PART

III

Assessing Market Opportunities

CHAPTER 5

Segmenting the Business Market and Estimating Segment Demand

The business marketing manager serves a market comprising many different types of organizational customers with varying needs. Only when this aggregate market is broken down into meaningful categories can the business marketing strategist readily and profitably respond to unique needs. Once the segments are determined, then the marketer must estimate demand for each segment. Accurate projections of future sales are one of the most significant and challenging dimensions of organizational demand analysis. After reading this chapter, you will understand:

1. **the benefits of and requirements for segmenting the business market.**
2. **the potential bases for segmenting the business market.**
3. **a procedure for evaluating and selecting market segments.**
4. **the role of market segmentation in the development of business marketing strategy.**
5. **a process for estimating demand in each market segment.**
6. **specific techniques to effectively develop a forecast of demand.**

A strategist at Hewlett-Packard notes:

> Knowing customers' needs is not enough. . . . We need to know what new products, features, and services will surprise and delight them. We need to understand their world so well that we can bring new technology to problems that customers may not yet truly realize they have.[1]

High-growth companies, large and small, succeed by

- selecting a well-defined group of potentially profitable customers.
- developing a distinctive value proposition (product and/or service offering) that meets these customers' needs better than their competitors.
- focusing marketing resources on acquiring, developing, and retaining profitable customers.[2]

The business market consists of three broad sectors—commercial enterprises, institutions, and government. Whether marketers elect to operate in one or all of these sectors, they encounter diverse organizations, purchasing structures, and decision-making styles. Each sector has many segments; each segment may have unique needs and require a unique marketing strategy. For example, some customers demonstrate attractive profit potential and are receptive to a relationship strategy, whereas others adopt a short-term, transaction focus, suggesting the need for a more streamlined strategy response.[3] The business marketer who recognizes the needs of the various market segments is best equipped to isolate profitable market opportunities and respond with an effective marketing program.

Once market segments are defined, it is then necessary to forecast the expected demand in each segment. In fact, forecasting of demand is an on-going process because forecasts drive so many of the management activities of the business-to-business marketer. Demand forecasts provide the basis on which organizations decide on how to allocate resources, plan manufacturing capacity and output, develop logistics capabilities and strategies, and establish marketing budgets and activities.

The goal of this chapter is to demonstrate how the manager can select and evaluate segments of the business market and then develop accurate estimates of demand. First, the chapter delineates the benefits of and the requirements for successful market segmentation. Second, it explores and evaluates specific bases for segmenting the business market. Third, the chapter provides a framework for evaluating and selecting market segments. Procedures for assessing the costs and benefits of entering alternative market segments and for implementing a segmentation strategy are emphasized. The final section of the chapter examines the demand forecasting process and explains the critical aspects of how business marketers create demand forecasts.

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[1] David E. Schnedler, "Use Strategic Market Models to Predict Customer Behavior," *Sloan Management Review* 37 (Spring 1996): p. 92; see also, Eric von Hippel, Stefan Thomke, and Mary Sonnack, "Creating Breakthroughs at 3M," *Harvard Business Review* 77 (September–October 1999): pp. 47–57.

[2] Dwight L. Gertz and João P. A. Baptista, *Grow to Be Great: Breaking the Downsizing Cycle* (New York: The Free Press, 1995), p. 54.

[3] Per Vagn Freytog and Ann Højbjerg Clarke, "Business to Business Market Segmentation," *Industrial Marketing Management* 30 (August 2001): pp. 473–486.

Business Market Segmentation Requirements and Benefits

Yoram Wind and Richard N. Cardozo define a **market segment** as "a group of present or potential customers with some common characteristic which is relevant in explaining (and predicting) their response to a supplier's marketing stimuli."[4] Effective segmentation of markets is the first step in crafting a marketing strategy because the characteristics and needs of each segment will define what elements must be included in how the firm approaches each of the segments in which they choose to do business. Segmentation that is done well provides the necessary information for understanding what elements of the marketing mix are going to be critical in satisfying the target customers in those segments.

Requirements

Potential customers in a market segment have common characteristics that define what things are important to them and how they will respond to various marketing stimuli. The question for the business marketer is: "what are the key criteria for determining which characteristics best define a unique market segment?" A business marketer has four criteria for evaluating the desirability of potential market segments:

1. *Measurability*—The degree to which information on the particular buyer characteristics exists or can be obtained.
2. *Accessibility*—The degree to which the firm can effectively focus its marketing efforts on chosen segments.
3. *Substantiality*—The degree to which the segments are large or profitable enough to be worth considering for separate marketing cultivation.
4. *Responsiveness*—The degree to which segments respond differently to different marketing mix elements, such as pricing or product features.

