellas and Sarasota suppliers indicated they felt most of their competitors were outside of the region, but within the United States.

Following this paragraph is a map showing the response rate by zip code. The darker colors symbolize a better response rate than the lighter colors. Following this chart is a county summary and a collection of charts for each county showing the results by county. Each chart shows the individual county's response for Gross Sales, Purchases, and Competition by County, Region, State, Country, and Global.

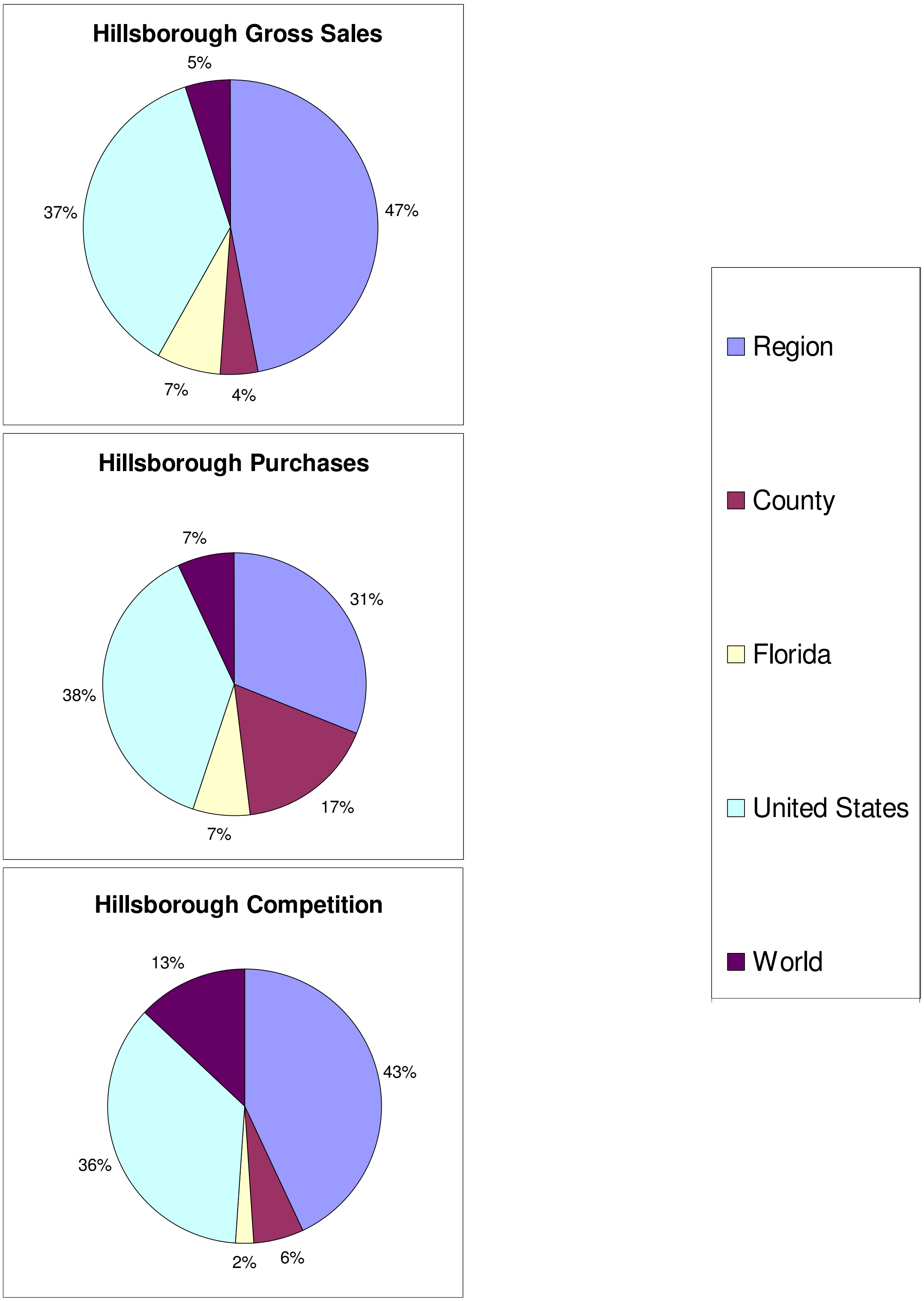


County Summary

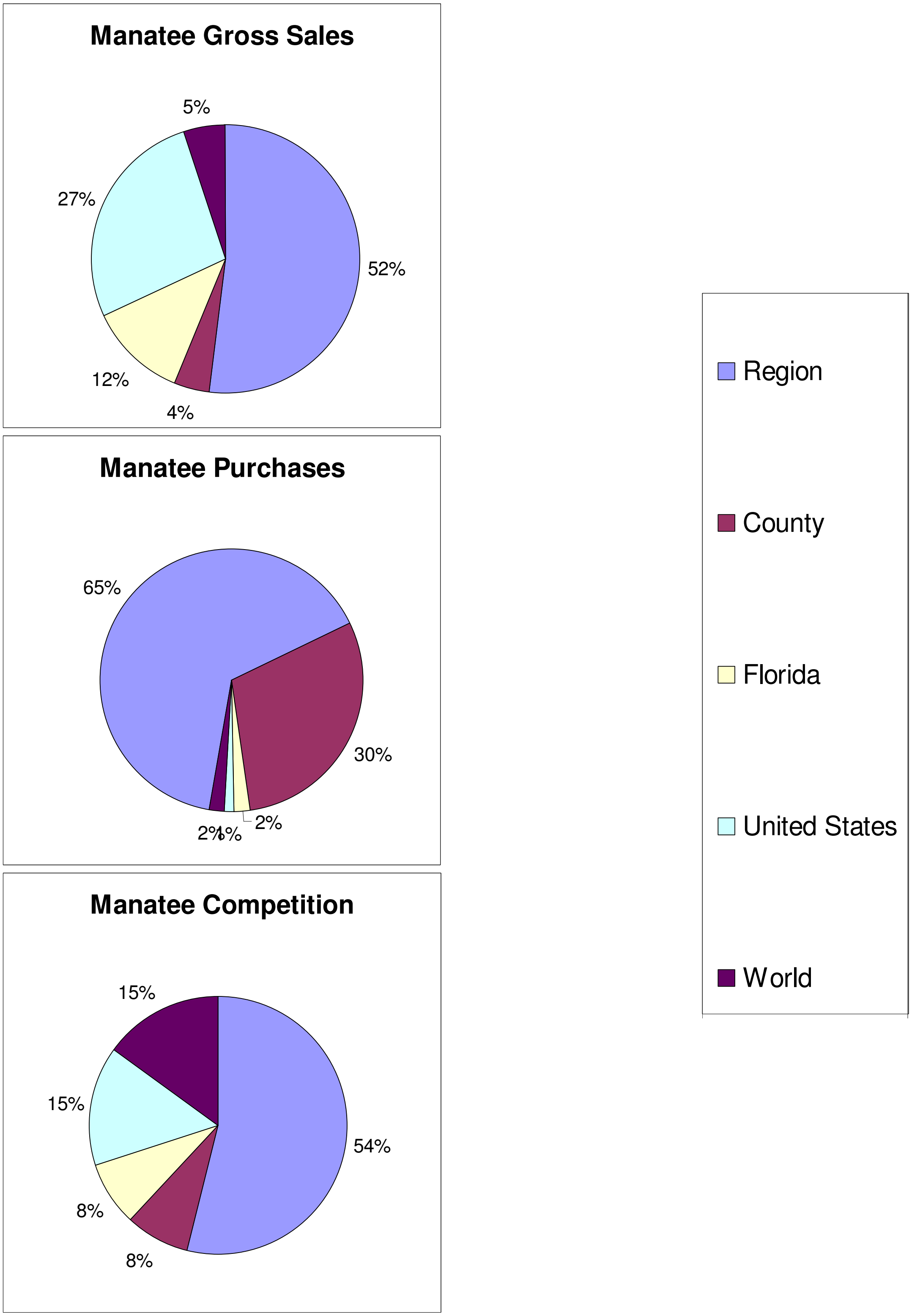
The chart below signifies the response rate by county in percentages. The five general areas are **Gross Sales, Purchases, Competition, Three Most Important Aspects, and Demand Fulfillment.**

