

Understanding IT Market Characteristics:

Market Identification and Segmentation Techniques for
Today's Informed Marketing and Sales Professional

Prepared by:



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One of the most important elements of any marketing or sales program is determining who we spend our time contacting, *time* is the key word. Time is the most finite resource available, and the number of possible contacts we can make far exceeds the time we have. Therefore, a strategic approach to demographic market segmentation is the most effective way to see that sales and marketing time is made as productive as possible.

Effective market segmentation requires knowledge of how to segment data and an understanding of how to properly interpret the data that exists. Unfortunately, there are many list and data providers who do not have the adequate depth of demographic understanding for a technical sales environment. *Caveat emptor*. You must understand the dynamics and idiosyncrasies of IT industry demographics, or pay the price by chasing unproductive leads.

You Have to Be Your Own Expert

Failure is not an option when designing a marketing campaign or developing a marketing strategy. Although every variable (media, message, offer, design, response method, action call, etc.) is important to success, the most critical is the *audience*. Who is the target audience? Without an accurately targeted audience failure is inevitable, even when all other variables are carefully crafted to perfection.

Target audience identification is a challenge because the only demographic market segmentation expert you can be sure of is yourself. Outside experts are available, but every time you purchase a prospect list the possibility that you will be working with someone with expertise in your specific industry (with detailed knowledge of the market segments you target) is highly unlikely.

To this end, you must know what you want to buy before you call. If you find a skilled and competent sales representative at your source for prospect data, that's great. But you have to assume these people don't exist, and you'll need your new market segmentation expertise and marketplace intuition to guide the

process of purchasing data or campaign services. To do this it is imperative to develop an intuition that will let you know that the information and quotes you are receiving make sense for you and your organization. You can't afford it any other way, and your organization can't afford it any other way.

Most marketers buy print materials (such as brochures) from printing companies, and we expect them to know how to produce a quality product. Our comfort level is easily satisfied when we receive the product and we can personally evaluate the quality by sight and touch. Plus, we generally do not have to pay until we are satisfied that the quality matches our expectations. However, this scenario is not true with marketing data. Occasionally you may evaluate a list that looks like garbage but turns out to be quite valuable. On the other hand, you might purchase a list that looks like the right data but is completely worthless. You will not know for sure until you have the opportunity to use it, and by that time you've already paid the vendor for the product.

Marketing Campaigns vs. Lists

For *internal* marketing campaigns a list or database is typically purchased to support a telemarketing, email, direct mail, or integrated campaign.

External marketing campaigns purchase lead generation services from a third-party like an email campaign, white paper or webinar promotion using email or community based contacts.

The majority of information in this report applies to either type of purchase, not just the purchase of lists or databases for internal use. When a third-party is engaged to execute a campaign on your behalf it requires the same due-diligence to direct your provider to a successful campaign.

Understanding Demographics for the Information Technology Industry

Now that you are thoroughly convinced about the importance of being your own expert, the rest of this report will cover the fundamentals to get you started. Here is what you will learn:

- *Types of data to use* - the different types of demographic data to segment your list.
- *Rules of thumb* - describes some standards and statistics to help you interpret demographic data.
- *Accuracy* - the kind of accuracy and guarantees you should expect and current industry standards.
- *Cost* – do not let cost be your guide, success is the more important factor.

Types of Demographic Data

Following is a list of the common types of demographic characteristics that may be available to you. Not all data sources may offer each type, and some data sources will certainly offer other types of demographic characteristics not mentioned here. This section discusses the types of data, but the secrets of how to use them most effectively are found in the next section, "Rules of Thumb."

Geographic

Geographic regions can be selected by using zip codes; telephone area codes; state, county, city names; or a combination of these. Zip codes are most commonly used with area codes being used occasionally. Zip code definitions can be found at a variety of web sites including some that will allow you to define a radius in miles from an epicenter zip code.

Size

The most common size characteristics are company gross revenue and the number of company employees. There are also other size characteristics particular to each industry (such as amount of assets, number of students or taxpayers, kilowatts produced, etc.) that are helpful if you are a vertical or horizontal marketer, but these are not usually helpful for selling general business products or computer-related products or services. For the computer industry, in particular, size can be measured in terms of the number

of information technology (IT) employees, the number of desktop systems or IT users deployed throughout the organization, the types of systems or servers installed, or IT budget.

Industry Sector

Selecting data by industry sector is one of the most basic demographic segmentation methods. Most common is the Standard Industrial Classification (SIC) code. The SIC code system allows you to specify basic industry sector groups then subsets within that group. For example, you might specify industry group 34 (Manufacturers of Fabricated Metal Products) and within that group only the classification 3452 (Manufacturers of Bolts, Nuts, Screws, Rivets, and Washers). To take it one step further you might specify 3452-04 (Screw Manufacturers).

The SIC code system is being replaced by a newer system of codes called the North American Industry Classification System (NAICS). At this time, NAICS is being utilized mostly by government agencies. The system has been developed to accommodate greater levels of detail that are necessary to properly identify organizations that did not exist when SIC codes were developed. In time NAICS may become the standard, but for now SIC codes are still the standard for many data providers.