In summary, the art of market segmentation involves identifying groups of customers that are large and unique enough to justify a separate marketing strategy. The ultimate goal is to have the greatest amount of difference *between* groups (segments) and high similarities *within* them.[5]

Benefits

If the requirements for effective segmentation are met, several benefits accrue to the firm. First, the mere attempt to segment the business market forces the marketer to become more attuned to the unique needs of customer segments. Second, knowing

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[4] Yoram Wind and Richard N. Cardozo, "Industrial Market Segmentation," *Industrial Marketing Management* 3 (March 1974): p. 155; see also Vincent-Wayne Mitchell and Dominic F. Wilson, "Balancing Theory and Practice: A Reappraisal of Business-to-Business Segmentation," *Industrial Marketing Management* 27 (September 1998): pp. 429–455.

[5] Jessica Tsai, "The Smallest Slice," *CRM Magazine* 12 (2, Feb. 2008): p. 37.

INSIDE BUSINESS MARKETING

How to See What's Next

Strategists falter when they invest too much attention to "what is" and too little to "what could be." For example, by maintaining a strict focus on existing market segments and ignoring new ones, the business marketer may miss important signals of change that customers are sending.

To break this pattern and spot new market opportunities, business marketing strategists should examine three customer groups and the market signals they are sending:

- *Undershot customers*—the existing solutions fail to fully satisfy their needs. They eagerly buy new product versions at steady or increasing prices.
- *Overshot customers*—the existing solutions are too good (for example, exceed the technical performance required). These customers are reluctant to purchase new product versions.
- *Nonconsuming customers*—those who lack the skills, resources, or ability to benefit from existing solutions. These customers are forced to turn to others with greater skills or training for service.

Although most strategists center exclusive attention on undershot customers, "watching for innovations that have the potential to drive industry change actually requires paying careful attention to the least demanding, most overshot customers and non-consumers seemingly on the fringe of the market." For example, computing jobs that were processed by specialists in the corporate mainframe computer center are now routinely completed by millions of individuals, and corporate photocopying centers were disbanded as low-cost, self-service copiers became a common fixture in offices across organizations.

SOURCE: Clayton M. Christensen and Scott D. Anthony, "Are You Reading the Right Signals?" *Strategy & Innovation Newsletter* (Cambridge, MA.: Harvard Business School Publishing Corporation, September/October 2004), p. 5.

the needs of particular market segments helps the business marketer focus product-development efforts, develop profitable pricing strategies, select appropriate channels of distribution, develop and target advertising messages, and train and deploy the sales force. Thus, market segmentation provides the foundation for efficient and effective business marketing strategies.

Third, market segmentation provides the business marketer with valuable guidelines for allocating marketing resources. Business-to-business firms often serve multiple market segments and must continually monitor their relative attractiveness and performance. Research by Mercer Management Consulting indicates that, for many companies, nearly one-third of their market segments generate no profit and that 30 to 50 percent of marketing and customer service costs are wasted on efforts to acquire and retain customers in these segments.[6] Ultimately, costs, revenues, and profits must be evaluated segment by segment—and even account by account. As market or competitive conditions change, corresponding adjustments may be required in the firm's market segmentation strategy. Thus, market segmentation provides a basic unit of analysis for marketing planning and control.

[6] Gertz and Baptista, *Grow to Be Great*, p. 55.

Bases for Segmenting Business Markets

Whereas the consumer-goods marketer is interested in securing meaningful profiles of individuals (demographics, lifestyle, benefits sought), the business marketer profiles organizations (size, end use) and organizational buyers (decision style, criteria). Thus, the business or organizational market can be segmented on several bases, broadly classified into two major categories: macrosegmentation and microsegmentation.

Macrosegmentation centers on the characteristics of the buying organization and the buying situation and thus divides the market by such organizational characteristics as size, geographic location, the North American Industrial Classification System (NAICS) category, and organizational structure. Such characteristics are important because they often determine the buying needs of the organization. For example, in the plastic packaging industry, a recent study identified seven major packaging and disposable market segments—

1. food packaging;
2. lids, caps, closures, overcaps, and packaging dispensers;
3. preforms;
4. pails;
5. pharmaceutical vials and containers;
6. cosmetics and personal-care items; and,
7. disposable cutlery, bowls, cups, and plates.

Collectively, these segments consumed just over 7.3 billion pounds of plastic resins in 2007.[7]

These macrosegments are significant to the firms that sell materials and components to the plastic packaging industry because each of the major segments has somewhat different needs and requirements for the things that they buy based on the packaging products they are creating. For example, the preform market segment is the fastest-growing segment, which means that competition in this segment will be stiff, requiring a highly responsive marketing approach.

