Finding Market Opportunities

Understanding the market environment spatially using desktop analysis tools

—by Fred L. Miller

Introduction

This SpatiaLAB is designed to serve as a guideline for an independent student project in which you will perform an environmental scanning analysis for an actual client organization. You will develop a profile of the organization and its objectives as well as an understanding of what environmental factors create threats and opportunities for it. You will then use business geographic information system (GIS) software to analyze the spatial distribution of those factors within the organization's market area.

Location

Determined by instructor and student

Time to complete the lab

This SpatiaLAB will take many days or weeks to complete and may be appropriate as a term project. Much of the time required will depend on interactions between the lab instructor and the client organization.

Prerequisites

An understanding of the role of environmental scanning in marketing strategic planning

Some experience in thematic mapping and map management in the Business Analyst™ Desktop system

Access to a computer running Esri® Business Analyst Desktop Premium 10

Data used in this lab

Determined by the instructor and student

Student activity

Organizational profile and problem statement

Develop a profile of the organization and its objective and target group using the following matrix. This profile and problem statement are the portions of this report that document your understanding of the client organization and its situation. The depth of this understanding is the cornerstone of your credibility with the client, so be sure to present this information as clearly and completely as you can.

Organization's name and address	Addresses for single or multiple locations; current or planned locations
Organization's service area and location	Defined service area, area from which customers/clients are drawn, or area of interest to management; address of the client's location
Trade area definition	Preferred trade area definition (rings, drive time, quantitative threshold such as number of households or amount of entertainment spending, etc.)
Type of organization	Profit, nonprofit, community service, economic development, civic, etc.
Mission	The organization's core purpose
Organizational objectives	Specific goals the organization wishes to accomplish to achieve its mission
Organization's target market (customers, clients, donors, patrons, and/or constituents)	The organization's core target customers; the characteristics of the people in the target group
Objectives for serving target market	What the organization wants its target population to do (buy, donate, participate, communicate, etc.)
Communication plans for target market	How the organization plans to communicate with its target population
Competitive opportunities	Factors in the competitive environment that create opportunities for the organization (transportation, shopping facilities, complementary organizations, health/recreational/cultural facilities, etc.)
Competitive threats	Factors in the competitive environment that create threats for the organization (competing organizations, poor transportation, unfavorable environmental factors, etc.)

Table 1: Organizational profile format

Problem statement

As this is an environmental scanning exercise, the problem can be directly stated as follows:

- How favorable is the client's environment overall?
- Where are the most favorable regions in the market area?

Report Part I: *Complete your organizational profile and problem statement and integrate them into your project research report as Part I.*
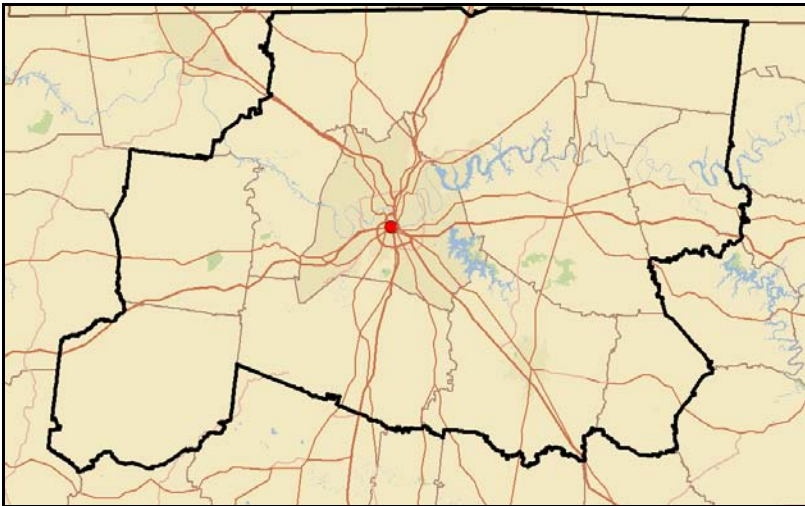
DEFINE A STUDY AREA AND GEOCODE CLIENT LOCATION

The first step in the spatial analysis of the client's marketing environment is to generate a study area matching the client's service area and geocode any client locations within that area. That market area will be captured as a study area with a new project folder and will determine the extent of the analysis.

VISUALIZE

1   Run Esri Business Analyst Desktop Premium 10. When the Business Analyst *Message Center* opens, click *Default Project* to open the system with the default project map.