Some list and data vendors use a more generalized or specialized industry classification system. Some lists, for example, are selected by Yellow Pages headings. *Fortune* magazine has used a specialized system for the Fortune 1000 for years. A very basic industry classification scheme might classify organizations into groups such as:

- Manufacturing
- Services
- Banking
- Diversified Finance
- Insurance
- Retail
- Transportation
- Utilities
- Education
- Health
- Federal Government
- State Government
- Local Government
- Other/Non-profits

If the product or service you are selling is highly specialized it is often advantageous to select a handful of specific vertical markets. In most cases using a generalized approach like the list above will be adequate. When using a system like SIC codes there is a danger of getting too detailed, which can lead to overlooking valid and important sales prospects.

Technology Use and Propensity

In many cases the types of technology being used can be helpful. If you are looking for a particular type of computer equipment or software user (such as IBM, Hewlett-Packard, Cisco, or Oracle users) it is beneficial if the market research organization is keeping track of that type of technology. In many situations, however, a certain technology is obscure or not tracked and technology propensity may be the only option.

More simply, technology propensity is identifying existing and available demographic characteristics in a group of data to identify a segment with the highest likelihood of using a particular type of technology. If you are looking for organizations with a need for Cisco router configuration training and you can not find a list of Cisco router users, you may be able to identify some typical customer characteristics that can be used as a proxy. For example, by examining existing customers you might be able to determine that 80 percent are IBM mainframe machine users, and furthermore, each has a client/user base of over 1,500. These are solid and easily available demographics that can be employed to create a more targeted and effective campaign.

In a 2007 ACR study¹, 98.8% of IT user organizations reported using MS Server for production workloads. In addition, The 2008 Data Center Purchasing Survey, published by TechTarget (www.techtarget.com) found that 91% of respondents were using MS Server. Based on this evidence, the market penetration for MS Server is so high that there is no need to seek a data source tracking the technology, so the emphasis can be placed on other demographic characteristics.

ACR's 2007 study¹ also found that 85% of organizations use SQL Server. For SQL Server 85% market penetration would be considered adequate for most marketers to not worry about finding a data source that specifically identifies that technology. Perhaps the bigger issue is how well various data sources capture that technical piece of data. If there are 10,000 users of a particular technology and a data source only has 5,000 of them, at 85% market penetration it may be more productive to focus on more important demographic characteristics as opposed to the technology.

In the same 2007¹ ACR study 56% of organizations reported using Oracle for production applications. However, a deeper look at the data reveals that 85% of IT organizations with 60+ IT employees are using Oracle, a more acceptable level of market penetration to stomach.

In some cases the use of a particular technology can be used as an indicator of organization size or technology use. For example, the average number of IT employees at an IBM mainframe shop is 115 and the average number of desktop systems supported is 2,200. In addition, 75% of mainframe shops are supporting 500+ deployed PC and 80% have 20+ IT employees. If the primary target demographic is 500+ PCs, adding in mainframe shops may capture valuable prospects that may otherwise have been missed.

Contact Type and Level

Should you purchase one name or 25 names per company? Do not be impressed by numbers alone. The contact you purchase is an absolutely critical element. In all honesty, it is highly unlikely that you will find a list of "buyers" or "decision makers" that are a dead on match. Your best bet is to find the closest overall match to your target audience and develop a campaign strategy with messaging that encourages pass along readership.

The key is to target contact type and their level in the organization. In most cases contacts should be a management level contact in the IT department. If you specify the decision-maker for computer products, for example, you might receive a list of controllers, financial managers, or office supply buyers. You must be sure you are receiving IT department contacts exclusively, if that is the target. In addition, it is important to specify the "functional responsibility" or equivalent. Do you want the highest ranking IT executive, the manager of data center, operations, or infrastructure? There can be multiple functional areas and many organizational levels within each area.

The most specialized contact lists are commonly owned by associations or user groups and typically do not sell their lists as a matter of privacy for their members. Unfortunately, there is not enough market demand for a list compiler or market research firm to develop and maintain a list of very specialized contacts, unless

you are willing to pay someone to develop the list exclusively for you. This is an expensive proposition but in many cases it can be exactly what you are looking for.

What may seem like the most common names to acquire may be the worst to find. A common request in the computer industry is for security administrators. A complete list, or anything near it, does not exist. In most organizations security is a technical function and lists of technical contacts are very hard to come by. The market demand is not sufficient to convince a compiler or market researcher to create and maintain such a list. Plus, the turnover rate is often so high for these individuals that it is almost impossible to maintain the list with an acceptable level of accuracy.

Other Types of Data

There is a variety of additional demographic selection criteria that may be available, but they are not discussed in detail here because they are seldom used for selecting data for business-to-business IT-related products. Some examples include; date company established/years in business, headquarters vs. branch locations, single-site organizations, legal status (corporation, partnership, or sole proprietorship), public vs. private, importer/exporter, annual growth rate, etc.

Rules of Thumb

The first three rules of thumb focus on the decisions you make on how to go about demographic segmentation. The following sections point out decision considerations for specific data types.

Selectability

The ability to create a demographic selection criteria based on your specifications is the most basic requirement—can I select what I need? It is important to keep in mind that if you request a particular data type or demographic selection, the answer may be *no*. If you can be assertive without being rude you will often find that the answer is actually *yes*, and your sales representative is unaware of it. For example: A well known data compiler tracks parent/child relationship data. A request for company HQ sites that have 20 or more locations was denied as being unavailable. When the existence of the parent/child relationship data was pointed out, a supervisor eventually conceded that it could be done.

Just as important, is your understanding of both rate-of-data-fill and standardization of data representation.