In contrast, **microsegmentation** requires a higher degree of market knowledge, focusing on the characteristics of decision-making units within each macrosegment—including buying decision criteria, perceived importance of the purchase, and attitudes toward vendors. Yoram Wind and Richard Cardozo recommend a two-stage approach to business market segmentation: (1) identify meaningful macrosegments, and then (2) divide the macrosegments into microsegments.[8]

In evaluating alternative bases for segmentation, the marketer is attempting to identify good predictors of differences in buyer behavior. Once such differences are recognized, the marketer can approach target segments with an appropriate marketing strategy. Secondary sources of information, coupled with data in a firm's information

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[7] Bart Thedinger, "Injection Molders See Growth For Packaging & Disposables," *Plastics Technology* 54 (5, May 2008): p. 98.

[8] Wind and Cardozo, "Industrial Market Segmentation," p. 155; see also Mitchell and Wilson, "Balancing Theory and Practice," pp. 429–455.

TABLE 5.1 | **SELECTED MACROLEVEL BASES OF SEGMENTATION**

Variables	**Illustrative Breakdowns**
Characteristics of Buying Organizations	
Size (the scale of operations of the organization)	Small, medium, large; based on sales or number of employees
Geographical location	USA, Asia Pacific, Europe, Middle East, and Africa
Usage rate	Nonuser, light user, moderate user, heavy user
Structure of procurement	Centralized, decentralized
Product/Service Application	
NAICS category	Varies by product or service
End market served	Varies by product or service
Value in use	High, low
Characteristics of Purchasing Situation	
Type of buying situation	New task, modified rebuy, straight rebuy
Stage in purchase decision process	Early stages, late stages

system, can be used to divide the market into macrolevel segments. The concentration of the business market allows some marketers to monitor the purchasing patterns of each customer. For example, a firm that sells paper products—tissues, cups, and napkins—to the airlines is dealing with just a handful of potential buying organizations in the U.S. market. There were 12 major airlines operating in the United States in 2007; in comparison, a paper products company selling tissues and the like to ultimate consumers is dealing with literally millions of potential customers. Such market concentration, coupled with rapidly advancing marketing intelligence systems, makes it easier for the business marketer to monitor the purchasing patterns of individual organizations.

Macrolevel Bases

Table 5.1 presents selected macrolevel bases of segmentation. Recall that these are concerned with general characteristics of the buying organization, the nature of the product application, and the characteristics of the buying situation.

Macrolevel Characteristics of Buying Organizations The marketer may find it useful to partition the market by size of potential buying organization. Large buying organizations may possess unique requirements and respond to marketing stimuli that are different from those responded to by smaller firms. The influence of presidents, vice presidents, and owners declines with an increase in corporate size; the influence of other participants, such as purchasing managers, increases.[9] Alternatively, the

[9]Joseph A. Bellizzi, "Organizational Size and Buying Influences," *Industrial Marketing Management* 10 (February 1981): pp. 17–21; see also Arch G. Woodside, Timo Liukko and Risto Vuori, "Organizational Buying of Capital Equipment Involving Persons across Several Authority Levels," *Journal of Business & Industrial Marketing* 14 (1, 1999): pp. 30–48.

marketer may recognize regional variations and adopt geographical units as the basis for differentiating marketing strategies.

Usage rate constitutes another macrolevel variable. Buyers are classified on a continuum ranging from nonuser to heavy user. Heavy users may have needs different from moderate or light users. For example, heavy users may place more value on technical or delivery support services than their counterparts. Likewise, an opportunity may exist to convert moderate users into heavy users through adjustments in the product or service mix.

The structure of the procurement function constitutes a final macrolevel characteristic of buying organizations. Firms with a centralized purchasing function behave differently than do those with decentralized procurement (see Chapter 3). The structure of the purchasing function influences the degree of buyer specialization, the criteria emphasized, and the composition of the buying center. Centralized buyers place significant weight on long-term supply availability and the development of a healthy supplier complex. Decentralized buyers tend to emphasize short-term cost efficiency.[10] Thus the position of procurement in the organizational hierarchy provides a base for categorizing organizations and for isolating specific needs and marketing requirements. Many business marketers develop a national accounts sales team to meet the special requirements of large, centralized procurement units.

Product/Service Application Because a specific industrial good is often used in different ways, the marketer can divide the market on the basis of specific end-use applications. The NAICS system and related information sources are especially valuable for this purpose (see Chapter 2). To illustrate, the manufacturer of a component such as springs may reach industries incorporating the product into machine tools, bicycles, surgical devices, office equipment, telephones, and missile systems. Similarly, Intel's microchips are used in household appliances, retail terminals, toys, cell phones, and aircraft as well as in computers. By isolating the specialized needs of each user group as identified by the NIACS category, the firm is better equipped to differentiate customer requirements and to evaluate emerging opportunities.

Value in Use Strategic insights are also provided by exploring the value in use of various customer applications. Recall our discussion of value analysis in Chapter 2. **Value in use** is a product's economic value to the user relative to a specific alternative in a particular application. The economic value of an offering frequently varies by customer application. Milliken & Company, the textile manufacturer, has built one of its businesses by becoming a major supplier of towels to industrial laundries. These customers pay Milliken a 10 percent premium over equivalent towels offered by competitors.[11] Why? Milliken provides added value, such as a computerized routing program that improves the efficiency and effectiveness of the industrial laundries' pick-up and delivery function.

