The paper addresses the importance of developing a rural community's commercial sector for economic development by providing some analytical tools. Procedures are outlined to estimate commercial sector activity in a community, to estimate commercial sector activity for various counties within a state (Nevada is used as an example), and to develop strategies for strengthening activity in a rural community's commercial sector. Sample equations are provided for calculating trade area capture and pull factor values. Strategies suggested for strengthening commercial activity include (1) identification of market potential through a survey of consumer demands and buying habits; (2) improvement of retail market capture share through downtown analysis and renewal; (3) development of employee training programs to improve quality of service; (4) expansion of purchases by non-local people through appropriate advertising; (5) encouragement to buy locally; and (6) collective action through formation of organizations such as the local Chamber of Commerce. Twenty references are listed. (NEC)
Commercial Sector Development in Rural Communities: Trade Area Analysis

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Economic development strategies have traditionally concentrated attention on the attraction of basic or export industries. Export industries include the agricultural, mining, and manufacturing sectors. With most development strategies focusing on bringing manufacturing plants to a region, development professionals encourage attraction of these firms because export industries provide a multitude of economic activities through the multiplier effect. However, development strategy focusing solely on export promotion overlooks development of a region's commercial sector.

Historically, rural communities lose retail and service sales to larger metropolitan communities. These lost sales, called "leakages," reduce the size of a community's export base multiplier because spending activities occur outside the community. Also, the Bureau of Labor Statistics projects that almost 75 percent of all new jobs created between 1982 and 1995 will be in the commercial sector. Therefore, a development strategy which focuses exclusively on attracting manufacturing firms to a region may be an incorrect strategy given that many manufacturing firms are relocating in Far East countries such as Taiwan, Korea, and Singapore. A more comprehensive development strategy for contemporary and future time periods would be one which not only encourages the attraction of export industries but also emphasizes developing the community's commercial sector. This paper, therefore, addresses the importance of developing a rural community's commercial sector for economic development by providing some analytical tools. Specific objectives are to develop procedures for estimating commercial sector activity in a community; to estimate commercial sector activity for various counties within a state (Nevada is used as an example); and to develop strategies for strengthening activity in a rural community's commercial sector.

Trade Area Analysis

Several studies have been completed which determine commercial sector activity in rural areas. (1-15) This paper will focus on trade area analysis as developed by Stone and McComb at Iowa State and Pulver at the University of Wisconsin (15,8). For trade area analysis, two measures are used: trade area capture and pull factor.

Calculation of Trade Area Capture

Trade area capture is determined by dividing the county's actual retail or service sales by the state per capita expenditures adjusted by the relative per capita income between county and state. The equation is:

\[ \text{Trade Area Capture} = \frac{\text{Actual Retail Sales or Service Sales in County } j}{\text{State Per Capita Expenditures for Merchandise Type } i} \times \frac{\text{Population of County } j}{\text{Per Capita Income of County } j} \]

Most trade area models assume that a community's market area is solely a function of population and distance, but area capture explicitly incorporates income and expenditure factors which also influence the community's trade area. The underlying assumption of trade area capture is that local tastes and preferences are similar to the state's.

Trade area capture estimates usually derived for more than one time period or more than a single county. By computing the county's trade area capture estimates through time with changes in the county's population and income, the county can determine how to capture trade at a similar rate as the county's population or income grows without declines. Alternatively, by comparing
changes in trade area capture for counties of similar demographic and economic structure, the county’s relative commercial sector activity can be estimated.

### Example Calculation

For this example, trade area capture and pull factor values for Humboldt County, Nevada will be derived from the Census of Retail Trade. Total retail sales for Humboldt County in 1977 were $36,380,000. The state per capita expenditures for retail sales in 1977 were $4,526.12. County per capita income for Humboldt County in 1977 was $6,311 and state per capita income was $7,808. Plugging these numbers into the formula derives a value for trade area capture (T.A.C.)

\[
\text{T.A.C} = \frac{36,380,000}{4,526.12 \times 6,311} = \frac{36,380,000}{7,808} = \frac{36,380,000}{4,526.12 \times 0.8083} = \frac{36,380,000}{9,944}
\]

The trade area capture value for Humboldt County indicates that there were retail sales equal to 9,944 people if they had purchased retail products at an average rate similar to all state residents while adjusting for relative income levels. The estimate is not the actual number of people who made retail purchases in Humboldt County but rather an equivalent number.

### How Are Pull Factors Calculated?

The pull factor, for retail goods and services, is the trade area capture estimate divided by the county’s population.

<table>
<thead>
<tr>
<th>Trade Area Capture Estimate</th>
<th>County Population</th>
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<tbody>
<tr>
<td>9,944</td>
<td>7,600</td>
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The division by county population removes the influence of population change within the county to focus on the county’s ability to draw outside customers. With the trade area capture estimates for Humboldt County in 1977 being 9,944 and a county population of 7,600, the pull factor is derived

\[
\text{Pull Factor} = \frac{9,944}{7,600} = 1.31
\]

For 1977, this means that Humboldt County is experiencing an inflow of retail sales customers.