Rate-of-data-fill is whether or not the data provider has completely collected a data point for all records on a file. For example, if you are looking for IT organizations with 250+ deployed PCs and the data provider only knows the PC count for 80% of the records, you will be skipping 20% of the market because the PC information is missing for 20% of the records. The use of additional proxy demographic characteristics may be an option where the rate-of-fill is unacceptable. In this case, 250+ PCs is statistically equivalent to IT departments with 10+ IT employees. Utilizing additional proxy demographics will help you achieve the most complete market coverage.

Standardization of data representation is important where your target market has the potential to be misidentified. For example, if you are looking for ERP (enterprise resource planning) sites in particular, many organizations will say they are using ERP just because they have purchased or developed an MRP (material requirements planning) application. If your business is integrating additional modules of SAP or Peoplesoft a general ERP list may not cut it. UNIX is another good example. Most organizations have some UNIX even if it is just a few software developers using Sun workstations. It is another story and a much smaller market if you are looking for UNIX servers running production workloads that need security software.

Inclusive vs. Exclusive Demographics

At face value, to *include* some contacts is to effectively *exclude* the other contacts. The subject of inclusive vs. exclusive is not about a technique to do both but rather a way of thinking how to segment data to achieve the most targeted list with the most complete market coverage. Instead of approaching a market identification project from the perspective of “who should we include”, it should be approached using a combination of “who should we definitely include” as well as “who should we definitely exclude”.

A company selling PC management software, such as single-sign-on or patch management, may be targeting sites with 500+ PCs. Assuming an 80% rate of data fill, we would target sites with 500+ deployed PCs or sites with 20+ IT employees, and perhaps include all mainframe sites as well.

As we consider all the types of organizations that would make up that group there may be some portions that stand out as potentially less productive. From the sites we have initially included in our target market we might decide to exclude:

The Fortune 1000 (based on the notion they are tougher to sell to or typically have a solution in place).

Federal government organizations for lack of a GSA contract.

Sites in Alaska, Hawaii, and Puerto Rico because our relationships often require travel.

Existing customers or nurturing relationships.

Proxy Data

Using a data selection proxy is adding additional demographic selection characteristics for a demographic that is not available or to achieve ever greater depths of market coverage. When segmenting market data we typically start with a primary target demographic characteristic, like \$500 million in revenue. If revenue numbers are only available for 50% of the records, adding an additional proxy for revenue will increase market coverage. A proxy will have an identifiable relationship to the primary target demographic. Examples are given in some of the additional rules of thumb below.

Geographic

Zip codes, area codes, states, counties, metropolitan city area, or city name proper are the basics for geographic segmentation.

- *States* - you do not get more basic than specifying state names. Selecting by certain states is a finite and well-defined geographic segmentation approach. It is safe, but it is not the only sure thing as long as you understand the benefits and shortcomings of other geographic segmentation options.
- *Zip code* - zip code is the most common and a reliable geographic segmentation method. In most cases the first three digits of the zip code, called the Sectional Center Facility (SCF), are the only part necessary to select the proper area.

Zip codes can be complicated within a given area and using all five digits of the zip code to specify a geographic area will tend to skip some areas and organizations. When using zip code radius identification services a list of five-digit zip codes are usually suggested. In some cases it may be more prudent to use a five-digit list as a reference for developing a three-digit SCF criteria that will be more complete.

There are circumstances where a five-digit zip code specification is the best solution. If what you are targeting is that specialized, like a local computer maintenance company that wants to concentrate in a downtown area, then a five-digit zip code approach is the best option available.

- *Area codes* - area codes are another common selection criteria, but they have a higher inherent risk than zip codes of skipping areas. Since the area code expansion program there are now multiple splits in focused geographic areas so they should be used with caution. The physical coverage of multiple area codes often looks like a jigsaw puzzle.
- *County, metro city, or city name proper* - these should be reserved for very specialized cases where your confidence level is exceptionally high that this limitation will result in including only the proper organizations. The inherent risk with these geographic qualifiers is that they may exclude close and viable target markets. In addition, if you specify a metropolitan area, like New York City, you must know about the metro area or spend time investigating it. Metropolitan New York City can also include Westchester County, Stamford, CT, as well as Jersey City and Newark, NJ. Metro Chicago would typically include Gary, IN. The only way you are going to know this is through your own investigation of the area you are trying to target. Get out a map!

Five-digit zip codes, area codes, and geographic area names should only be used for the occasional specialized cases. If you can, stick with three-digit zip codes for complete coverage.

Size

The key to size, at least for marketing computer-related products, is not so much organization size but rather the size of the IT organization or the end-user population. Each industry sector has a relatively consistent rate of automation based on the needs of that industry. At the low end are organizations with an average IT investment of about two percent of gross revenue. This includes the majority of organizations in the market with a high percentage in manufacturing. At the high end are the financial service industries, with an average IT investment of about eight percent of gross revenue.

Table 1: Percent of Gross Revenue Devoted to IT Budget by Industry

Industry	% of Revenue
Banking/Finance	8
Education	NA
Government	NA
Healthcare	4
Insurance	3
Manufacturing	2-5
Retail	2
Services	1-4.3
Telecom	5
Transportation	2
Utilities	2

Source: Adapted from the InformationWeek 500³

In terms of IT dollars, a manufacturing organization that grosses \$1 billion per year, on average, will invest \$20 million into their IT function. A financial services firm with a comparable \$1 billion annual gross revenue, on average, will invest \$80 million into their IT function. Financial services firms invest four times more into IT than manufacturing organizations. In other words, \$1 billion in gross revenue does not differentiate between these two extremes and illustrates that revenue is generally a poor indicator of information technology size.