	Hillsborough	Pinellas	Pasco	Sarasota	Manatee	Polk
Gross Sales In County	47%	28%	44%	37%	52%	40%
Gross Sales in Region	4%	16%	17%	21%	4%	29%
Gross Sales in Florida	7%	14%	25%	9%	12%	10%
Gross Sales in US	37%	38%	10%	25%	27%	19%
Gross Sales in World	5%	4%	4%	8%	5%	2%
Purchases in County	31%	23%	49%	23%	65%	30%
Purchases in Region	17%	28%	0%	26%	30%	28%
Purchases in FL	7%	6%	13%	14%	2%	7%
Purchases in US	38%	31%	38%	34%	1%	23%
Purchases in World	7%	12%	0%	3%	2%	12%
Competition in County	43%	26%	37%	37%	54%	30%
Competition in Region	6%	18%	40%	10%	8%	24%
Competition in Florida	2%	11%	15%	6%	8%	10%
Competition in U.S.	36%	35%	0%	37%	15%	29%
Competition in World	13%	10%	8%	10%	15%	7%
Avail. of Regional Products	39%	33%	31%	35%	31%	30%
Quality of Local Products	24%	33%	23%	31%	38%	30%
Avail. of Qualified Labor	33%	**51%**	**69%**	50%	46%	45%
Delivery Trans. Costs	**57%**	39%	46%	42%	38%	60%
Cost of Local Products	22%	21%	0%	15%	15%	30%
Wages and Benefit Costs	37%	31%	62%	54%	38%	50%
Environmental Regulations	4%	13%	0%	8%	8%	15%
State Income Taxes	31%	28%	38%	19%	38%	15%
Other	24%	20%	15%	8%	8%	15%
Excess Capacity	43%	52%	31%	31%	77%	50%
Untapped Market	31%	34%	15%	19%	46%	25%

