Customer Profiling

Understanding customers to identify penetration and expansion opportunities

—by Fred L. Miller

Introduction

This SpatiaLAB is designed to serve as a guideline for an independent student project in which you will perform customer profiling and segmentation analysis for an actual client organization. In it, you will use business geographic information system (GIS) software to develop a profile of the organization and its objectives, geocode and profile the organization's customers, and use the profiles to develop penetration and market expansion growth strategies.

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 site selection in retail management

Some experience in the trade area analysis and site selection tools in Esri® Business Analyst™ Desktop Premium 10

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 objectives 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 a customer profiling exercise, the problem can be directly stated as follows:

- What are the core demographic and lifestyle characteristics of the organization's current customers?
- How can this information be used to develop market penetration and market expansion growth strategies for the organization?

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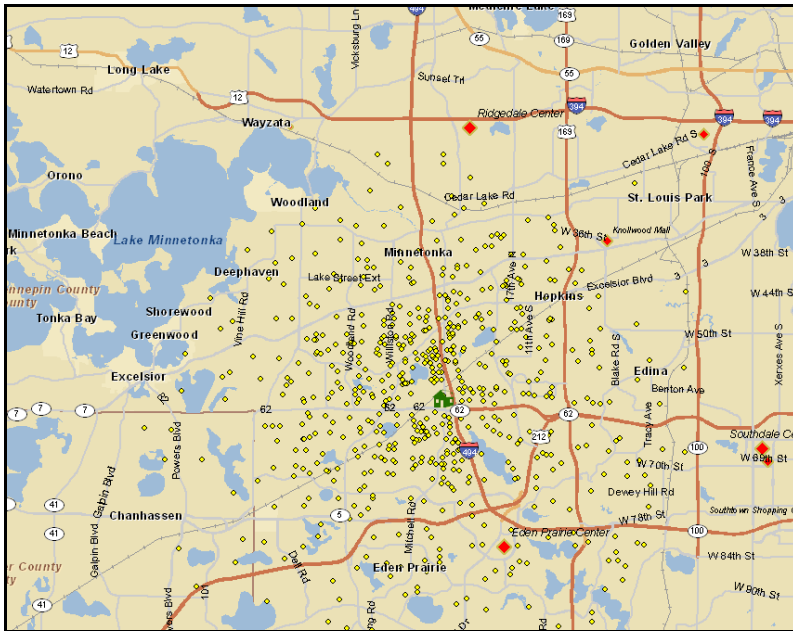
DEFINE A STUDY AREA AND MAP CURRENT CUSTOMERS

The first step in profiling the client's customer base is to generate a study area matching the client organization's service area and geocode a list of its current customers. That market area will be captured as a study area with a new project folder and will determine the extent of the profile analysis.

VISUALIZE

1   Run Esri Business Analyst Desktop Premium 10. When the Business Analyst (BA) *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 supply the address of the client organization's location, naming the site *<Client Name> Location*. This location will be geocoded and displayed on the map.

4   To add customer data, use the *Business Analyst » Customer Setup » Create New Customer Layer* sequence to load a data table of the addresses of the client organization's customers. This data table should be a spreadsheet with fields for the address, city, state, and ZIP Code of each customer record.

5   As you work with the wizard, rename this layer *Current Customers*. When you have completed this sequence, these locations will be geocoded and displayed on the map.

The map below illustrates these steps and displays the location of an electronic goods retailer and its current customers in the Minneapolis-St. Paul, Minnesota, core-based statistical area (CBSA).

Map 1: Client location and current customers in Minneapolis-St. Paul CBSA
study area

6   When you have completed your color-coded map, export it (*File » Export Map*) to be included as *Map 1* in your report.

Report Part II: *Define the study area for your project relative to the client's service area. Geocode and map the client's current customers from a data file. Integrate your summary into the research project report as Part II and include the image as Map 1.*

MAP PURCHASING PATTERNS IN THE MARKET AREA

Geographic clusters with high levels of purchases of an organization's products or services create market opportunities. For this reason, you will display these areas in the client organization's market area with a color-coded map.