Organization size can be useful in cases where IT size data is not available or is incomplete. For example, you may find a highly desirable database that only has an 80 percent rate of data fill for the IT organization size. Using the size rules of thumb, you may find that organizations with a certain minimum level of gross revenue will meet your minimum IT organization size criteria. This may sound contradictory to the premise that gross revenue is a poor indicator, but when used as a minimum target based on rules of thumb it can be a highly effective way of assuring comprehensive market coverage.

The fact of the matter is most marketers use organization revenue or headcount as their guide when specifying size. It is the way most have been educated and historically how market segmentation has been done. However, by incorporating some intelligence on how revenue and headcount relate to IT adoption and deployment will allow for more accurate and productive market segmentation.

Table 2 shows the ratio of PCs to total employees. This ratio can be applied to the total number of company employees to estimate the number of PCs in use.

Table 2: Ratio of Deployed PCs to Total Employees

Data is read as 1 PC per nn employees

Industry	Ratio	N=
Banking	1:1.49	322
Education	1:0.79	2013
Financial svcs	1:1.52	526
Government	1:1.48	2267
Healthcare	1:2.05	2048
Insurance	1:1.55	687
Manufacturing	1:2.59	8279
Not for Profit	1:1.99	449
Retail	1:5.20	2027
Services	1:2.28	3592
Transportation	1:3.72	568
Utilities	1:2.04	497

Source: Applied Computer Research, Inc.¹

Table 3 shows the ratio of IT employees to PCs. This ratio can be applied to either total PCs or to IT employees to calculate the other characteristic.

Table 3: Ratio of IT Employees to Deployed PCs

Data is read as 1 IT employee per nn PCs

Industry	Ratio	N=
Banking	1:20.72	323
Education	1:48.11	2084
Financial svcs	1:16.48	558
Government	1:25.52	2475
Healthcare	1:34.18	1982
Insurance	1:11.30	697
Manufacturing	1:27.74	8216
Not for Profit	1:21.85	470
Retail	1:23.96	1914
Services	1:24.88	3520
Transportation	1:22.93	563
Utilities	1:16.65	507

Source: Applied Computer Research, Inc.¹

In addition to understanding IT investment and adoption characteristics by industry, there are two additional measures that are easy to use and relatively clear to interpret: Gross revenue per company employee and the amount of IT budget dollars per IT employee. Both are averages based on statistics collected in industry studies and provide a way to equate easily accessible demographics to more complex and less available demographics.

Organizational Gross Revenue per Organization Employee - The average organization/company gross revenue per employee (GRE is the acronym used later) is about \$400,000 (rounded). This is the total gross income, per year, divided by the total number of employees (data based on the Fortune 500 from *Fortune Magazine*, May 4, 2009). This data is helpful for understanding the relationship between revenue and number of employees. Given a primary target demographic characteristic of \$500 million in revenue the average number of employees would be 1250 ($\$500 \text{ million} / \$400,000 = 1250$). From the number of identified employees then the number of PCs can also be identified. Caution: The variation in revenue per employee ranges from roughly \$50,000 to \$1 million depending on the vertical market. This may need to be addressed depending on the exact nature of a project.

Table 4 includes a handful of examples of gross revenue per employee. A detailed list is available at www.itmarketintelligence.com/mo-reports.htm/ACR-IT-Statistics.pdf.

Table 4: Revenue per Employee

Note: This table shows some example industries and is not a complete list.

Industry Classification	Average Revenue per Employee for 2008 (Fortune Mag. 5/14/09 issue)	Number of Companies in Sample for 2008	Sample of Companies in this Category
Aerospace & Defense	297271	12	Northrop Grumman, Honeywell, Boeing
Airlines	321676	6	Delta, Southwest, Continental
Commercial Banks	436783	20	CitiGroup, Wells Fargo, U.S. Bancorp
Computer Peripherals	248991	2	EMC, Western Digital
Computer Software	460107	3	Microsoft, Oracle, Symantec
Diversified Financials	610109	8	GE, Fannie Mae, AON, Ameriprise
Energy	1413650	11	Constellation, Calpine, American Electric
Engineering & Construction	277074	10	Fluor, EMCOR, Jacobs Engineering
Entertainment	424839	6	Time Warner, Disney, Viacom, CBS
Financial Data Svcs	450370	7	First Data, Visa, Fiserv, Sungard Data Sys
Food Consumer Products	334717	13	Sara Lee, Conagra, Dole, Hershey, Kellogg
Food Services	54769	4	McDonald's, Starbucks
Food & Drug Stores	272689	10	Kroger, Albertson's, Rite Aid, GNC
General Merchandisers	181270	10	Wal-Mart, Target, Sears, Kohl's
Health Care: Ins & Managed Care	1064619	9	UnitedHealth Grp, Aetna, Wellpoint, Cigna
Health Care: Medical Facilities	166497	5	HCA, Tenet Healthcare, Davita
Hotels, Casinos, Resorts	85095	4	Marriott Intl, Harrah's, MGM
Household & Personal Products	458598	6	Procter & Gamble, Kimberly-Clark, Avon
Information Technology Svcs	225823	5	IBM, Computer Sciences, Unisys
Insurance: Life & Health (Stock)	936015	7	MetLife, AFLAC, Prudential Fin, Unum Grp
Internet Svcs & Retailing	719796	5	Google, Amazon, Ebay
Mail, Package & Freight Delivery	131500	2	United Parcel Service, FedEx
Pharmaceuticals	514796	11	Pfizer, Johnson & Johnson, Merck, Amgen
Pipelines	3387914	11	Plains All Amer, Targa Resources, El Paso
Securities	472483	6	Merrill Lynch, Franklin Resources, Blackrock
Specialty Retailers	250341	26	Home Depot, Costco, Gap, Foot Locker
Telecommunications	438500	13	Verizon, AT&T, Qwest, DirectTV
Transportation & Logistics	408328	3	CH Robinson, Con-Way
Trucking, Truck Leasing	182457	2	YRC Worldwide, Ryder System
Utilities: Gas & Electric	896845	24	Exelon, FirstEnergy, Southern, Nisource
Wholesalers: Food & Grocery	1160613	3	Sysco, Nash Finch
Wholesalers: Health Care	2551869	5	McKesson, Henry Schein, Cardinal Health
Miscellaneous	281617	5	3m, Waste Mgmt, Mohawk Ind, Mattel
Total Average	\$417310		

