

## Location Analysis

**Objective:** The purpose of this case is to familiarize students with how feasibility analysts use demographic data from the Bureau of the Census and other sources to help them determine potential market areas. The case is also designed to introduce students to some of the benefits of geographic information systems (GIS).

**Company:** Treasure Island Inc

(<http://www.treasureislandstores.com/>). The 14-unit chain operates in NJ and NY. A multiple Apollo nominee and last year's winner (2002) in the multiple store category, Treasure Island carries outdoor furniture, home decor, arts and crafts and Christmas products; six of its locations also have a Hallmark Gold Crown card department. In every category, it strives to present something different. Each store occupies a space of 25,000 to 30,000 square feet in power and strip centers and freestanding locations. Casual furniture and accessories occupy 55% of selling space and account for 45% of total sales. Expansion opportunities are sought in NJ and NY during the coming 18 months. Treasure Island currently has 10 stores in New Jersey. According to <http://www.casualiving.com/CLTop100.pdf>, 1999 and 2000 estimated casual furniture sales (in millions of dollars) were \$19.9M and \$20-\$21.9M respectively. This translates to annual sales per square foot of approximately \$104 and annual sales of casual furniture per store of \$1,428,571 based on a 25,000 square foot store<sup>1</sup>.



Robert Buchakian, the maternal uncle of Lynn Beylerian (CEO) and her brother, Paul Pinajian, executive vice president and distant relative to Robert Ishkanian, CFO of Treasure Island, founded Treasure Island in 1970. Buchakian worked for Mr Christmas for 10 years before deciding to go out on his own. (Clockwise in picture insert: Robert Ishkanian, Lynn Beylerian, Paul Pinajian and Peter Jerauld) For further information on Treasure Island's history please visit the website <http://www.casualiving.com/RPTreasure.html>.

The locations of these stores are given in the "Location of Existing Stores" worksheet. In addition to this, they are in the process of opening a new store in Woodbridge, NJ. They view their primary competitor as Fortunoff which currently has 4 stores in New Jersey. Fortunoff's merchandising mix differs slightly from that of Treasure Island in that Fortunoff sells Jewelry and Silverware and has some freestanding stores devoted exclusively to Jewelry and Silverware with a Backyard Store typically located in a nearby location. In addition to this, Fortunoff does not sell arts and craft supplies.

<sup>1</sup>(25,000 sqft per store \* 55% occupied by casual furniture) \* 14 stores = 13,750 sqft \* 14 stores = 192,500 total sqft devoted to casual furniture. Annual sales of casual furniture per store = (\$20,000,000 estimated sales ÷ 192,500 total sqft devoted to casual furniture)\*13,750 sqft devoted to casual furniture per store = \$1,428,571.

**Profile of the Luxury Garden Products Industry<sup>2</sup>:** According to the predictions of Pam Danziger, president of Unity Marketing, and author of *Why People Buy Things They Don't Need* (Paramount Market Publishing, 2002), "For the next five to ten years, garden marketers and retailers will enjoy a period of steady growth as consumers shift their decorating focus away from the home's interior to the garden, patio and lawn." For example, consumers spent nearly \$41 billion on garden-related products in 2001, an increase of 12.1% from \$36.3 billion, in 2000. With the average U.S. household spending \$444 on lawn and garden goods in 2001, the fastest growing garden category is garden "hardware," i.e. accessories, products, furniture, tools and equipment to enhance the gardening experience.