VISUALIZE

1   Review the client's *Organizational Profile* to determine the most relevant category of consumer expenditures. Use the *Color-Coded Maps* toolbar (*Business Analyst » Maps » Show/Hide Color-Coded Toolbar*) or the *Advanced Thematic Mapping* wizard (*Business Analyst » Maps » Advanced*

Thematic Mapping) to design a relevant color-coded map using the *Quantile* classification scheme with four classes and a color ramp of your choice for that consumer expenditure category.

2   When you have completed your color-coded map, export it (*File » Export Map*) to be included as *Map 2* in your report.

ANALYZE

1   Pan and zoom around your map to identify concentrations of relevant purchases and their proximity to clusters of the client organization's customers.
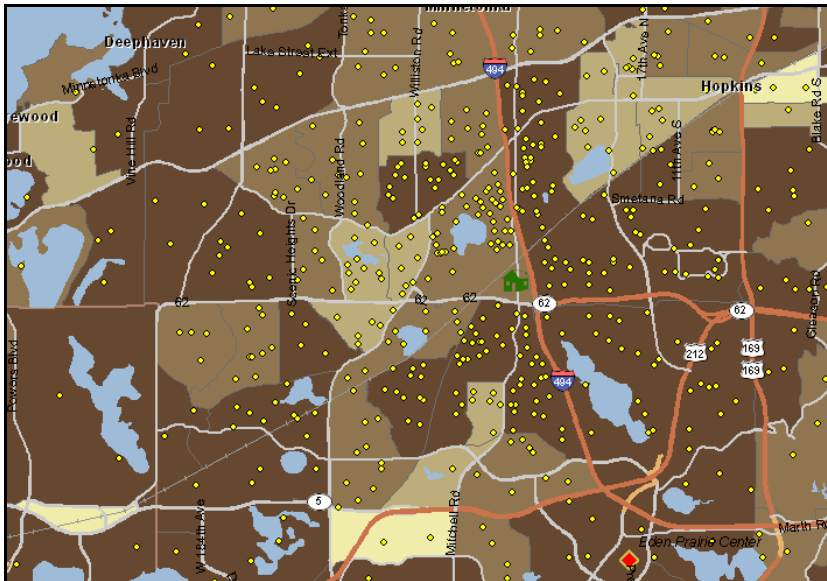
Map 2: Household expenditures on electronic products by block group near a Minneapolis electronics store

Report Part III: *Describe the geographic distribution of the consumer expenditure levels relative to the client's location and the distribution of current customers. Integrate your summary into the research project report as Part III and include the map image as Map 2.*

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CREATE CUSTOMER AND AREA PROFILES, DESIGNATING TARGET GROUPS

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Customer profiling analysis seeks to identify the distinctive characteristics of an organization's customers relative to an appropriate base population. While the overall population of the United States is often used for this purpose, it is more appropriate to use a comparable local reference population for this purpose. In this case, you will use the study area you defined as this base population. You will use the results of this comparison to define target groups for the client.

ANALYZE

1   Use the *Profile Wizard* (*Business Analyst » Target Marketing » Create Profile » Create Geographic Profile*) to create a population profile for the study area you created above. This profile will serve as a base profile to compare with your customer profile.

2   Use the *Profile Wizard* (*Business Analyst » Target Marketing » Create Profile » Create Customer Profile*). Use an existing customer layer (specify *Current Customers*) to create a profile of the customers you mapped in the previous task.

In this process, each customer record is assigned to a Tapestry™ segment based on the census block group in which it is located. Comparison of this group relative to the base profile will reveal the distinctive segmentation patterns of your customers.

You now have the profiles you need to run segmentation reports necessary to reveal the distinctive characteristics of the client's customer base.

3   Run the *Segmentation Report Wizard* (*Business Analyst » Target Marketing » Segmentation Charts, Maps, Reports » Create new segmentation charts, maps and reports » Segmentation Reports*) to order the *Demographic Profile* report. Attach this document as *Report 1* in your project report.

4   Repeat this procedure to run the *Tapestry Profile* report. Attach this document as written *Report 3* in your project report. Use the **Tapestry Segmentation Reference Guide**, linked here and in the references below, to review background information on the dominant *Tapestry segments* in the client's customer base.

5   Run the *Business Analyst Report Wizard* (*Business Analyst » Reports » Run reports » Run Summary/Demographic Reports*) for the study area profile you created in step 1 above. This report provides demographic data on the study area that you can compare with the demographic data you extracted for your customer base in step 3 above. Attach this document as written *Report 2* in your project report.