Table 4. Average Organization Gross Revenue Per Organization Employee^{1,4}

IT Budget Dollars per IT Employee - The average amount of IT budget per IT employee (ITBITE) is \$220,000 (rounded). This is the total amount of IT budget divided by the total number of IT employees. This statistic is not as vulnerable to the idiosyncrasies of individual industry sectors, as it is a direct measure of the number of staff dedicated to IT activities. As a general rule, it requires the same amount of IT personnel effort to implement \$10 million worth of information technology in the manufacturing sector as it does to implement \$10 million worth of information technology in the financial services sector. This means that

whether you are in the manufacturing industry or the financial services industry it is typically going to require the same amount of investment (good/poor management notwithstanding) to implement a software solution, deploy desktop virtualization, or move to a new data center.

Size demographics are probably the most complicated in terms of applying rules of thumb. Here is an attempt to summarize how size demographics can be applied. Below are five common size demographics generally accepted and used to segment databases for IT marketing:

- Gross revenue of the organization (GR)
- Number of employees in the organization (CE)
- IT budget (ITB)
- Number of IT employees (ITE)
- Number of PCs deployed (PC)

Rules of thumb can be applied to these common demographics to correlate one demographic to another:

- Average organizational gross revenue per organization employee (GRE)
- Average IT budget dollars per IT employee (ITBITE)
- Average percent gross revenue invested into IT activities (PCTREV)
- Ratio of PCs deployed to total organization employees (PC RATIO)

Typically a marketer will have a particular target number for a particular demographic characteristic in mind. For example, all companies with gross revenue of \$1 billion or more. By applying rules of thumb the given target number can be correlated to any of the other demographics a marketer might want to use. This can be invaluable for establishing either inclusive or exclusive demographics that will more accurately target the market and assure the most complete market coverage.

Some examples of how these statistics might be used include:

1. Estimate the number of potential employees where the gross revenue is a given. If we are looking for organizations that have \$1 billion in gross revenue we can estimate the number of employees by dividing the target \$1 billion by the average of \$400,000 revenue per employee and arriving a little over 2,500 employees.
2. Find the number of IT employees for manufacturing companies with \$500 million or more in revenue. To find this number we first calculate the IT budget by multiplying \$500 million by 2%, the average IT investment for manufacturing, which equals a \$10 million IT budget. This result is then divided by \$220,000, the average IT budget per IT employee, which equals 45 IT employees.
3. Using the result from example number two, 45 IT employees at a \$500 million manufacturing company, we can also calculate the number of PCs. The average number of PCs per IT employee for manufacturing in Table x is 27.7. The number of PCs is then 45 IT employees times 27.7 average PCs or 1247 PCs.

What quickly becomes clear is the level of complexity that is possible. Since the percent of revenue invested in IT varies by industry and the number of PCs varies by industry, to incorporate all those variables into a single segmentation exercise would require a relatively complex model. Most market identification

and segmentation exercises do not require that level of detail but some level of detail will assist in setting upper or lower limits on size characteristics of interest.

The table on the following page shows the formulas used to correlate a given or target demographic to the other available demographics.

Continued on next page...

Table 5. Demographic Conversion Formulas

Legend:

GR Gross revenue of the organization
 CE.....Number of employees in the organization
 ITBIT Budget
 ITENumber of IT employees
 PC.....Number of PCs deployed
 GRE ... Average organizational gross revenue per organization employee (\$400,000 is the average)

ITBITE.....Average IT budget dollars per IT employee (\$220,000 is the average)
 PCTREV.....Average percent gross revenue invested into IT activities (2 percent suggested, use .02 to calculate)
 Apply PC RATIO The ratio of PCs to total company employees, previously described (1:n), or 1 PC to n total company employees