### Commercial Sector Analysis for the State of Nevada: An Example

Using the trade area capture and pull factor equations, a trade area analysis for any number of counties in an area, state, or region can be developed. This section shows a trade area analysis for the seventeen counties in the state of Nevada. For this example, Nevada’s total county retail sales, as well as state, were derived from the Census of Retail Trade that is published every five years (e.g., 1977 and 1982). Also, if the researcher wishes to do an annual analysis, total county and state sales are presented in annual issues of the Sales and Marketing Management magazine. (10) If the researcher is unable to obtain issues of the Sales and Marketing Management magazine and the researcher’s state has a sales tax, it may be possible to obtain annual county and state tax sales to develop a complete database. With annual data, the effects of “boom and bust” economic cycles on an area’s trade area activity can be derived.

For the Nevada example, county and state retail sales values were derived from the Census of Retail Trade. (16) State per capita expenditures for retail items were derived by dividing state retail sales for 1977 and 1982 from the Census of Retail Trade by state population figures from the Bureau of Economic and Business Research at the University of Nevada, Reno. State and county per capita income and population values for 1977 and 1982 were also obtained from the Bureau of Economic and Business Research at the University of Nevada, Reno. Another source of information pertaining to state and county population and per capita income values is the publications and computer tapes of the Bureau of Economic Analysis. (17, 18) From these data sources and using the trade area capture and pull factor equations, trade analysis for Nevada was accomplished.

Table 1 shows trade area capture and pull factors for each of the seventeen counties in Nevada from 1977 to 1982. The two
SMSA or Metropolitan counties in Nevada are Clark and Washoe Counties. The remaining counties are classified as non-SMSA, non-Metropolitan, or rural counties. Of the rural counties, the counties of Humboldt, Orinshy, Pershing, and White Pine showed inflows of customers in 1982 because of a pull factor that was greater than one. These are also counties recognized as retail hubs for rural residents.

Of the seventeen counties from 1977 to 1982, five increased their pull factor, eleven had decreases in pull factor, and one remained unchanged. For example, Douglas County experienced a 5 percent increase in real retail sales and 38 percent increase in trade area, but experienced a 3 percent decrease in pull factor. With gains in county population and per capita income, a possible explanation of Douglas County's decline in pull factor may be residents shopping in other retail centers such as Reno.

For this example, total retail sales by county were used for trade area analysis; however, retail sales are further delineated by the Census of Retail Trade into ten retail establishment subgroups. For example, if one used the Sales and Marketing Management magazine, retail sales are delineated into nine sub-groupings. However, for some retail establishment sub-groupings in both data sources, there is a lack of data disclosure. This is why gross taxable sales data are available from your state tax return office, a more detailed trade area analysis can be made.

**Strategies for Strengthening a Community's Commercial Sector**

In and by themselves, trade area capture and pull factor estimates may not tell rural decision makers anything they might not already intuitively feel about their community's commercial sector. One might ask, "How can trade area capture and pull factor estimates be effectively used?" One use of trade area capture and pull factor estimates is to develop a history of these estimates. Through a history of pull factors, rural decision makers and retailers can see if their community is losing shoppers to outside counties. However, the major benefit of trade area analysis is that it stimulates communities to examine reasons why they have lost pulling power and assess options available to recapture lost trade.

In order for a community's commercial sector to improve capture of local dollars, suggested strategies, as proposed by Puller might be appropriate. (8, 12) One: market potential or retail outlets and suggest methods of consumer demands and goods. As mentioned earlier, of

area analysis is that it initiates discussion by rural decision makers and businesses about their community's commercial sector and helps them seek options to capture or recapture lost trade.

**Footnotes**

1. A refereed study by Smith (1981) showed that retail sectors of a local economy also can be used by rural decision makers and businesses about their community's commercial sector and helps them seek options to capture or recapture lost trade.

2. A report "Understanding Your Local Economy: Economic Base Analysis Local Development Strategies," A. Weber, Steven M. Smith, Roy Faust, and Gary W. Smith, forthcoming in the Western Regional Science Association, 1980, explains the process of local employment and income generation, how to estimate the local economy, and suggests how information on structure can be used to select appropriate economic development strategies.

3. From the paper, the term "commercial sector" covers firms in the retail and service industries.

4. Census of Retail Trade delineates ten retail sectors: Building Materials, Hardware, Garden Supplies, and Home Improvement centers; General Merchandise Stores; Automobile, Gasoline Service Stations, App. Accessory Stores; Furniture, Home Furnishings, and Equipment Stores; Drinking Places; Drug Stores; Proprietary Stores; Miscellaneous Retail Stores.

5. Sales and Marketing Management breaks down retail sales into nine groups: Food Stores; Eating and Drinking Places; Drug Stores; Food Stores: Eating and Drinking Places; Drug Stores; Proprietary Stores; Miscellaneous Retail Stores.

6. The collective action through the formation of organizations such as the local Chamber of Commerce. In order to improve local dollar capture, especially in a rural county, collective action must be used to initiate development in the community's commercial sector.

**Conclusions**

An avenue of community development often overlooked by economic development strategists is the promotion of the community's commercial sector. These economic sectors, usually classified as non-basic or secondary sectors in export trade, can contribute to a community's level of economic activity. By strengthening the community's commercial sector, the export base multiplier may also be increased.

For commercial sector analysis, several procedures can be used; but, for this paper, trade area capture and pull factor estimates were developed. These trade area analysis tools in and of themselves only indicate commercial sector activity in the community. The major benefit of trade area analysis is that it initiates discussion by rural decision makers and businesses about their community's commercial sector and helps them seek options to capture or recapture lost trade.

**References**