The segmentation strategy adopted by a manufacturer of precision motors further illuminates the value-in-use concept.[12] The firm found that its customers differed in the motor speed required in their applications and that a dominant competitor's new, low-priced machine wore out quickly in high- and medium-speed applications. The marketer concentrated on this vulnerable segment, demonstrating the superior life

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[10] Timothy M. Laseter, *Balanced Sourcing: Cooperation and Competition in Supplier Relationships* (San Francisco: Jossey-Bass, 1998), pp. 59–86.

[11] Philip Kotler, "Marketing's New Paradigm: What's Really Happening Out There," *Planning Review* 20 (September–October 1992): pp. 50–52.

[12] Robert A. Garda, "How to Carve Niches for Growth in Industrial Markets," *Management Review* 70 (August 1981): pp. 15–22.

TABLE 5.2 | EXAMPLE OF MACROSEGMENTATION: AIRCRAFT INDUSTRY

Macro Segment 1: Civilian Aircraft

Sub-segments

A. Airliners
B. Cargo planes
C. General aviation
D. Agricultural aircraft
E. Business aircraft
F. Civilian Seaplane, Flying Boats, and Amphibious Aircraft
G. Civilian Helicopters
H. Sailplanes
I. Civil Research Aircraft, Prototypes and Specials

Macro Segment 2: Military Aircraft

Sub-segments

A. Bombers, Strike, Ground attack, gunships
B. Patrol, Anti-Submarine and Electronic Warfare aircraft
C. Military transports, tankers, and utility
D. Reconnaissance aircraft
E. Close air support/Counterinsurgency
F. Fighter aircraft, nightfighters and heavy fighters
G. Military Trainers
H. Military Helicopters and autogyros
I. Military Research Aircraft, Prototypes and Specials

SOURCE: http://en.wikipedia.org/wiki/List_of_aircraft_by_category, June 2008.

cycle cost advantages of the firm's products. The marketer also initiated a long-term program to develop a competitively priced product and service offering for customers in the low-speed segment.

Purchasing Situation A final macrolevel base for segmenting the organizational market is the purchasing situation. First-time buyers have perceptions and information needs that differ from those of repeat buyers. Therefore, buying organizations are classified as being in the early or late stages of the procurement process, or, alternatively, as *new-task*, *straight rebuy*, or *modified rebuy* organizations (see Chapter 3). The position of the firm in the procurement decision process or its location on the buying situation continuum dictates marketing strategy.

These examples illustrate those macrolevel bases of segmentation that business marketers can apply to the organizational market. Other macrolevel bases may more precisely fit a specific situation. A key benefit of segmentation is that it forces the manager to search for bases that explain similarities and differences among buying organizations.

Table 5.2 provides a view of how a manufacturer of aircraft engines might choose to segment the aircraft market from a macrosegmentation vantage point. Note that two very large macro segments exist—civilian and military. Within each of these large

TABLE 5.3 | SELECTED MICROLEVEL BASES OF SEGMENTATION

Variables	Illustrative Breakdowns
Key criteria	Quality, delivery, supplier reputation
Purchasing strategies	Single source … multiple sources
Structure of decision-making unit	Major decision participants (for example, purchasing manager and plant manager)
Importance of purchase	High importance … low importance
Organizational innovativeness	Innovator … follower
Personal characteristics	
Demographics	Age, educational background
Decision style	Normative, conservative, mixed mode
Risk	Risk taker, risk avoider
Confidence	High … low
Job responsibility	Purchasing, production, engineering

segments there are several very large macro subsegments. A jet engine manufacturer, like General Electric, would most likely begin the segmentation process in this fashion, looking carefully at the engine requirements for each of the several subsegments. The engine requirements in each segment may turn out to be very different, requiring different-size engines each capable of operating in very different conditions and environments. It could turn out that after detailed analysis of the needs in each subsegment, even further marcosegmentation may be necessary. For example, the "airliner" segment in the civilian macrosegment might be further segmented into regional jets versus full-size passenger jets. And then the full-size passenger jet airplane segment can be divided into specific types of aircraft, such as Boeing 737 or Airbus 340.

Microlevel Bases

Having identified macrosegments, the marketer often finds it useful to divide each macrosegment into smaller microsegments on the basis of the similarities and differences between decision-making units. Often, several microsegments—each with unique requirements and unique responses to marketing stimuli—are buried in macrosegments. To isolate them effectively, the marketer must move beyond secondary sources of information by soliciting input from the sales force or by conducting a special market segmentation study. Selected microbases of segmentation appear in Table 5.3.