Three demographics distinguish the gardening market - Home-owning, middle-aged, and affluent. Danziger profiles this gardening market as "morphing into a luxury market for consumers with incomes of \$75k plus. The big opportunity for garden marketers and retailers is to tap consumers' growing passion to enhance enjoyment of their garden by adding luxury accents, furniture, and accessories". In terms of luxury products purchased, Unity Marketing's latest luxury market survey found that luxury garden purchases for high-end barbecues, luxury patio and pool furniture and decorative garden enhancements, i.e. pools, fountains, and sculptures, were the second most widely purchased luxury product behind luxury electronics. Forty-five percent (45%) of the affluent consumers surveyed purchased luxury garden products, with the average household spending \$1,000 on luxury enhancements for their yard. According to Danziger, although demographics, an aging population and rising home ownership, is behind the increase in garden-related spending, the real growth driver is the consumers' passion to reconnect with the natural world. "As contemporary American culture becomes more "virtual," computerized and electronic, consumers feel a growing need to ground themselves in the real world, a trend which is finding expression in the garden as consumers divide their yards into "outdoor rooms" as they build elaborate garden getaways to shut out the outside world and connect with the sounds, smells and sights of nature. They are inviting wildlife into their yards, and not just birds. More adventurous nature lovers are building bat houses and adding turtles, frogs and exotic fish to garden pools."

**Assignment:** Download the demographic and socio-economic data<sup>3</sup> by zip code from my website and use the downloaded spreadsheet to answer the following questions (all work should be done on this spreadsheet). Please highlight your answers in **yellow**:

1. Summary Statistics for New Jersey (5 points): Using the information given in the "NJ Demographics by Zipcode" worksheet, calculate the median, mean, and standard deviation of each column using the worksheet template "1. Summary Stats for NJ".
2. Profiling the Neighborhood Attributes of Existing Stores:
  - a. Inferring the Target Customer Base using Raw Demographic Data (5 points): Given the zip code location of each Fortunoff and Treasure Island store in New Jersey respectively and the template labeled "2a. ZipCode Stats for Stores", obtain the demographic and socio-economic information on each neighborhood using the the "NJ Demographics by Zipcode" worksheet. Calculate the median of each neighborhood attribute for Fortunoff. Repeat this calculation for Treasure Island. Next, calculate the ratio of the median of each neighborhood attribute for Fortunoff (the numerator) to the median of each neighborhood attribute for NJ. Repeat this calculation for Treasure Island. Using your calculated ratios, discuss how the

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<sup>2</sup> <http://www.refresh.com/!umi2.html>

<sup>3</sup> Zip code data was obtained from the neighborhood statistics section of [realestate.yahoo.com](http://realestate.yahoo.com) as well as [www.dismal.com](http://www.dismal.com).

neighborhoods that Fortunoff and Treasure Island have chosen to locate their existing stores differ from an average NJ neighborhood. In marketing, this process is known as customer profiling. Here, we are trying to infer what each firm's target consumer market is by looking at where they choose to locate and what the characteristics of those neighborhoods are.

- b. Inferring the Target Customer Base for Treasure Island using Processed Data (10 points): Claritas ([www.claritas.com](http://www.claritas.com)) is a leading provider of geographic information systems (GIS) data. They process their data into lifestyle segments based on differing criteria<sup>4</sup>. Their two market segmentation approaches are entitled PRIZM and MICROVISION50. To access either segmentation approach, click on the button labeled "You are where you live" on their website. For each of the existing neighborhoods where Treasure Island has a store, fill in PRIZM and MICROVISION50 characteristics associated with that neighborhood using the template "2b. Treasure Island (Claritas)". The first location is already done to provide you with an example. Next calculate the relative frequency for the PRIZM categories and also the relative frequency for the MICROVISION50 groups. Please highlight in **yellow** any category that has a  $\geq 50\%$  probability of occurring and highlight in **orange** any category that has between a 38% - 49% chance of occurring. This provides us with a stereotype of the type of households that live in the neighborhood thus the slogan "You are where you live".
- c. Identifying Treasure Island's Customer Base using the PRIZM classification system (10 points): Fill in the template "2c. Treasure Island(PRIZM)". The first cluster label has already been done for you in order to illustrate what I want you to do. If there is no information on a category, leave it blank.
- d. Identifying Treasure Island's Customer Base using the MICROVISION50 classification system (10 points): Fill in the template "2d. Treasure Is (MicroVision)". The first cluster label has already been done for you in order to illustrate what I want you to do. If there is no information on a category, leave it blank.
- e. Inferring the Target Customer Base for Fortunoff using Claritas Data (10 points): Repeat the process outlined in 2.b. above for Treasure Island's main competitor, Fortunoff using the template "2e. Fortunoff (Claritas)". Once again, the first location is already done to provide you with an example. Next calculate the relative frequency for the PRIZM categories and also the relative frequency for the MICROVISION50 groups. Please highlight in **yellow** any category that has a  $\geq 50\%$  probability of occurring and highlight in **orange** any category that has between a 38% - 49% chance of occurring.
- f. Identifying Fortunoff's Customer Base using the PRIZM classification system (10 points): Fill in the template "2f. Fortunoff (PRIZM)".
- g. Identifying Fortunoff's Customer Base using the MICROVISION50 classification system (10 points): Fill in the template "2g. Fortunoff (MicroVision50)". If there is no information on a category, leave it blank.