These reports provide an overview of the demographic and Tapestry segmentation characteristics of the client's customer base. They provide insight into the composition of this

group and are also useful in determining which segment groups to aggregate with each other as target groups.

6   Use the *Target Groups Wizard* (*Business Analyst » Target Marketing » Create Target Groups » Create target group from chart*) to identify *Current Customers* as the target profile and your study area profile as the base profile. Then select the *Four Quadrant Game Plan Chart* option and assign segments to the *Core* and *Developmental* target groups based on the quadrant of the chart in which they are located. You will use these target groups to explore marketing opportunities with other business GIS tools.
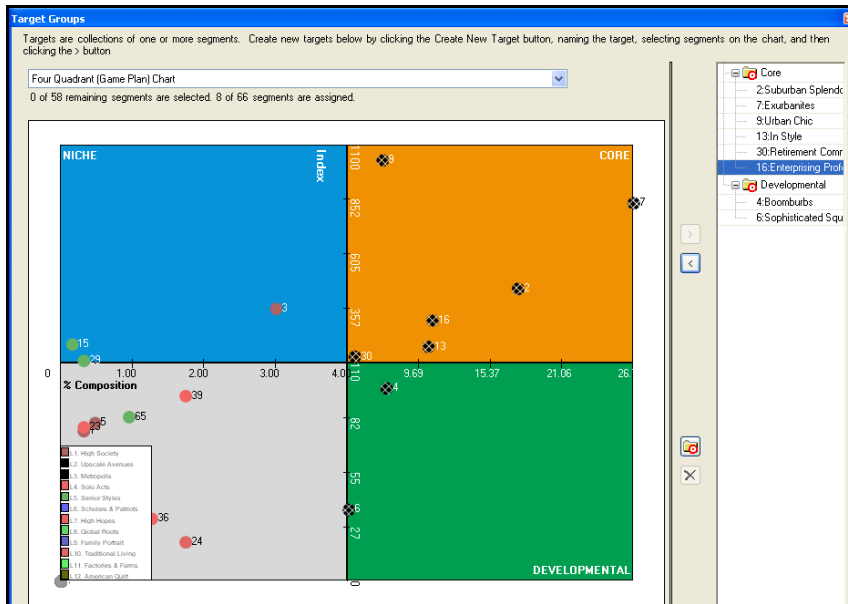

Figure 1: Game Plan Chart displaying Core and Developmental target groups

This sequence assumes that you are not using customer data with a volume measure, such as total sales, orders, or contributions, and that you accept the default settings for defining quadrants in the *Game Plan Chart*. If this is not the case, work with your instructor to make any necessary adjustments in these procedures. Describe these adjustments and the reasons for them in your report.

7   Run the *Segmentation Report Wizard* (*Business Analyst » Target Marketing » Segmentation Charts, Maps, Reports » Create new segmentation charts, maps and reports » Segmentation Reports » Core Segments*) with *Current Customers* as *Target profile*, your study area profile as the base profile, and the target groups you have defined as the *Target Group* option. This report lists the *Core* and *Developmental* target groups you defined and provides data on them. Attach this document as *Report 4* in your project report.

Report Part IV: *In what ways are the customer and study area demographic profiles similar? In what ways do they differ? Which Tapestry segments are most prevalent among the client's customer base? What segments have you assigned to the Core target group? The Developmental target group? Integrate this discussion into the research project report as Part IV.*

IDENTIFY THE BEHAVIORAL AND MEDIA HABITS OF TARGET GROUPS

The designation of target groups facilitates more detailed exploration of the behavioral and media consumption patterns of the organization's target customers. You will generate the reports necessary to complete this analysis.

ANALYZE

1   Using *Segmentation Charts, Maps and Reports Wizard* (*Business Analyst » Target Marketing » Segmentation Charts, Maps, Reports» Create new segmentation charts, maps and reports » Segmentation Reports » Understanding Your Target Group*. , Select from the list of available categories four that relate to the purchasing patterns, personal values and behavioral habits of the client's target customers. Run this report using the *customer profile* for *Target profile*, the *study area profile* for *Base profile*, and the target groups you created above.