2   Review the client's service area in the *Organizational Profile*. Use the *Business Analyst » Study Area » Create New Study Area* sequence to define a study area that matches the client's service area. When creating this study area, select the *Create a new project for this Study Area* option to generate a new project folder for your data in this project.

3   When the study area is complete within a new project, use the *Business Analyst » Store Setup » Create New Store Layer* sequence to load a data table of the address of the client's location in the study area. When you have completed this sequence, this location will be geocoded and displayed on the map.

The map below illustrates this step and displays a client location in the Nashville, Tennessee, core-based statistical area (CBSA).

Map 1: Nashville, Tennessee, service area and client location

Report Part II: *Define the study area for your project relative to the client's service area and location. Describe the geographic area it covers and the rationale for focusing on this area. Integrate your summary into the research project report as Part II.*

DISPLAY DEMOGRAPHIC CHARACTERISTICS

One of the key tools in environmental scanning is color-coded mapping related to the key characteristics of the target market. In this task, you will identify the attributes most relevant to the target market of the client organization and map their distribution in the market area.

VISUALIZE

1   Review the characteristics of target market customers in the client's *Organizational Profile*. Use the *Color-Coded Maps* toolbar (*Business Analyst » Maps » Show/Hide Color-Coded Maps Toolbar*) or *Advanced Thematic Mapping* wizard (*Business Analyst » Maps » Advanced Thematic Mapping*) to design relevant color-coded maps using the *Quantile* classification scheme with four classes and a color ramp of your choice.

Your focus in this process should be on selecting the variables that best capture the distinctive characteristics of the client's target customers. The *quartile* classification scheme (quantiles using four classes) displays two classes with values above the median values for the geographic areas mapped and two classes with values below. If you choose to use another classification scheme, explain your rationale for doing so in this portion of your report.

2   For measures where the distribution is relevant (e.g., gender, homeownership, education, age), consider using a chart-based mapping scheme with a pie chart.

3   Export at least two of your maps (*File » Export Map*) to be included as the *Map 1* and *Map 2* figures in your report. You may include additional maps if you wish.

ANALYZE

1   Pan and zoom around your maps to look at several areas of geography.

2   Look for concentrations of attractive characteristics around the market area.

3   Note those concentrations and use the maps to describe them in this part of your report.

For example, in *map 2* below, the census tracts in lighter colors have lower values for median age than do the darker-colored tracts. This indicates a concentration of younger people in the central part of the market area. This is useful information to an organization targeting younger (or older) consumers.
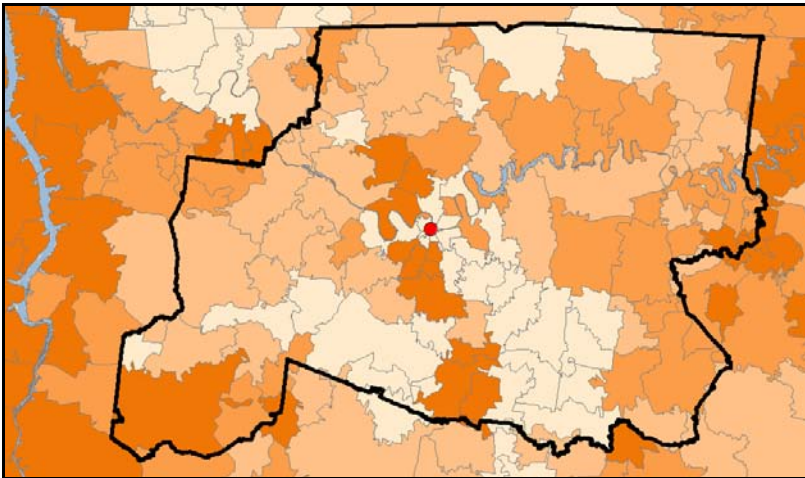
Map 2: Median age by census tract in the Nashville, Tennessee, client service area

Report Part III: *Describe the geographic distribution of the core demographic characteristics of the organization's target market. Integrate your summary into the research project report as Part III and include the two map images as Map 1 and Map 2.*

CREATE A TRADE AREA AND GENERATE REPORTS

Though general market area information is important, clients are more interested in the specific characteristics of the trade area in which they are located. You will create a trade area around the client's location and generate two reports detailing its characteristics.