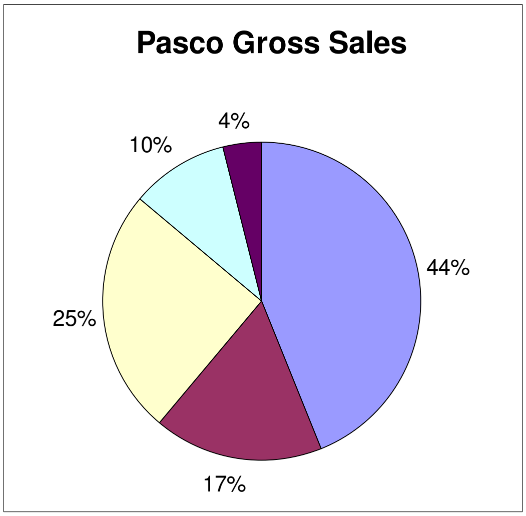
Hillsborough County

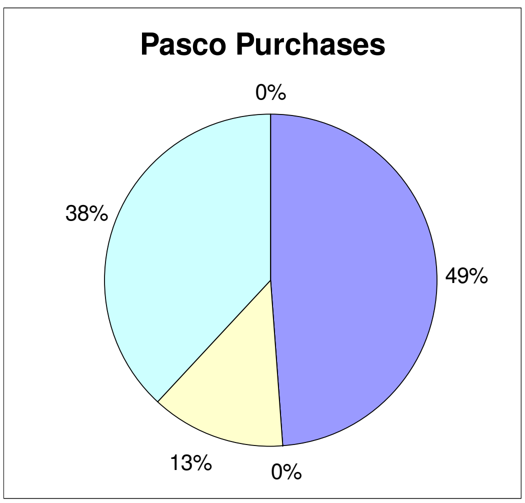


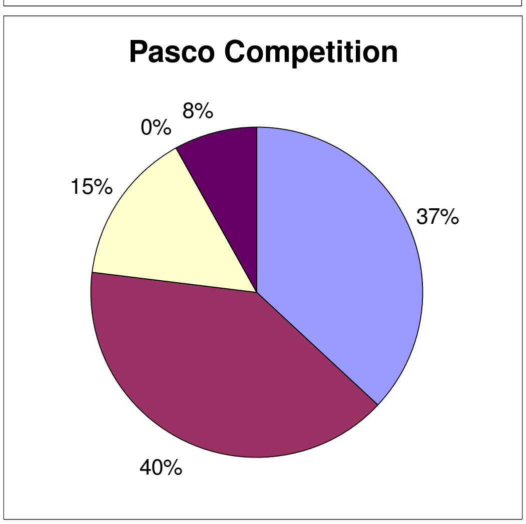
Manatee County