Key Criteria For some business products, the marketer can divide the market according to which criteria are the most important in the purchase decision.[13] Criteria include product quality, prompt and reliable delivery, technical support, price, and supply continuity. The marketer also might divide the market based on supplier profiles

[13] Schnedler, "Use Strategic Models," pp. 85–92; and Kenneth E. Mast and Jon M. Hawes, "Perceptual Differences between Buyers and Engineers," *Journal of Purchasing and Materials Management* 22 (Spring 1986): pp. 2–6; Donald W. Jackson Jr., Richard K. Burdick, and Janet E. Keith, "Purchasing Agents' Perceived Importance of Marketing Mix Components in Different Industrial Purchase Situations," *Journal of Business Research* 13 (August 1985): pp. 361–373; and Donald R. Lehmann and John O'Shaughnessy, "Decision Criteria Used in Buying Different Categories of Products," *Journal of Purchasing and Materials Management* 18 (Spring 1982): pp. 9–14.

that appear to be preferred by decision makers (for example, high quality, prompt delivery, premium price versus standard quality, less-prompt delivery, low price).

Illustration: Price versus Service[14] Signode Corporation produces and markets a line of steel strapping used for packaging a range of products, including steel and many manufactured items. Facing stiff price competition and a declining market share, management wanted to move beyond traditional macrolevel segmentation to understand how Signode's 174 national accounts viewed price versus service trade-offs. Four segments were uncovered:

1. **Programmed buyers** (sales = $6.6 million): Customers who were not particularly price or service sensitive and who made purchases in a routine fashion—product is not central to their operation.
2. **Relationship buyers** (sales = $31 million): Knowledgeable customers who valued partnership with Signode and did not push for price or service concessions—product is moderately important to the firm's operations.
3. **Transaction buyers** (sales = $24 million): Large and very knowledgeable customers who actively considered the price versus service trade-offs but often placed price over service—product is very important to their operations.
4. **Bargain hunters** (sales = $23 million): Large-volume buyers who were very sensitive to any changes in price or service—product is very important to their operations.

The study enabled Signode to sharpen its strategies in this mature business market and to understand more clearly the cost of serving the various segments. Particularly troubling to management was the bargain-hunter segment. These customers demanded the lowest prices and the highest levels of service and had the highest propensity to switch. Management decided to use price cuts only as a defense against competitors' cuts and directed attention instead at ways to add service value to this and other segments.

Value-Based Strategies Many customers actively seek business marketing firms that can help them create new value to gain a competitive edge in their markets. Based on a comprehensive study of its customer base, Dow Corning identified three important customer segments and the value proposition that customers in each segment are seeking[15]:

> *innovation-focused customers* who are committed to being first to the market with new technologies and who seek new-product-development expertise and innovative solutions that will attract new customers;
>
> *customers in fast-growing markets* who are pressured by competitive battles over market growth and seek proven performance in technology, manufacturing, and supply chain management;
>
> *customers in highly competitive markets* who produce mature products, center on process efficiency and effectiveness in manufacturing, and seek cost-effective solutions that keep overall costs down.

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[14] V. Kasturi Rangan, Rowland T. Moriarty, and Gordon S. Swartz, "Segmenting Customers in Mature Industrial Markets," *Journal of Marketing* 56 (October 1992): pp. 72–82.

[15] Eric W. Balinski, Philip Allen, and J. Nicholas DeBonis, *Value-Based Marketing for Bottom-Line Success* (New York: McGraw-Hill and the American Marketing Association, 2003), pp. 147–152.

B2B Top Performers

Steering Customers to the Right Channel

Dow Corning Corporation is the world's largest and most innovative producer of silicone-based products. Although the leader in this large and diverse market, smaller, regional competitors began to take market share away from Dow Corning by selling low-priced silicone products with little or no technical support. Rather than paying for a host of high-quality services such as new-product-development assistance that Dow Corning customarily provides, these customers eagerly sought the lowest price. To meet the challenge, Dow Corning conducted a market segmentation study, isolated the characteristics of this "low-cost" buyer, and created a no-frills Web-based business model to reach this customer segment. To avoid confusion with existing customers and the firm's premium product lines, a new brand was created—Xiameter (http://www.xiameter.com).