ANALYZE

1   Review the client's preferred trade area definition. Use the Business Analyst *Trade Area Wizard* (*Business Analyst » Trade Area » Create New Trade Area*) to create *Simple Ring*, *Drive Time*, or *Threshold Areas* trade areas for the client's location.

2   Use no more than two levels, to simplify report comprehension. In the wizard, select the *Create Reports* option and *Individual Features* as part of the process, selecting *Executive Summary Report* and *Market Profile Report* to generate those reports.

These reports provide basic information about the trade area you have created as well as data on household expenditure patterns for the area. This will help you compare trade area characteristics with the client's target customers and evaluate the level of relevant retail expenditures in the trade area. For more detailed results, you may run other reports. For example, the *Retail Goods and Services Expenditures Report* provides more information on spending patterns than does the *Market Profile Report*.

The map updates with the defined trade area around the client's location as illustrated below.
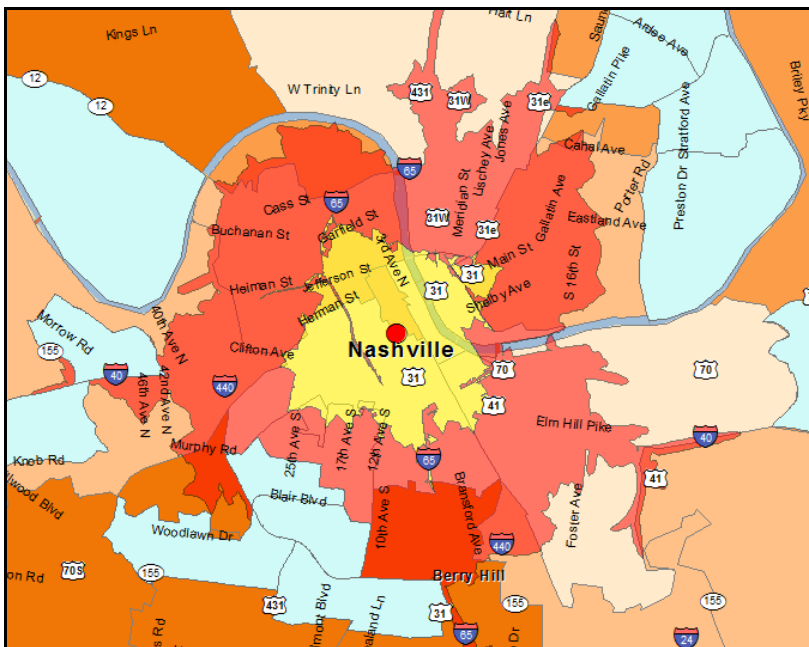
Map 3: Three- and six-minute drive-time trade areas for the client's location

3   Export this map to include in your report as *Map 3*.

Use the map and reports to explore the demographic and spending patterns of the trade area relative to the client's target customers.

Report Part IV: *Describe the client's trade area and its demographic characteristics and relevant consumer expenditure patterns. Explain how this profile compares with the desired demographic characteristics of target customers. Integrate this discussion into the research project report as Part IV.*

IDENTIFY THE BEST OPPORTUNITIES

Color-coded maps are excellent tools for exploring population characteristics in a market area one at a time. Frequently, however, the target population for an enterprise is defined in terms of several such characteristics. The *Smart Map Search* tool enables you to seek regions within a market area that meet all these criteria and are therefore of the greatest interest to your client.

ANALYZE

1   Click the *Toggle Business Analyst Window* icon to open this window. Click the *Smart Map* tab to open the *Smart Map Search* feature.

2   Click the *Change Variables* button and adjust the variables used in the search to include those that define the client's target market and/or match the profile of the client's trade area.

3   Use the boxes or sliding scales to establish the target ranges for these variables, and select the *Automatically update statistics* option.

The geographic areas that meet the selection criteria are displayed on the map, which should resemble this one:
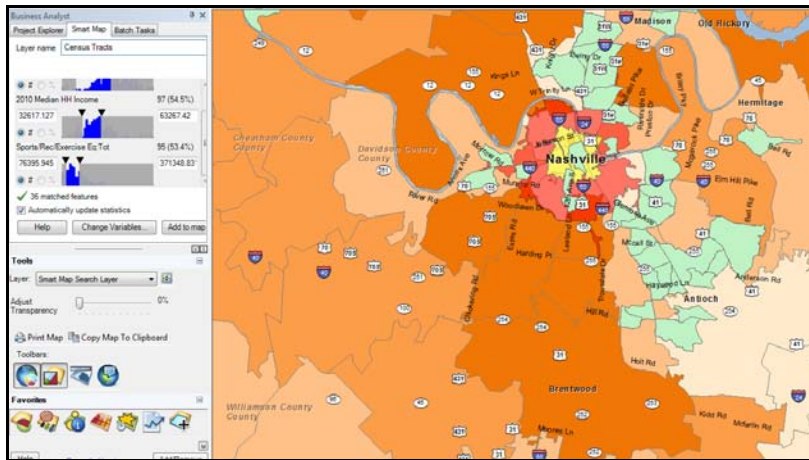
Map 4: Attractive market locations for client's organization