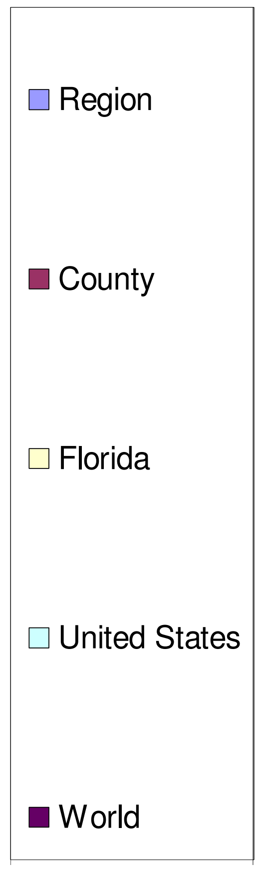


Pasco County

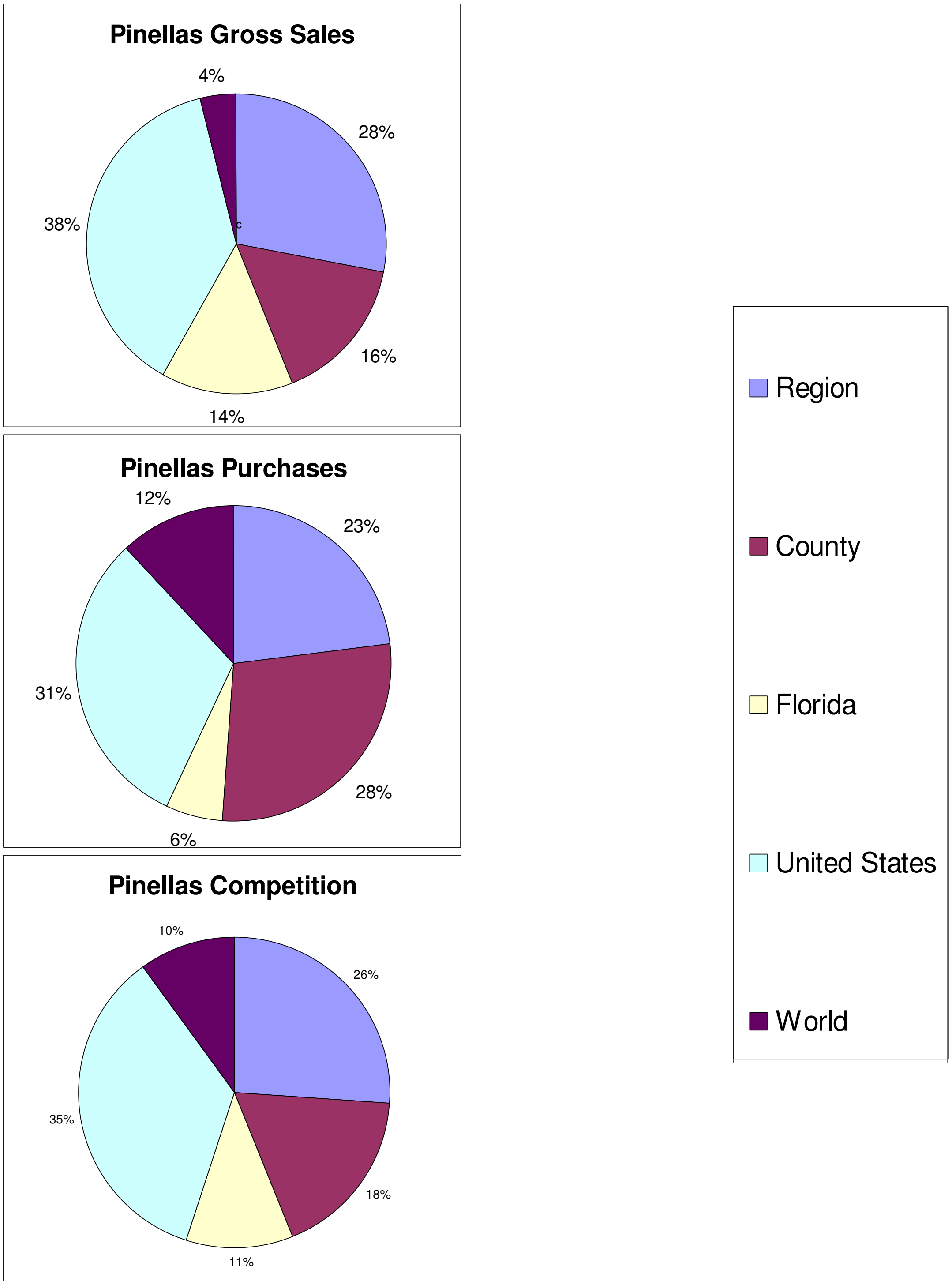




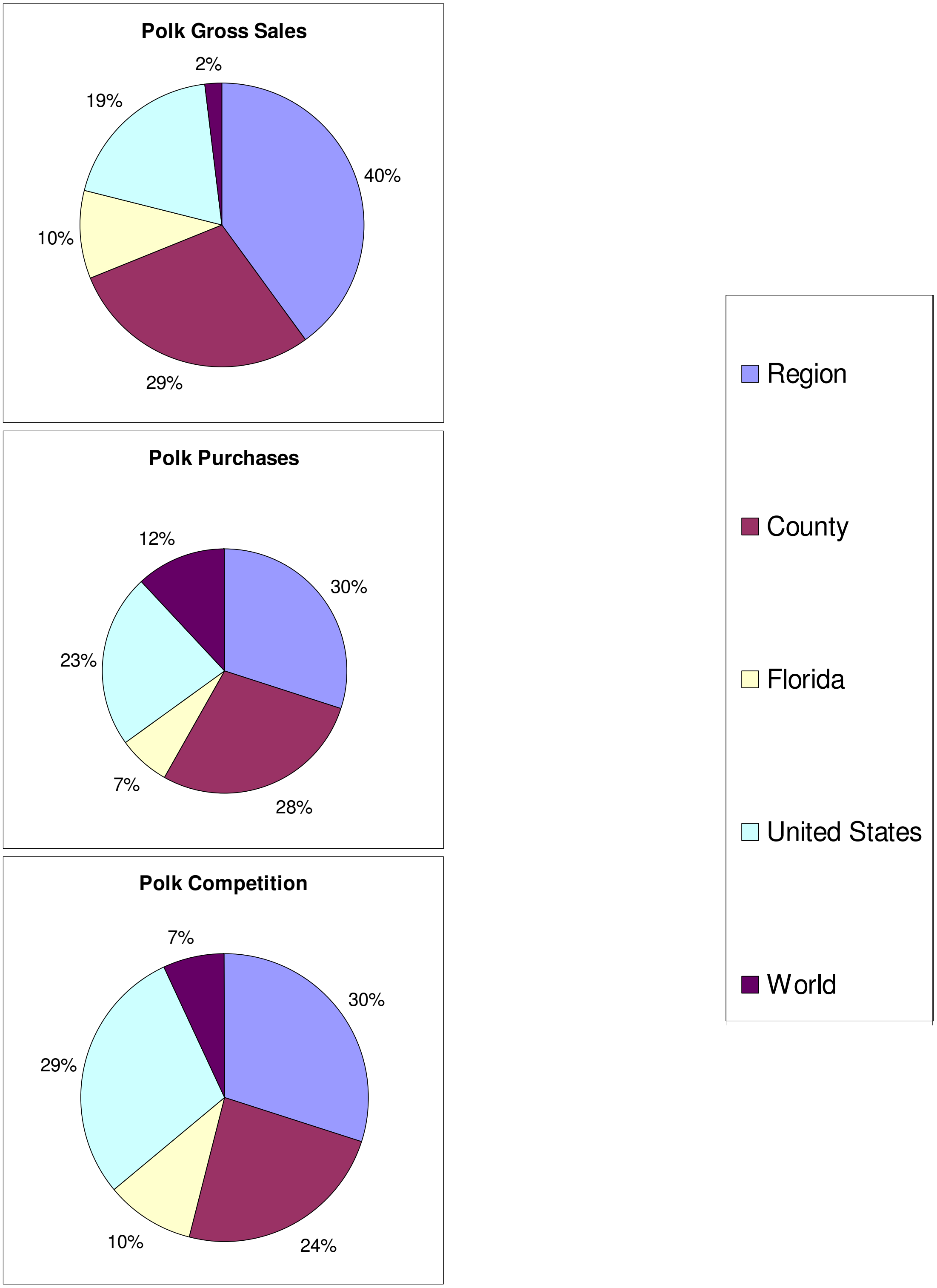




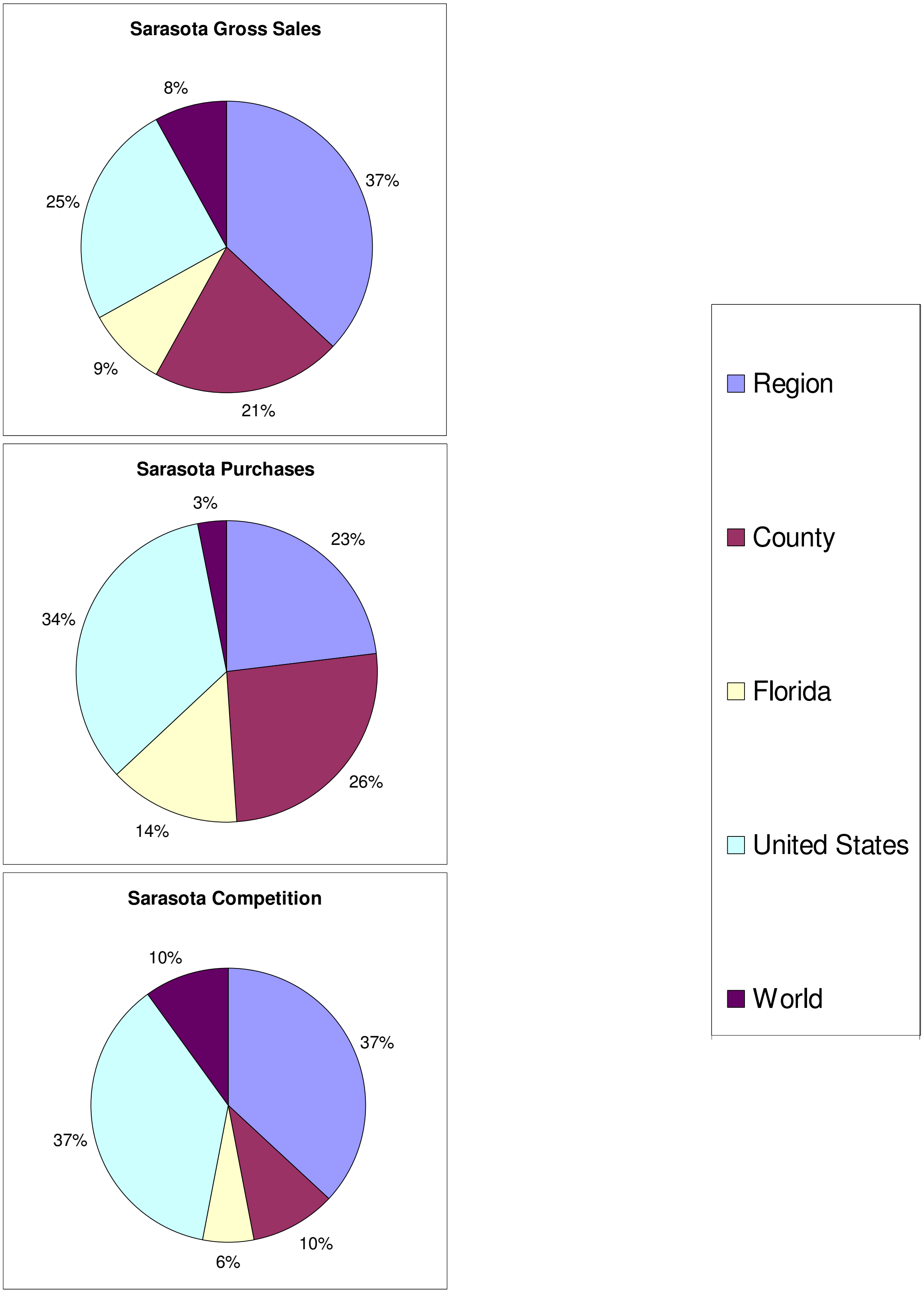
Pinellas County



Polk County


Polk Gross Sales
2%
19%
40%
10%
29%
Polk Purchases
12%
30%
23%
7%
28%
Polk Competition
7%
30%
29%
10%
24%
Region
County
Florida
United States
World