	I want to know... GROSS REVENUE	I want to know... COMPANY EMPLOYEES	I want to know... IT EMPLOYEES	I want to know... IT BUDGET	I want to know... NUMBER OF PCs
I know... GROSS REVENUE (GR)	N/A	$\frac{GR}{GRE}$	$\frac{GR * PCTREV}{ITBITE}$	GR * PCTREV	$\frac{GR}{GRE}$ Then apply PC RATIO
I know... COMPANY EMPLOYEES (CE)	CE * GRE	N/A	$\frac{(CE * GRE) * PCTREV}{ITBITE}$	(CE * GRE) * PCTREV	Apply PC RATIO to CE
I know... IT EMPLOYEES (ITE)	$\frac{ITE * ITBITE}{PCTREV}$	$\frac{(ITE * ITBITE)/PCTREV}{GRE}$	N/A	ITE * ITBITE	$\frac{(ITE * ITBITE)/PCTREV}{GRE}$ Then apply PC ratio
I know... IT BUDGET (ITB)	$\frac{ITB}{PCTREV}$	$\frac{(ITB/PCTREV)}{GRE}$	$\frac{ITB}{ITBITE}$	N/A	$\frac{ITB/PCTREV}{GRE}$ Then apply PC ratio
I know... NUMBER OF PCs (PC)	(PC * PC RATIO) * GRE	PC * PC RATIO	$\frac{((PC * PC RATIO) * GRE) * PCTREV}{ITBITE}$	((PC * PC RATIO) * GRE) * PCTREV	N/A

One last note on size demographics: IT budget numbers collected from end users are highly suspect and consequently a poor demographic to use. Not that IT budget is a bad indicator of the level of technology adoption and/or deployment, but it is difficult to collect accurate IT budget information. Granted there are many organizations where the departmental budget is known and clear, but the more common situation is that market research interviewers ask what the IT budget is and receive a guess.

It makes sense that even the less informed IT employees would have a feel for the number of IT employees in the department where they work, or know roughly how many company employees their department supports and/or how many of them have PCs. These are non-complex organizational facts and it is not likely they will know the IT budget with an acceptable level of accuracy.

Industry Sector

Do not let the industry classification fool you. Many marketers eliminate specific industry sectors based on a personal perception that a particular type of business does not need a particular type of product or the sector is too difficult to work with. Commonly education, government, and non-profits are eliminated from demographic specifications. Sometimes this is done for good reason but more often because of a misunderstanding of the environment or potential misconception that they are poor.

Each of the aforementioned can have a very heavy volume of information technology activity and have a dense population of deployed PCs. Colleges and universities support large computing populations and often have a greater need for some types of products and services than do many typical businesses. Security, asset management, and patch management packages are a few examples.

The bottom line is that IT is used in most organizations to perform generally similar functions. American Greetings Corp., Sabre Group, Barnes and Noble, and Mutual of Omaha buy the same Unicenter TNG system management software from Computer Associates as does Brigham Young University, USAF Air Mobility Command, the City of Sarasota, the State of Alaska, and the Visiting Nurses Service of NY. These organizations are often shunned by marketers.

How you utilize industry sectors is largely dependent on what is available from the provider. Some offer generalized industry classifications, as discussed earlier, while others use SIC codes or a more detailed industry classification system. SIC codes or the more detailed industry classification systems can be exceptionally beneficial—or equally detrimental. The danger is over-specifying industry specifications thereby eliminating potentially highly productive industry segments. If, for example, you eliminate the services industry because you don't want pest-control or lawn mowing companies you will also eliminate the legal, accounting and engineering verticals.

What makes industry sector so important is that it may be the best wild card. Where organization size and geography are often well defined, industry sector provides a way to increase or decrease the scope of market coverage while allowing for greater levels of market targeting.

Technology Use and Propensity

Many marketers are focused on users of a particular technology like Oracle, MS Server, IBM mainframes, or CISCO. There are two options to target a specific technology market: Use a data source that tracks which organizations use the technology or use a proxy based on market research or some type of industry data.

When using a data source that tracks a specific technology it is important to be mindful that technology data points in any data source are rarely, if ever, complete. If a data source is tracking 100 companies and 50 of those companies are highlighted as using technology XYZ, does that mean the other 50 are *not* using XYZ? No, it typically means that it is unknown if those other 50 companies are using XYZ or not. This subject is particularly important for those with a limited or finite market.

The propensity to use a technology is using proxy demographic characteristics based on market research or industry data. For example, if we knew that 85% of all banking and financial organizations have CISCO network switches installed we could focus on banking and finance as a proxy for CISCO network switch users.

As another example, ACR market research data shows that over 90% of organizations with 30+ IT employees use raised floor in their data centers. If you sell raised floor, hot/cold aisle containment, or cable management, then 30+ IT employees is a good proxy to use when data about raised floor environments is not available.

Allied to this subject of technology use propensity is the subject of understanding manufacturer nomenclature as well as compatibility with other manufacturers. A classic example is the IBM mainframe market. Without an in-depth understanding of both nomenclature and compatibility many marketers might only specify that their need is limited to the IBM zSeries. A simple selection of zSeries machines will leave out a large portion of the mainframe market still using older machine models, yet these sites are still viable prospects for most mainframe related products. A complete selection of this type of machine would include zSeries along with the IBM ES/9000, ES/9021, IBM ES/9121, IBM ES/9221, IBM 20xx, IBM 70xx, IBM 9672 and IBM S/390 machines. In addition, there are still a reasonable number of compatible Amdahl/Fujitsu or Hitachi machines. This concept applies to all manufacturers and their nomenclature.