These are attractive potential markets for the client. Assess the client's current location relative to these areas to assess the opportunities for growth in the current location or expansion by opening new locations.

4   Export this map to include in your report as *Map 4*.

Report Part V: *Describe the Smart Map Search attributes and thresholds you specified and explain your rationale for your selection. Describe the geographic distribution of the most attractive regions in the market area. Integrate this discussion into the research project report as Part V.*

ADD INFORMATION ON OTHER ORGANIZATIONS

In addition to identifying clusters of attractive potential customers, environmental scanning must include some consideration of competing and complementary organizations. Shopping centers are often magnets for retail traffic, while competing stores are marketing challenges.

VISUALIZE

1   Turn on the *Shopping Centers* layer in Business Analyst and adjust its symbology to *quantiles* and *three classes* based on *gross leased area* (GLA) to display shopping centers as various sizes of red diamonds.

2   Competing organizations depend on the industry in which the client's organization competes. Use the Business Analyst *Business Listings* wizard (*Business Analyst » Add Business Listings*) to select business listings in the client's industry and display them on the map as green triangles.

3   Export this map to include in your report as *Map 5*.

Your map should resemble the one below, in which shopping centers and competitors (in this case, sporting goods retailers) are depicted on the map. You may use this information to assess the competitive environment of the client's current and potential locations.
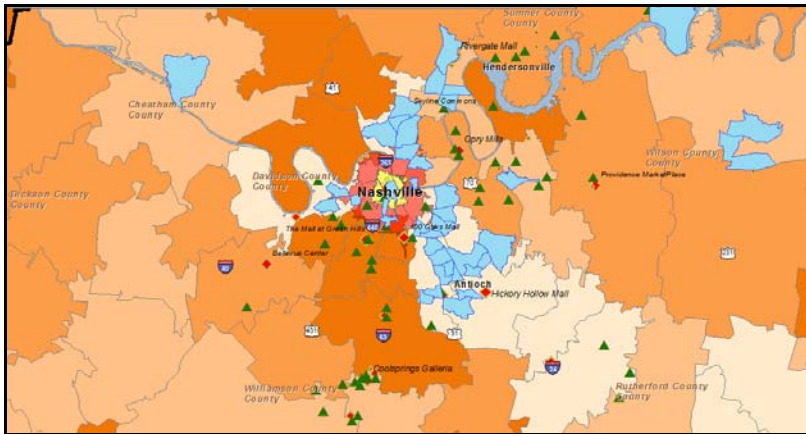
Map 5: Complementary and competing organizations relative to client's location

ANALYZE

1   Pan and zoom within your map to explore the distribution of complementary and competitive organizations in the market area.

2   Observe their spatial relationship to each other and to major transportation networks and population centers. Based on these observations, how do you believe that these organizations and their locations will impact the client organization?

Report Part VI: *What types of organizations are complementary to the client organization, and which are competitors? Explain your rationale for these designations. Describe the geographic distribution of the complementary and competitive organizations and their impact on the attractiveness of regions within the market area. Integrate this discussion into the research project report as Part VI.*

ENVIRONMENTAL SCANNING CONCLUSIONS

1   Review your report and the maps you have designed. On the basis of your work, how attractive is the market area as a whole for the client organization?