Sarasota County



Industry Dynamics

As evidenced above, the specific attributes of the manufacturing supply may vary for each county. The same is true when comparing different industries within the region. The table below contrasts the differences in the top industries in regard to whether they are known in their respective region as importers or exporters of their goods and services. The Difference figure is computed by subtracting the Average Gross Sales by the Average Purchases within the county. A negative number means that the industry on average will purchase more supplies compared to the amount of sales it performs in the county. This knowledge could be useful if a specific county or region wishes to balance the amount of goods they export to the amount that they import. Theoretically, the county could entice businesses that are heavy importers if it had a high amount of exporters. It could also be used if the county did not want to interfere with the business environment, but wanted to adjust taxes to target needs more accordingly.

	Highest Exporters, by Industry		Difference
Fabricate	Average of Gross Sales In County	18.23%	
	Average of Purch in County	29.64%	**-11.41%**
Primary Mfg	Average of Gross Sales In County	27.50%	
	Average of Purch in County	28.75%	**-1.25%**

	Highest Importers, by Industry		Difference
Apparel Mfg	Average of Gross Sales In County	32.50%	
	Average of Purch in County	10.00%	**22.50%**
Printing	Average of Gross Sales In County	47.23%	
	Average of Purch in County	25.26%	**21.97%**

Conclusions

Consistent with the quantitative results, the open-ended results indicate that since most sales take place in either the region or the state, regional manufacturers find it more important to be closer to customers than providers of inputs.

Typically, manufacturers who locate closer to sources of production inputs are those who focus on processing raw materials, while manufacturers who locate closer to customers tend to be more service oriented, specialized and focus more on value-added activities. While these results are not surprising, given the region's emphasis on service oriented industries, manufacturing firms that support construction and high value-added manufacturing, the results provide some additional anecdotal support to existing empirical manufacturing employment data.

The two most important statistics (39% of sales of final products take place within the region and 51% of regional input purchases take place within the region) from a regional perspective also indicate a large degree of regional self-supply. Regional self-supply is an important characteristic of a region's economic strength. If most secondary economic impacts take place within a county or a region, employment multipliers will be higher because other inputs purchased from other firms generate more demand for labor, creating new jobs and pushing regional wages up.

Indications of Self Supply

39% of sales take place within the region.

51% of input purchases are from the region.

Self supply fuels secondary economic impacts.

The down side of the results indicates that, aside from inherent advantages such as a warm year-round climate and easy access to one of the largest US populations, the Tampa Bay region's principal advantage is low wages. Given globalization trends, this 'advantage', as opposed to a highly skilled labor force, puts the region's economy at a disadvantage because with long-term falling transportation costs, other countries with even more 'advantageous' labor costs will out-compete the Tampa Bay area for firms that are labor intensive.

Survey Design and Methodology

The Tampa Bay Manufacturing Supply Chain questionnaire was initially constructed as a battery of Likert scale items ("on a scale of 1 to 5, with 5 being the most important…"). However, further discussion with economic development partners about other similar experiences led the survey design team to reconfigure the questionnaire to a framework that would not yield responses such that every variable was "most important."

Consequently, a forced choice framework was chosen so that respondents would have to choose the three most important issues out of a larger range of issues for each major question. Respondents were also requested to fill in percentage spaces to get a sense of how their operations were broken down without revealing trade secrets or other sensitive information. Finally, open-ended questions allowed respondents to include information not otherwise requested in the survey.

A total of 2,000 self-administered questionnaires ("surveys") were mailed out in September 2005 to identified manufacturers in the Tampa Bay region. While the great majority of manufacturers were concentrated in Pinellas and Hillsborough counties, surveys were also mailed to manufacturers in Polk, Sarasota, Pasco, Manatee, and Hernando counties.

In order to ensure the greatest response, after the initial survey was mailed out, a reminder post card was sent to prompt respondents who had not yet replied to the survey. Respondents could request another survey or fill in a web-based survey form hosted at the Tampa Bay Regional Planning Council website.

While approximately 10% of the surveys were completed and returned, the surveys received were consistent with a normal distribution of responses for an industrial survey. Therefore, survey results can be considered to be representative of industry opinion and industry conditions in the Tampa Bay region.