An additional example of understanding nomenclature and markets is the specification of operating systems like Unix. The important issue is whether Unix is being used to host production applications or is it being used on some specialized workstations for individual users. When data is collected on the use of Unix the question is typically, "Are you using ANY Unix?" This can be answered yes by any organization using Unix as a standardized operating system for all servers, or yes by any organization with a single Sun workstation at a developer's desk. If the target market is anybody that might have a single Unix workstation then it is not a problem. If the target market is Unix servers running multi-user workloads, now it is an issue. One way to overcome this lack of server versus workstation knowledge is to use manufacturer system model types to identify the market. Sun servers, H-P 9000, IBM pSeries and RS/6000, and Alpha servers are the most commonly identifiable Unix servers.

The fact is that the more technical the data point the less likely data sources will be able to capture the information completely. In this case it may be useful to consider technology use propensity to achieve more complete market coverage. The key is to identify the most common demographic characteristic that can be applied to the target market. You might find out, for example, that 80 percent of IBM mainframe shops are ABC Company router users, or 90 percent of Fortune 1000 organizations are XYZ Company network software users, etc. This type of knowledge can often lead you to appropriate proxy demographics that will help achieve a better targeted market or more complete market coverage.

Contact Type and Level

As the industry evolves so do the title and department names that organizations use to identify and describe their IT department employees. Some organizations have adopted more modern descriptive names, while others lag behind by decades. There are two main concepts to understand with regard to contact title and department names.

First, a contact's title refers to CIO, VP, director, manager or other titles that typically refer to a level in the organization. The problem with titles is they are assigned based on the discretion of the organization and not based on any standards. A VP in a medium sized organization might be the very top level, whereas a VP in a larger organization may actually be a relatively low level. As well, a director or manager in a medium size organization might be the top level, or possibly middle management reporting to the top IT executive. Targeting by level does make sense in cases where there is plenty of data to work with or the amount of data needed is relatively small.

Department refers to the functional responsibility of the employee. If a contact is a VP in the information technology department but their department name is actually Data Center Infrastructure; the most optimal way to represent that contact is by referring to them as VP of Data Center Infrastructure.

Second, some data sources attempt to establish an employee's functional responsibility by either classifying each contact by a set of functional responsibility categories or using the actual department name assigned to the employee. This approach will typically allow for targeting contacts within specific functional responsibility areas.

Another approach, which is typically used by controlled circulation or community building data sources, allows members to select their title/department from a predefined list. In this model there are often options like Director of IT or Director of IS. Titles like these may refer to the top IT executive. However, as mentioned earlier, Director of IT might refer to any Director in the IT department, so a Director of Data Center Infrastructure can be assigned the title of Director of IT referring to the department name as opposed to the functional responsibility. Director of Information Systems is still used in many organizations for the top IT executive but is also a common title for the individual responsible for software development.

This confusion can cause a marketer to select a job title group that has nothing to do with the product offering but sounds like a dead-on match. Marketers need to simply understand the origin of data and its relationship to the functional responsibility of a contact. Here are some additional examples and a review of title and department potential for confusion:

- *CIO* – The Chief Information Officer is still not universally applicable. The actual number of CIO's, as the specific job title, has increased dramatically over the years. Asking for the CIO, however, still gets a number of blank stares over the phone. Today, if you ask a data provider how many CIOs they have you might get an answer in the tens of thousands. This is a clue that what you are getting is the number of top-level IT management contacts and not contacts with an actual CIO title.
- *CTO* – Although occasionally Chief Technology Officer is a title used for the IT boss, more often this title refers to the responsibility over the technology a company actually develops, or the technology they might use in the manufacture or creation of their product, as opposed to the development and support of information technology.
- *Senior VP vs. VP vs. Director vs. Manager* - any of these titles may be applied to almost any management-level individual. In a large corporation a software development project manager can have a title of VP, whereas in another organization the highest ranking IT boss can simply have a title of Manager. In addition, government and education organizations can have titles not used by commercial companies. There are almost no VPs in government, they are more partial to titles like Chief or Director. In academia there are lots of Chancellors and Provosts. If you specify VP level you'll likely be skipping many valuable prospects in these verticals. The percentage of VP contacts for commercial businesses is 12.7%, VP contacts for education is 5.3%, and VP contacts for government is just .0037%.

- *IT vs. IS vs. MIS* - all of these terms still work and are still used. The problem is that they can be used to indicate the overall organization or an individual functional department within the information technology organization.
- *Systems Programming vs. Systems and Programming* – Admittedly this one is a bit dated but it is still a good example. “Systems Programming” has traditionally identified the department in a mainframe organization with responsibility for operating systems upgrades/maintenance, subsystem upgrades/maintenance, hardware and system software configuration management, performance management, and capacity planning. The “Systems Programming” department name has been mostly succeeded by the name “Technical Support.” “Systems and Programming” on the other hand has been traditionally used to identify the actual software development and programming department. Today, common names for this function include software development, development, programming, systems, information systems, business systems, etc.
- *Technical Support* – When most of us hear technical support we think of those people that answer questions and fix problems for the end-user community. After all, when we have a problem we call technical support. Some organizations use “technical support” to refer to end-user support but in most cases, where the function exists, it is “Help Desk” or “Client Support” or something similar.

In addition, it is important to understand who oversees a function if the organization is not large enough to establish and support an actual manager of that function. Network, storage, security, and electronic commerce development are all common examples. Communications and storage are most often a data center/operations responsibility. Electronic commerce development is usually a software development responsibility. Security, although most often a data center/operations responsibility, has an important role in many other functions like applications development or network management, so the best contacts will depend on the product and/or campaign focus.