2   Describe two regions within the area that are particularly favorable.

3   Zoom to these regions and export the maps as *Map 6* and *Map 7* in your report.

Report Part VII: *How attractive is the market area as a whole to the client organization? Explain your conclusion. Describe two regions in the area that are particularly favorable and that you have captured as Map 6 and Map 7. Explain why you believe these regions to be favorable. Integrate this discussion into the research project report as Part VII.*

Submit your work

Submit the report to your client organizations in a Microsoft Word document organized as follows:

Report Title
Class
Team Members' Names
Date

I.   Client organization profile and problem statement

II.   Mapping client's service area and location(s); geographic area and rationale

III.   Distribution of relevant target market characteristics

   a.   Map 1: Distribution of first characteristic
   b.   Map 2: Distribution of second characteristic

IV.   Creating trade area for client's location(s), generating reports, and describing trade area characteristics

   a.   Map 3: Trade area for client's location
   b.   Report 1: Executive Summary
   c.   Report 2: Market Profile Report

V.   Selection of most attractive regions of the market area; attributes, thresholds, rationale

   a.   Map 4: Geographies in market area selected by *Smart Map Search*

VI.   Identifying and mapping complementary and competing organizations

   a.   Map 5: Complementary and competing organizations

VII.   Conclusion: Favorability of the client's overall environment; location of the most favorable regions in the market area

   a.   Map 6: First favorable region
   b.   Map 7: Second favorable region

Credits

Images

Data displayed in screen captures of Business Analyst is courtesy of Esri; the US Census Bureau; Infogroup; the Bureau of Labor Statistics; Applied Geographic Solutions, Inc.; Directory of Major Malls, Inc.; GfK Mediamark Research & Intelligence, LLC (GfK MRI); and Market Planning Solutions, Inc.

Instructor resources

Project guidance and evaluation considerations

This SpatiaLAB is a template for an environmental scanning student research project for a client organization in a business GIS course. In it, students perform a structured exploration of the market environment for the client. As the range of potential clients is great, the steps in the project are defined in general terms and require students to match the software tools with the profile and needs of the client organization.

These steps are integrated into the report format, which provides structure to students' final reports. Obviously, individual instructors are free to adjust the requirements and/or template as they wish to accomplish course learning goals. In addition, instructors may wish to pair this lab with others on *market area analysis* and/or *site selection* to create a more comprehensive research project for client organizations.

The following are general guidelines to assist in the guidance of student projects and assessment of reports for each step in the research process:

I.   **Client organization profile and problem statement**

The profile should be accurate and sufficiently detailed to provide an understanding of the organization and its purpose and objectives. In addition, the definition of the client's target customers/clients should be clear, consistent with the organization's objectives, and stated in attributes that can be explored in the business GIS software.

II. **Mapping client's service area and location(s); geographic area and rationale**

Describe the study area you have defined and its relation to the client's service area. The study area should be consistent with the current or planned service capabilities of the client but large enough to reveal potentially attractive opportunities beyond the existing service area.

III. Distribution of relevant target market characteristics

    a. Map 1: Distribution of first characteristic
    b. Map 2: Distribution of second characteristic

The attributes chosen for color-coded mapping should be consistent with the client's target market profile. The distribution of attributes should be performed with maps of different scale and, as a consequence, different geographic units as well. The distributions should be described accurately relative to *Map 1* and *Map 2*.

IV. Creating trade areas for client's location(s), generating reports, and describing trade area characteristics

    a. Map 3: Trade area for client's location
    b. Report 1: Executive Summary
    c. Report 2: Market Profile Report

This discussion should focus on the core trade area characteristics as captured in the reports. It should compare these characteristics with those used to identify the client's target customers. Relevant expenditure patterns from the *Market Profile Report* should also be described.

V. Selection of most attractive regions of the market area; attributes, thresholds, and rationale

    a. Map 4: Geographies in market area selected by *Smart Map Search*

The rationale for the selection of attributes and designation of thresholds in the *Smart Map Search* tools should be clear and reasonable. They should also be consistent with the client's target market profile. The description of the distribution of these areas should be consistent with *Map 3*.

VI. Identifying and mapping complementary and competing organizations

    a. Map 5: Complementary and competing organizations

The identification of complementary and competing organizations should be clearly explained and consistent with the client organization's profile. The distribution of these organizations should be consistent with *Map 4*, and the assessment of the impact of this distribution should be consistent with that distribution and the client's profile.

VII. Conclusion: Favorability of the client's overall environment; location of the most favorable regions in the market area

a.   **Map 6: First favorable region**
b.   **Map 7: Second favorable region**

The regions selected and displayed in the map should represent a favorable balance of positive demographic factors and complementary organizations with relatively few negative factors and competing organizations. Although it will be very difficult to determine if students have accurately identified the two optimal regions in the market area, it will be possible to determine if they have identified regions that are, on balance, favorable to the organization.

Business GIS references

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