

Content

The **Dimensions** databases, both demographic and business, are intended for use in statistical models and for neighborhood description.

Both **Demographic Dimensions** and **Business Dimensions** are modeling databases at the block group and higher levels of geography that is useful in creating statistical models, site signature reports, and general executive summary information. Unlike discrete neighborhood classification systems (e.g. Mosaic), these databases provide continuous measurement scores across the dominant demographic and business components that differentiate neighborhoods.

Both databases are based on the well-known data reduction tool of Principal Components Analysis, in which the common patterns found within a large number of variables are reduced to a core set of discriminating factors.

Each Dimensions database is normally provided as a set of continuous variables which are minimally auto correlated and have a mean of zero and unit variance. For graphic site signature charts, a consistent scale of 0 – 1000 is available.

Factors are useful in a broad spectrum of applications, including:

Direct Marketing

Demographic Dimensions, when used in conjunction with MOSAIC and other targeting tools, can yield significant improvements in direct marketing results. By fine-tuning a MOSAIC profile, sub-groups of MOSAIC segments can be targeted effectively.

Model Development

Dimensions are minimally correlated and are therefore very suitable for use in the construction of sales performance and site location models. Statistical models developed using factors tend to be less prone to prediction error as a result of multi-collinearity. Note that while it is possible to utilize both Dimensions databases within a single model, the Demographic Dimensions and Business Dimensions variables are not statistically uncorrelated.

Neighborhood Description

Factors can be used to effectively describe the dominant characteristics of neighborhoods for use in demographic reporting systems. Site “signatures” are easily defined and analyzed, since each of these factors is independent and reflect the dominant neighborhood differentiators. SnapSite includes a site signature model as one of its core analytical tools.

Methodology

Demographic Dimensions was completely rebuilt in the 2013A release and now contains 26 dimensions, based fully upon 2010 Census and ACS data. Several hundred input variables were used in the analysis, which are summarized below by type of variable and source year. Note that in many cases, both average (or median) and distribution data were used (e.g. median age, % population age < 18, etc.).

Geographic Characteristics

- Metropolitan status (e.g. metro, non-metropolitan area)
- Population density

Housing Characteristics

- Units in structure (e.g. single family detached, apts 20+)
- Dwelling age
- Tenure
- Vacant dwellings by reason (e.g. seasonally vacant)
- Boarded up status (boarded up / not boarded up)
- Owner occupied dwellings by value
- Households by rent
- Dwellings by number of rooms
- Dwellings by heating type
- Dwellings by water service and sewage service

Household Characteristics

- By type (family, non-family)
- By size of household
- By structure (e.g. married couple w children)
- By age of householder

Population Characteristics

- Recent and historical growth (1970-2010)
- Projected growth (2010-2015)
- Age
- Sex
- Race
- Hispanic origin
- Detailed Hispanic Origin (e.g. Mexico, Puerto Rico)
- Marital status
- Highest level of education
- Language spoken at home (% Spanish, % Asian)
- School enrolment (public versus private)
- Number of vehicles available

Labor Force

- Employment status (e.g. employed, unemployed)
- Industry
- Occupation
- Employment of women with children
- Travel time to work
- Means of transportation to work
- Unemployment rate

Income

- Sources of income (e.g. social security, wage and salary)
- Households by income
- Households by net worth
- Households by income growth (2000-2010)
- Households by income by age of householder

The SPSS principal components analysis module was used, with varimax rotation in order to maximize variable loading on each factor. Correlation between factors is minimal but non-zero in the resulting solution.

Demographic Dimensions Variables

- | | |
|----|--------------------------------|
| 01 | Affluence and Education |
| 02 | Family Status |
| 03 | Age |
| 04 | Hispanic American |
| 05 | Middle Class Housing |
| 06 | White and Black |
| 07 | Asian American |
| 08 | Government Workers |
| 09 | Mobile Homes and Older Housing |
| 10 | College Students |
| 11 | Expensive Housing |
| 12 | Seasonal Housing |
| 13 | New and Growth Areas |
| 14 | Self Employed and Work At Home |
| 15 | Urban Commuters |
| 16 | Correctional Facilities |
| 17 | Low Income Renters |
| 18 | Retail Workers |
| 19 | Health Care Workers |
| 20 | Living Rent Free |
| 21 | Miners |

- 22 Native Americans
- 23 Farm Workers
- 24 Firefighters
- 25 Armed Forces
- 26 Juvenile Homes

Business Dimensions was built using the BusinessCounts database, with the source data from InfoBase. The entire dataset was utilized by computing employment and establishment density, average size and percent of employment by detailed NAICS codes, and land use classification.

Business Dimensions Variables

- 01 Healthcare
- 02 Education
- 03 Light Manufacturing
- 04 Professional Services
- 05 Large Establishments
- 06 Police and Protective Services
- 07 Restaurants
- 08 Maintenance and Repair
- 09 Retail
- 10 Government Employment
- 11 Small Firms
- 12 Agriculture
- 13 Construction
- 14 Utilities
- 15 Wholesale
- 16 Fire Protection
- 17 Mining
- 18 Business Management
- 19 Hotels and Tourism
- 20 Warehouses and Transportation
- 21 Outdoor Recreation and Sports
- 22 General Commercial
- 23 Other and Unclassified
- 24 Heavy Manufacturing
- 25 Libraries
- 26 General Industrial
- 27 Central Business District
- 28 Equipment Rentals