Tampa Bay Regional Manufacturing Supply Chain Survey

Dear Business Partner,

We need your help in strengthening the regional economy. We are conducting a survey to identify advantages and disadvantages that local manufacturers encounter when purchasing products produced by other local manufacturers. We also hope to identify missing "links" in local supply chains, such as products that could be easily made in the area, but are not. By identifying and publicizing these missing links in our local supply chains we can lower the cost of doing business in the Tampa Bay area and make our businesses more competitive.

Together with the Tampa Bay Partnership and local economic development partners, the Tampa Bay Regional Planning Council is conducting a supply chain study of manufacturers within the Tampa Bay region. The study area includes Hernando, Hillsborough, Manatee, Pasco, Pinellas, Polk and Sarasota counties. Funding for this project is provided by a grant from the U.S. Economic Development Administration with matching funds from Tampa Bay Partnership and Tampa Bay Regional Planning Council.

In exchange for your participation in the survey, you will be mailed a benchmark flier to show how other firms in our region responded to the survey. **No individual responses or information will be disclosed in the benchmark flier or final reports.**

Please return in the enclosed stamped envelope by Sept 23, 2005.

Respondents returning completed surveys will be entered into a drawing for $500 worth of gift certificates to Bern's Steak House in Tampa.

Please Print or Type

Owner/Manager's Name	
Owner/Manager's Telephone Number	
Owner/Manager's Email Address	

PLEASE RETURN THIS FORM IN THE ENCLOSED STAMPED ENVELOPE TO:

MANUFACTURING SURVEY
4000 GATEWAY CENTRE BLVD SUITE 100
PINELLAS PARK, FL 33782

OR FAX TO 727-570-5118
THE SURVEY CAN ALSO BE FILLED OUT BY VISITING **WWW.TBRPC.ORG/MSURVEY.htm**
(Remember to fill in your ID)

Questions? Call Avera Wynne at 727-570-5151 x 30

1. Generally, what percentage of your firm's **gross sales in 2004** were sold to customers located in

Gross sales to:	Percentage of Sales
Your County	
Rest of Region (Hernando, Hillsborough, Manatee, Pasco, Pinellas, Polk, Sarasota)	
Rest of State of Florida	
Rest of United States	
Rest of the World	
Total	100%

2. Generally, what percentage of your firm's **input purchases in 2004** were bought from suppliers in

Gross purchases from:	Percentage of purchases
Your County	
Rest of Region (Hernando, Hillsborough, Manatee, Pasco, Pinellas, Polk, Sarasota)	
Rest of State of Florida	
Rest of United States	
Rest of the World	
Total	100%

3. Where do you consider your **current** major competitors to be (by percentage):

Major competitor location	Percentage Distribution
Your County	
Rest of Region (Hernando, Hillsborough, Manatee, Pasco, Pinellas, Polk, Sarasota)	
Rest of State of Florida	
Rest of United States	
Rest of the World	
Total	100%

4. Check the **three most important** aspects of your current location to the competitiveness of your firm.

	Check the Three Most Important
a. Availability of regionally produced products	☐
b. Quality of locally produced products	☐
c. Availability of qualified labor	☐
d. Cost of transportation of your finished products to customers	☐
e. Cost of locally produced products	☐
f. Wage and fringe benefit costs	☐
g. Environmental regulations	☐
h. State income taxes	☐
i. Other____________________	☐

5. What are the three most essential manufacturing inputs or products that you **currently** import from outside of the region (Hernando, Hillsborough, Manatee, Pasco, Pinellas, Polk, Sarasota)?

A.____

B.____

C.____

6. Do you have excess manufacturing capacity?

_____Yes _____No (Skip to 8).

7. If you have excess capacity do you believe there is an untapped market for your products in your region?

_____Yes _____No

8. What is the single most difficult issue or problem you face as a manufacturer in the Tampa Bay region (examples: lack of trained workers, wage costs, traffic congestion)?

____

9. What is the single greatest advantage as a manufacturer about your location in the Tampa Bay region (examples: low wages, access to markets)?

____

THANK YOU VERY MUCH FOR PARTICIPATING IN OUR SURVEY!
PLEASE RETURN THIS SURVEY IN THE ENCLOSED STAMPED ENVELOPE BY **SEPTEMBER 23, 2005.**

Please feel free to use the space below for comments.

Thank you for participating in our survey.