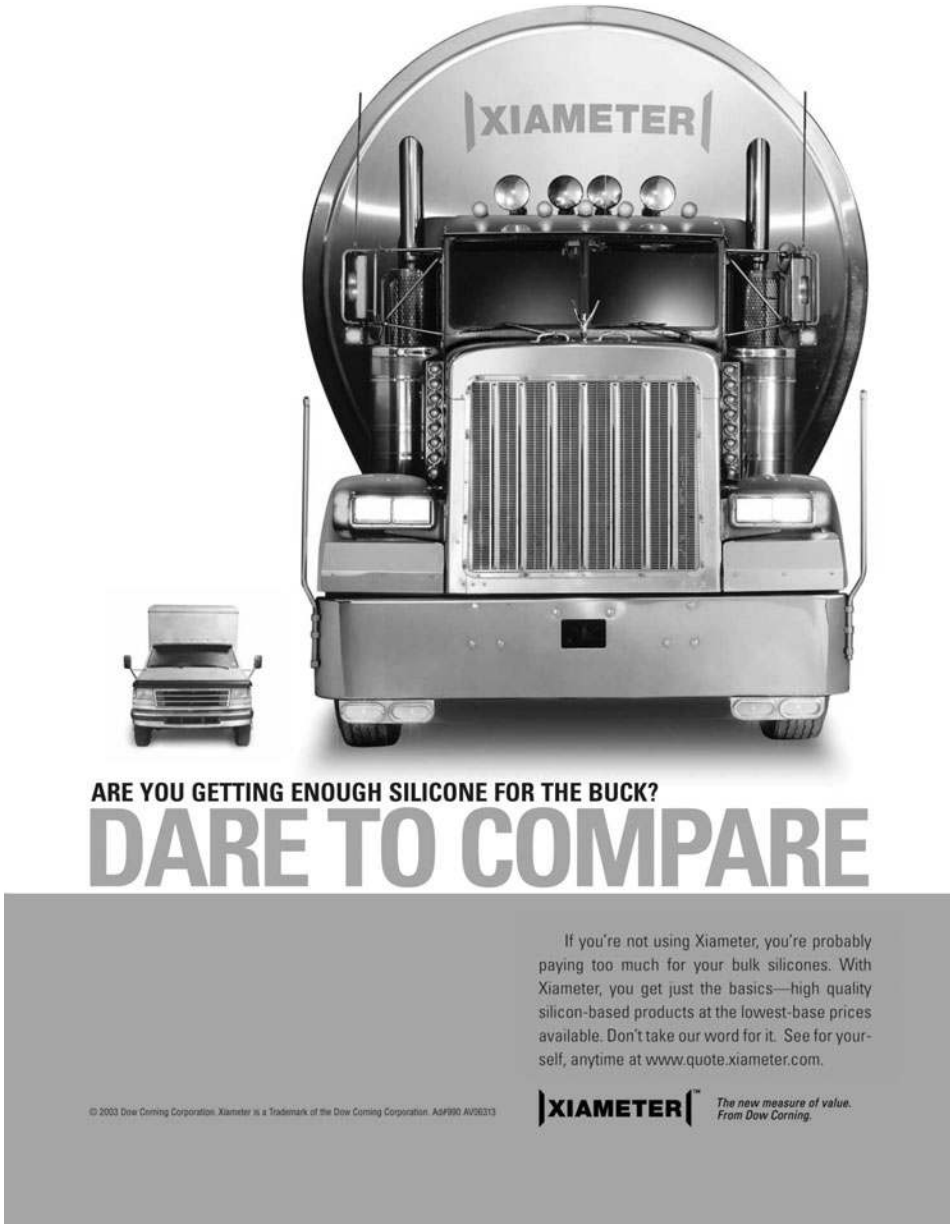
To clarify the brand premise and the company connection, the tag line—"The new measure of value from Dow Corning"—was added. By steering price-sensitive customers to the Internet—a low-cost sales channel—the branding strategy allows Dow Corning "to compete head-on with the low-price suppliers of mature product lines, without damaging its position as a value-added leader at the premium price end of the market." Customers, from the United States to high-growth potential countries like China, have responded positively to the Xiameter brand. (See the Dow Corning ad in Figure 5.1.)

SOURCE: Bob Lamons, "Dow Targets Segment to Keep Market Share," *Marketing News*, June 15, 2005, p. 8. See also Randall S. Rozin and Liz Magnusson, "Processes and Methodologies for Creating a Global Business-to-Business Brand," *Journal of Brand Management* 10 (February 2003): pp. 185–207.

The marketer can benefit by examining the criteria decision-making units in various sectors of the business market—commercial, governmental, and institutional—use. As organizations in each sector undergo restructuring efforts, the buying criteria key decision makers use also change. For example, the cost pressures and reform efforts in the health-care industry are changing how hospitals buy medical equipment and pharmaceuticals. To reduce administrative costs and enhance bargaining power, hospitals are following the lead of commercial enterprises by streamlining their operations. Also, they are forming buying groups, centralizing the purchasing function, and insisting on lower prices and better service. Reform efforts are likewise moving government buyers to search for more efficient purchasing procedures and for better value from vendors. Marketers that respond in this challenging environment are rewarded.

Purchasing Strategies Microsegments can be classified according to buying organizations' purchasing strategy. Some buyers seek to have several suppliers, giving each one a healthy share of their purchase volume; others are more interested in assured supply and concentrate their purchases with one or perhaps two suppliers. Raytheon, the manufacturer of small airplanes for the civilian and business aircraft market decided on a strategy of concentration. They rely on one firm—Castle Metals—to supply all of its needs for the different metals used in an aircraft. The company may reassess its sole supplier every so often, but any "out-supplier" in this situation would have a very difficult time securing some of Raytheon's business. In another case, Toyota looks for suppliers who are able to make suggestions for improving its business operations.