2   Use the results to explore the behavioral characteristics of the *Core* and *Developmental* groups relative to these categories. Attach this document as *Report 5* in your project report.

3   Using *Segmentation Charts, Maps and Reports Wizard* (*Business Analyst » Target Marketing » Segmentation Charts, Maps, Reports » Create new segmentation charts, maps and reports » Segmentation Reports » Developing Marketing Strategies*), run this report using the customer profile as *Target profile*, the study area profile for *Base profile*, and the target groups you created above. Use the results to explore the media consumption patterns of the *Core* and *Developmental* groups. Attach this document as *Report 6* in your project report.

Report Part V: *What values and behavioral and purchasing patterns distinguish the client's customer base from the market area in general? What patterns of media consumption distinguish the client's customer base from the market area in general? Integrate this discussion into the research project report as Part V.*

IDENTIFY MARKET PENETRATION AND MARKET EXPANSION OPPORTUNITIES

In this customer profiling process, you have discovered a considerable body of information on the client organization's best customers. You may use that information to identify opportunities for sales growth through market penetration and market expansion strategies.

ANALYZE

Market penetration strategy seeks to increase sales by increasing the number of customers within market areas currently being served. Specifically, it identifies the locations of

underserved concentrations of potential customers who match the profile of the client's best customers. *Gap analysis* is the appropriate business GIS tool for this analysis.

1   Using the *Segmentation Charts, Maps and Reports Wizard* (*Business Analyst » Target Marketing » Segmentation Charts, Maps, Reports » Create new segmentation charts, maps and reports » Segmentation Reports » Market Area Gap Analysis*), run this report using the customer profile for *Target profile*, the study area profile for *Base profile*, and the target groups you created above.

2   Select the appropriate geographic level, designate the client customer layer as the source of customer data, select the option to create a map, and run the report.

This process produces a map and report that show the balance of current-to-expected customers in each geographic area and display those values on a map, which should resemble the one below. The darker colors represent geographic areas in which the actual number of customers is lower than the expected level. These areas present opportunities for market penetration and offer target levels of potential new customers for planning purposes.
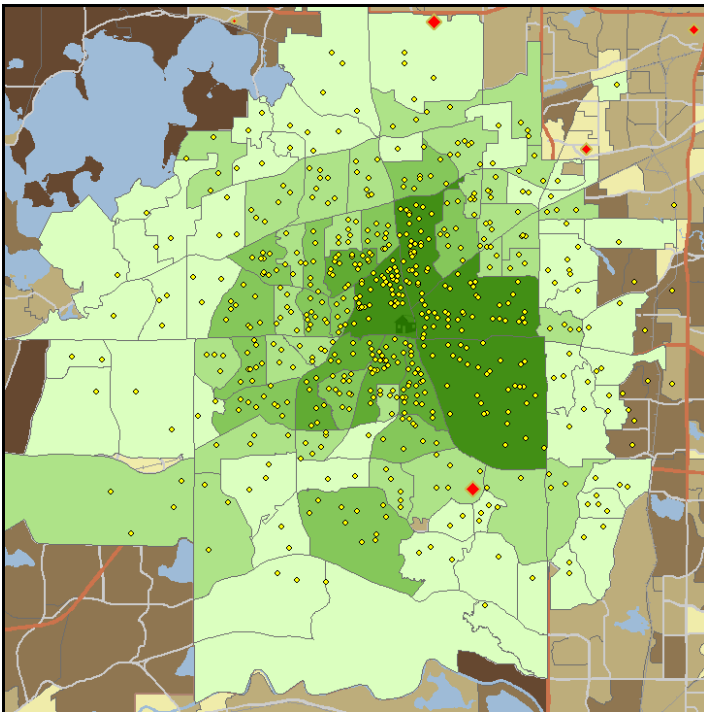
Map 3: Gap analysis results for electronics stores in the Minneapolis area

3   Export the *Gap Analysis Map* (*File » Export Map*) to be included as *Map 3* in your report.

Market expansion strategy seeks to increase sales by identifying new market areas into which an organization can expand. Specifically, it identifies the locations of clusters of households whose characteristics match those of the client's best customers. *Market potential analysis* is the appropriate business GIS tool for this analysis.