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<sup>4</sup>Claritas uses multivariate techniques such as cluster, factor, and discriminant analysis to group neighborhoods into clusters. This helps firms to better identify areas where they should locate once they have a good idea of who their customer is.

- h. Similarities in Customer Base between Treasure Island and Fortunoff (10 points): Using the template “2h. Customer Profile (Similar)”, fill in the blanks and then discuss what is the target market that both firms are trying to capture.
- i. Differences in Customer Base between Treasure Island and Fortunoff (10 points): While Fortunoff and Treasure Island appear to have similar customer base profiles, some differences do exist. Discuss what these differences are with respect to the PRIZM and MICROVISION50 groupings. Hint: This is where you would use the relative frequency calculations that you did earlier in question 2b. and question 2e.

3. Identifying Potential Neighborhoods for Treasure Island Stores (5 points): Make a copy of the “NJ Demographics by Zipcode” worksheet by right-clicking on your mouse (or alternatively clicking on the Edit option on your toolbar) and selecting the **Move or Copy** option, highlight **NJ Demographics by Zipcode**, click  **C**reate a copy and then click **O**K. As the first step in identifying potential neighborhoods to locate a new store, you will construct several new variables using the IF function in Excel. These variables are **HH\$75+**, **Dum\_Pop**, **Dum\_HHInc**, **Dum\_HH\$75+**, and **Dum\_Families**. Please refer to the Assumptions on the last page of this handout for the definitions of each of these variables. The IF function has three arguments: the condition you want to check, the value to return if the condition is true, and the value to return if the condition is false.

**=IF(logical\_test,value\_if\_true,value\_if\_false)**

An example of an IF statement in the context of constructing the HH\$75+ variable is **=IF(V7="ND",0,V7+W7)**

After you have finished constructing all of the variables, construct one more variable entitled **Potential Market**. This variable will indicate that if each of the 4 criteria that we are using is met then it is a potential market.

4. Determining if Potential Neighborhoods are in the Primary Trade Area of Existing Stores (5 points): This check is necessary to ensure that a new store will not cannibalize sales of an existing store. Stated differently, does Treasure Islands existing stores already serve any potential market areas that you have uncovered or should a new store be built?

- a. Bergen County: Are there any potential market areas/cities left in Bergen County for Treasure Island to take advantage of if we assume that the primary trade area of a store consists of a 7 mile radius around a zip code? In answering this question, please use the ZipCode Download website which provides a free ZipCode radius search (<http://www.zipcodedownload.com/lookup.aspx>).
- b. Monmouth County: Are there any potential market areas/cities left in Monmouth County for Treasure Island to take advantage of if we assume that the primary trade area of a store consists of a 7 mile radius around a zip code? Stated differently, does Treasure Islands existing stores in Monmouth County already serve any potential market areas that you have uncovered or should a new store be built?