FIGURE 5.1 | **AN AWARD-WINNING AD BY DOW CORNING FOR ITS WEB-BASED BUSINESS MODEL**



SOURCE: Reprinted by permission of XIAMETER.

Toyota has realized that many of the innovations it has developed in its processes have come from suggestions by their suppliers. So a key strategy for Toyota is to identify suppliers who are creative and invest in new technology for possibly improving Toyota's business.

Structure of the Decision-Making Unit The structure of the decision-making unit, or buying center, likewise provides a way to divide the business market into subsets of customers by isolating the patterns of involvement in the purchasing process of particular decision participants (for example, engineering versus top management). For the medical equipment market, DuPont initiated a formal positioning study among hospital administrators, radiology department administrators, and technical managers to identify the firm's relative standing and the specific needs (criteria) for each level of buying influence within each segment.[16] The growing importance of buying groups, multihospital chains, and nonhospital health-care delivery systems pointed to the need for a more refined segmentation approach.

The study indicates that the medical equipment market can be segmented on the basis of the type of institution and the responsibilities of the decision makers and decision influencers in those institutions. The structure of the decision-making unit and the decision criteria used vary across the following three segments:

- Groups that select a single supplier that all member hospitals must use, such as investor-owned hospital chains;
- Groups that select a small set of suppliers from which individual hospitals may select needed products;
- Private group practices and the nonhospital segment.

Based on the study, DuPont's salespersons can tailor their presentations to the decision-making dynamics of each segment. In turn, advertising messages can be more precisely targeted. Such an analysis enables the marketer to identify meaningful microsegments and respond with finely tuned marketing communications.

Importance of Purchase Classifying organizational customers on the basis of the perceived importance of a product is especially appropriate when various customers apply the product in various ways. Buyer perceptions differ according to the effect of the product on the total mission of the firm. A large commercial enterprise may consider the purchase of consulting services routine; the same purchase for a small manufacturing concern is "an event."

Organizational Innovativeness Some organizations are more innovative and willing to purchase new industrial products than others. A study of the adoption of new medical equipment among hospitals found that psychographic variables can improve a marketer's ability to predict the adoption of new products.[17] These include such factors as an organization's level of change resistance or desire to excel. When psychographic variables are combined with organizational demographic variables (for example, size), accuracy in predicting organizational innovativeness increases.

Because products diffuse more rapidly in some segments than in others, microsegmentation based on organizational innovativeness enables the marketer to identify segments that should be targeted first when it introduces new products. The accuracy

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[16] Gary L. Coles and James D. Culley, "Not All Prospects Are Created Equal," *Business Marketing* 71 (May 1986): pp. 52–57.

[17] Thomas S. Robertson and Yoram Wind, "Organizational Psychographics and Innovativeness," *Journal of Consumer Research* 7 (June 1980): pp. 24–31; see also Thomas S. Robertson and Hubert Gatignon, "Competitive Effects on Technology Diffusion," *Journal of Marketing* 50 (July 1986): pp. 1–12.

of new product forecasting also improves when diffusion patterns are estimated segment by segment.[18]

Personal Characteristics Some microsegmentation possibilities deal with the personal characteristics of decision makers: demographics (age, education), personality, decision style, risk preference or risk avoidance, confidence, job responsibilities, and so forth. Although some interesting studies have shown the usefulness of segmentation based on individual characteristics, further research is needed to explore its potential as a firm base for microsegmentation.

Illustration: Microsegmentation[19]

Philips Lighting Company, the North American division of Philips Electronics, found that purchasing managers emphasize two criteria in purchasing light bulbs: how much they cost and how long they last. Philips learned, however, that the price and life of bulbs did not account for the total cost of lighting. Because lamps contain environmentally toxic mercury, companies faced high disposal costs at the end of a lamp's useful life.

New Product and Segmentation Strategy To capitalize on a perceived opportunity, Philips introduced the Alto, an environmentally friendly bulb that reduces customers' overall costs plus allows the buying organization to demonstrate environmental concern to the public. Rather than targeting purchasing managers, Philips's marketing strategists centered attention on chief financial officers (CFOs), who embraced the cost savings, and public relations executives, who saw the benefit of purchasing actions that protect the environment. By targeting different buying influentials, Philips created a new market opportunity. In fact, the Alto has already replaced more than 25 percent of traditional fluorescent lamps in U.S. stores, schools, and office buildings.

The Segmentation Process

Macrosegmentation centers on characteristics of buying *organizations* (for example, size), *product application* (for example, end market served), and the *purchasing situation* (for example, stage in the purchase decision process). Microsegmentation concentrates on characteristics of organizational decision-making *units*—for instance, choice criteria assigned the most importance in the purchase decision.