The most definitive approach for selecting prospects is to identify them according to where they fit into the organization, which is their *functional responsibility*.

Accuracy of Data

Here’s the tricky thing about purchasing data for marketing and sales efforts: Data seems expensive, but compared to the amount of money you will spend *using* the data, the cost of the data itself is cheap. Once a commitment is made to a particular set of data the *time value of marketing* clock begins to tick. With regard to telephone numbers or email addresses in particular, once you acquire the data then you begin investing time. If your marketing time is invested poorly on inappropriate data you will never get that time back. There is no substitute for due diligence on the front end.

This seems pretty basic but needs to be said: If a lot of envelopes or emails come back, or a lot of phone calls result in bad phone numbers or bad names, you feel cheated and commit to never purchase from that vendor again. Accuracy is certainly an important indicator, but *results* should be the determining factor and the ultimate goal. The only way to estimate results is to try the data with a thoughtfully planned test.

You should always insist on an opportunity to evaluate data. Not that you should expect to make a sale, but an evaluation can tell you if the data you’re considering includes the correct market segments, is reasonably accurate, or is totally inadequate.

Here’s the basics on accuracy:

1. You should have the opportunity to check the accuracy of the data you want to purchase. Don't accept "Here's 10 sites and contacts you can call," but something more significant you can quantify. There is no statistical significance evaluating the accuracy of 10 contacts. Insist on 100 sites in the geographic area and demographic profile you are targeting. There are data providers worried that you might use 100 free records to try and sell them something, and therefore you get something for free...heaven forbid! You might have to point out that 100 records is nothing compared to the amount of data most providers have available to sell. It's a no-brainer that even if you spend your time trying to sell to these sites, you'll be back for the rest of the group if your evaluation or pilot test shows promise. At the same time, if you demand more sites and get turned down, don't let that alone stop you from trying the data. If there is other evidence that the source will be productive, a minimum order may be well worth it.

Another alternative is to request information on 20 different organizations and compare that to what you already know about those organizations. If your provider believes in their own value they should be happy to accommodate. In order to achieve any statistical significance you must evaluate enough data to be sure you have statistically overcome the average error rate. In other words, if the error rate could potentially be 25 percent based on industry averages, you must evaluate enough data to verify that you at least match the industry average error rate, or determine for sure that the error rate of the data you're working with is significantly different.

2. Get a money-back guarantee on the accuracy of the data you want to purchase. The point isn't really to get a few bucks back, what a pain in the neck. The real goal is to encourage your provider into ever greater levels of disclosure. The relative level of accuracy isn't nearly as important as the response rate. The accuracy issue is a better indicator of how well the provider is attempting to make this database an active and productive marketing database.
3. Again, accuracy should not be your main concern. Your main concern should be results. Do not let the accuracy of the data or the guarantee be your guide. If the data you want to purchase seems to be the correct market and the demographic segmentation fits your needs, then your testing strategy should prove if you've made the right choice. The most inaccurate data and worst guarantee may produce the best bottom-line results.

The rate at which data changes is high for the IT industry, but understanding how often data changes will temper any unrealistic expectations on accuracy. For example:

- 20-25 percent of top IT executives change jobs each year
- 6.5 percent of telephone numbers change each year
- 7 percent of addresses change each year

This is not to say that data from all sources is consistent with these statistics. The statistics do reiterate that if you pick 10 organizations to call and verify for accuracy, the statistical significance of such a small sample is questionable. Totally rotten data is a bad deal. But it's the exercise of evaluating the data that will give you the insight to know if you should try it out.

Cost

Do not let cost scare you away from at least testing a data source. If anything, cost and accuracy should simply indicate a higher level of caution with regard to the test size or approach of a list or campaign. An exceptionally low cost should also raise a big red flag as we usually get what we pay for.

You should expect ever-greater economies of scale for ever-greater uses of a provider's data. Plan ahead for how you might use the data and ask questions like:

- What is the discount if I buy multiple uses of a list or campaigns up front or buy the extra uses later?
- Can I buy a database for absolute unlimited use and can I own it forever?
- Can I buy a direct mail or email list now and buy the phone numbers later?
- Will you take my list of customers, relationships, email addresses and suppress them?
- Can I purchase phone numbers for just a portion of an email campaign deployed on my behalf?
- Can I have a copy of a the campaign list or something similar to track results back to their origin?
- Can I buy another list later and be guaranteed there will be no duplication?
- What if I want to buy a big list for a seminar then use more focused segments to market to locals?

Your Intuition Based on Your Market Knowledge is the First Key to Success

The information in this report is an introduction to key IT market demographic characteristics. Using this information should be helpful identifying specific characteristics about the unique market for your products or services. This deeper understanding of your own market will help you work with and direct the efforts of list and campaign vendors. Perhaps more important, you will be able to identify questionable market information or quotes.

Sources:

1. *Identifying Information Technology Markets: A Reference to Demographic Characteristics for Information Technology Market Planners*. Applied Computer Research, Inc., 2010. Available at www.itmarketintelligence.com/mo-reports.htm.
2. *Inside IT Departments: Comparing Organization Size to IT Usage and Infrastructure Traits*, Applied Computer Research, Inc., 2008. Available at www.itmarketintelligence.com/mo-reports.htm.
3. *InformationWeek 500*, September, 2008. www.informationweek.com.
4. *Fortune Magazine*, May 4, 2009. www.fortune.com.

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