Market potential analysis can be performed at macro and micro levels. At the macro level, it can be used to identify attractive CBSAs across the United States. At the micro level, it can be used to identify the most attractive census tracts or block groups within a CBSA. This can refine the scale of a national analysis or be used as the primary research tool for an organization wishing to confine its focus to opportunities in its current geographic region.

4   Using the *Segmentation Charts, Maps and Reports Wizard* (*Business Analyst » Target Marketing » Segmentation Charts, Maps, Reports » Create new segmentation charts, maps and reports » Segmentation Reports » Market Potential*), run this report using the customer profile for *Target profile* and the study area profile for *Base profile*. Select the appropriate geographic level, select the option to create a map, and run the report.

This process produces a map and report that show the projected number of customers in each geographic unit within the larger market area. The darker colors represent geographic areas with higher numbers of projected customers. These areas present opportunities for market expansion and offer projected levels of potential new customers for planning purposes.
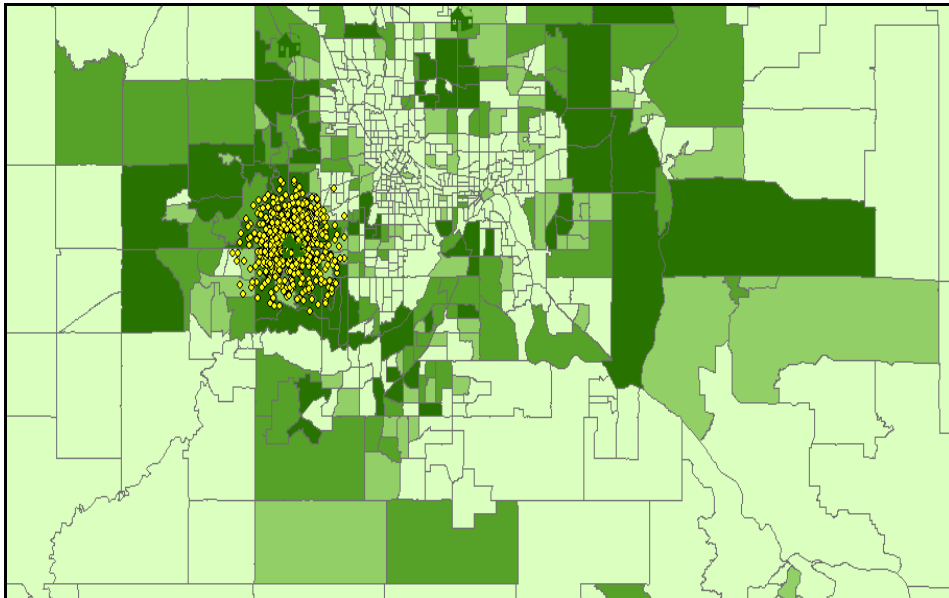
Map 4: Market potential analysis for electronics store in the Minneapolis area

5   Export the *Market Potential Map* (*File » Export Map*) to be included as *Map 4* in your report.

Use these maps and reports to describe the market penetration and market expansion opportunities available to the client organization.

Report Part VI: *Where are the greatest opportunities for sales growth through market penetration? How substantial are these opportunities? Where are the greatest opportunities for sales growth through market expansion? How substantial are these opportunities? Integrate this discussion into the research project report as Part VI.*

CONCLUSIONS AND RECOMMENDATIONS

Review the reports and maps you have produced in this project. How can they help the client understand current customers more fully and serve them more effectively? What opportunities for sales growth through market penetration do they reveal? What opportunities for sales growth through market expansion do they reveal?

Report Part VII: *What are your conclusions and recommendations for improved customer service, market penetration opportunities, and market expansion opportunities? Integrate this discussion into the research project report as Part VII.*

Submit your work

Submit the report to your client organization in a 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 current customers
   a.   Map 1: Client location and geocoded customers

III. Mapping purchasing patterns in the market area
   a.   Map 2: Household purchases of relevant products in the market area

IV. Creating customer and area profiles; designating target groups
   a.   Demographic comparison of current customers and market area
        Report 1: *Current Customer Demographic Profile Report*
        Report 2: *Market Area Demographic Summary Report*
   b.   Description of dominant Tapestry segments among current customers
        Report 3: *Current Customers Tapestry Profile Report*
   c.   List of segments in *Core* and *Developmental* target groups and explanation
        Report 4: *Core and Developmental Segments Report*