5. Maximum Sales per Year for Luxury Garden Products of a Potential Trade Area (10 points):

- a. Somerset County: For each potential neighborhood that you have identified in Somerset County, first construct the primary trade area (7 mile zip code radius). Next, for each of the zip codes associated with your primary trade area, calculate the maximum sales per year for luxury garden products. (Hint: see Assumptions at the end of this case). Finally, calculate the total number of households that your potential trade area has, the total number of households having incomes of at least \$75,000 and the total sales for luxury garden products. Please note that this will understate Treasure Islands' total sales for an area since they also sell arts & crafts and holiday decorations as well.
- b. Monmouth County: For each potential neighborhood that you have identified in Monmouth County, first construct the primary trade area (7 mile zip code radius). Next, for each of the zip codes associated with your primary trade area, calculate the maximum sales per year for luxury garden products. (Hint: see Assumptions at the end of this case). Finally, calculate the total number of households that your potential trade area has, the total number of households having incomes of at least \$75,000 and the total sales for luxury garden products.

6. Profiling the Customer Base for Your Potential Trade Areas using Claritas Data (10 points):

For each of the trade areas in question 5, fill in PRIZM and MICROVISION50 characteristics associated with each neighborhood in your respective trade areas. Next calculate the relative frequency for the PRIZM categories and also the relative frequency for the MICROVISION50 groups. Please highlight in **yellow** any category that has a  $\geq 50\%$  probability of occurring and highlight in **orange** any category that has between a 38% - 49% chance of occurring. Is the Claritas profile for each of your potential market areas similar to the profile of Treasure Island's existing market areas? Discuss the similarities and differences. Which potential market area would you recommend as the best and why?

## Assumptions

Item	Assumption
Dummy variable for Population (Dum_Pop)	If Population of a neighborhood as defined by zipcode(s) > 24735 then Dum_Pop =1, else Dum_Pop = 0. We use this variable as one criteria in looking for an “attractive” location. We chose 24735 because it is consistent with the zip code statistics for Treasure Islands existing stores.
Dummy variable for Household Income (Dum_HHInc)	If Household Income of a neighborhood >75000 then Dum_HHInc = 1, else Dum_HHInc = 0. We use this variable as one criteria in looking for an “attractive” location. We chose \$75,000 based on what Danziger, president of Unity Marketing’s survey found.
Dummy variable for households whose earning power represents Treasure Island’s primary customer base (Dum_HH\$75+)	If the percent of households earning at least \$75,000 in a zip code > 30 then Dum_HH\$75+ = 1, else Dum_HH\$75+ = 0. We use this variable as one criteria in looking for an “attractive” location. We chose 30 because it is consistent with the zip code statistics for Treasure Islands existing stores.
Dummy variable for neighborhoods where families are in the majority (Dum_Families)	If the percent of families residing in a zip code > .65 then Dum_Families = 1, else Dum_Families = 0. We use this variable as one criteria in looking for an “attractive” location. We chose .65 based on what Danziger, president of Unity Marketing’s survey found.
Potential Market	If the sum of the preceding 4 dummy variables is equal to 4 then “Yes”, it is a potential market to consider otherwise “No”. We are simply saying that if each of the 4 criteria that we are using is met then it is a potential market.
Primary Trade Area	Seven (7) mile radius around the zip code location of a store. To find the 7 mile radius, please use the ZipCode Download website which has a free ZipCode radius search ( <a href="http://www.zipcodedownload.com/lookup.aspx">http://www.zipcodedownload.com/lookup.aspx</a> )
Number of Households (NumHH)	Population of a neighborhood ÷ Size of Household. Please round to nearest whole number.
Percentage of Households having an income of at least \$75,000 or more (HH\$75+)	Percentage of households having incomes of \$75,000 - \$125,000 (HH\$75-125) + Percentage of households having incomes in excess of \$125,000 (HH>\$125).
Number of Households having an income of at least \$75,000 or more (NumHH_HH\$75+)	NumHH * HH\$75+
Sales per year	Assume that 45% of Households earning \$75,000 or more will purchase garden accessories totalling \$1,000 per year on average. This is based on the the industry profile ( <a href="http://www.refresher.com/!umi2.html">http://www.refresher.com/!umi2.html</a> )
ND	Not Developed; These areas are unpopulated and include developed acreage such as parks, cemeteries, golf courses, or undeveloped land. There is no demographic, socioeconomic, residential, or buying habit information available for this market.