V.   Identifying the behavioral and media characteristics of target groups
   a.   Report 5: Understanding Your *Target Profile Report*
   b.   Report 6: *Developing Marketing Strategies Report*

VI. Identifying market penetration opportunities and market expansion opportunities
   a.   Map 3: *Gap Analysis Map* for client's market area
   b.   Map 4: *Market Potential Map* for selected market area

VII. Conclusions and recommendations

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 a customer profiling student research project for a client organization in a business GIS course. In it, students create demographic and lifestyle profiles of the client organization's customer base and use them to design responsive marketing strategies. 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 combine this lab with others 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 business GIS software.

II. **Mapping client's service area and current customers**
   a.   **Map 1: Client location and geocoded customers**
   The description of the study area and its relation to the client's service 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. The Current Customers file should be provided by the client in .xls format with the fields specified in the

text. The content of the list (e.g., all customers, best customers, loyalty club, delivery customers, and any volumetric information such as total orders or sales) should also be described.

III. **Mapping purchasing patterns in the market area**
  a. **Map 2: Household purchases of relevant products in the market area**

The map should use a *quartile* classification scheme and depict annual purchases of a product class relevant to the client. It may display total purchases or purchases per household but should be clearly labeled to indicate which of these options is being displayed.

IV. **Creating customer and area profiles; designating target groups**
  a. **Demographic comparison of current customers and market area**
       Report 1: *Current Customer Demographic Profile Report*
       Report 2: *Market Area Demographic Summary Report*
  b. **Description of dominant Tapestry segments among current customers**
       Report 3: *Current Customers Tapestry Profile Report*
  c. **List of segments in Core and Developmental target groups and explanation**
       Report 4: *Core and Developmental Segments Report*

The demographic comparison should accurately reflect the content of the reports, and the Tapestry discussion should focus on the largest segments in the market area with consideration for those with high Index values as well. Discussion of the dominant segments in the customer base should be consistent with the segment descriptions in the **Tapestry Segmentation Reference Guide**, linked here and in the references below. The designation of Core and Developmental groups should be consistent with the *Tapestry Profile Report* and match the groups identified in the *Core and Developmental Segments Report*.

V. **Identifying the behavioral and media characteristics of target groups**
  a. **Report 5: Understanding Your** *Target Profile Report*
  b. **Report 6:** *Developing Marketing Strategies Report*

This discussion should accurately reflect the behavioral and media characteristics of the Core and Developmental segments as presented in the two reports. The Market Potential Index (MPI) categories in the *Target Profile Report* should be related to the client organization in a clear way.

VI. **Identifying market penetration opportunities and market expansion opportunities**
  a. **Map 3:** *Gap Analysis Map* **for client's market area**
  b. **Map 4:** *Market Potential Map* **for selected market area**

The areas identified for each growth strategy should be consistent with the maps provided. The distinction between these growth options should be clearly and accurately explained.

VII. **Conclusions and recommendations**
       This discussion should summarize the findings at each stage of the analysis clearly and concisely. It should also address improved customer service and market penetration and market expansion opportunities directly, providing actionable recommendations to the client organization.

Procedural notes

1. The structure of this lab is most appropriate for a client organization with a single location and a relatively concentrated customer base in a modestly sized market area such as a CBSA. While the software can manage expansions of any of these factors, it does complicate the project for students.

2. This lab assumes that students will *not* have volumetric data such as total orders or sales in customer records. The Tapestry profiling and target group selection procedures are based on comparative concentrations of customers rather than sales. If such data is available, you may redirect students from the *Tapestry Profile Report* to the *Tapestry Profile with Volume Report*, which allows them to examine concentration of sales by *Tapestry segment* as well as number of customers. In this situation, you might also direct them to use volumetric data in the *Four Quadrant Game Plan* chart to define *Core* and *Developmental* segments.

3. This lab uses the *Market Potential Map* one time at the CBSA level of analysis. If students have a client organization with national ambitions, direct them to run the analysis first at the national level (to identify attractive CBSAs) and subsequently for one or more attractive CBSAs at the census tract level to explore the local distribution of attractive geographic areas. This allows them to experience the application of this tool to national level market assessment.

Business GIS references

Business Analyst blog.
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