Choosing Market Segments

Business marketers begin the segmentation process at the macro level. If they find that the information about the macro segments is sufficient to develop an effective

[18]Yoram Wind, Thomas S. Robertson, and Cynthia Fraser, "Industrial Product Diffusion by Market Segment," *Industrial Marketing Management* 11 (February 1982): pp. 1–8.

[19]W. Chan Kim and Renée Mauborgne, "Creating New Market Space," *Harvard Business Review* 77 (January–February 1999): pp. 88–89. For other segmentation studies, see Mark J. Bennion Jr., "Segmentation and Positioning in a Basic Industry," *Industrial Market Management* 16 (February 1987): pp. 9–18; Arch G. Woodside and Elizabeth J. Wilson, "Combining Macro and Micro Industrial Market Segmentation," in *Advances in Business Marketing*, ed. Arch G. Woodside (Greenwich, CT: JAI Press, 1986), pp. 241–257; and Peter Doyle and John Saunders, "Market Segmentation and Positioning in Specialized Industrial Markets," *Journal of Marketing* 49 (Spring 1985): pp. 24–32.

INSIDE BUSINESS MARKETING

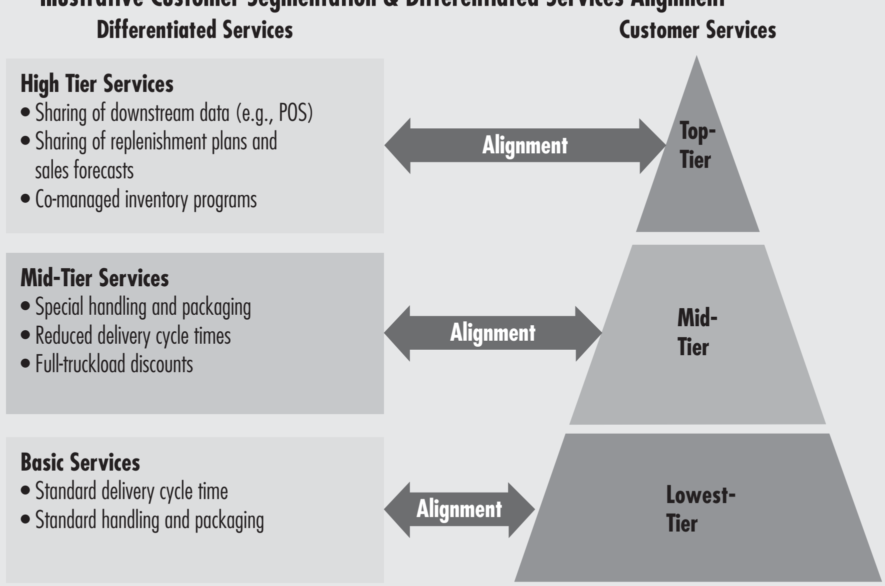
A Fresh Approach to Segmentation: Customer Service Segmentation

Conceptually, customer service segmentation involves identifying groups of customers for which a company will provide types and levels of service. It works on the premise that the service requirements, as well as the associated cost-to-serve and profit potential, vary by customer tier. The exhibit shows the differentiated services that are aligned with each customer segment. The lowest-tier customers require the basic services, some special services are added for mid-tier customers, and top-tier customers get the complete service assortment plus some high-level value-added services.

Service-segment alignments are depicted as double-sided arrows in the exhibit to represent the point that customer needs and service offerings are aligned in accordance with strategic "push-pull" objectives. The goal is to develop a customer service strategy that responds to the unique requirements of particular segments, maintains a tight grasp on costs, and advances profit growth by segment.

SOURCE: Larry Lapide, "Segment Strategically," *Supply Chain Management Review* 12 (5, May/June 2008): pp. 8–9.

Illustrative Customer Segmentation & Differentiated Services Alignment



marketing strategy, then it may not be necessary to go on to any further micrco-segmentation. However, if they cannot develop a distinct strategy based on the macrosegment, then it may be necessary to undertake research on microsegmentation variables within each macrosegment. A marketing research study is often needed to identify characteristics of decision-making units, as the Philips Lighting case illustrated. At this level, chosen macrosegments are divided into microsegments on the basis of similarities and differences between the decision-making units to identify small groups of buying organizations that each exhibit a distinct response to the firm's marketing strategy. As firms develop more segments with special requirements, it then becomes necessary to assess whether the cost of developing a unique strategy for a specific segment is worth the profit to be generated from that segment. The marketer must evaluate the potential profitability of alternative segments before investing in separate marketing strategies. As firms develop a clearer picture of the revenue and costs of serving particular segments and customers, they often find that a small group of customers subsidizes a large group of marginal and, in some cases, unprofitable customers.[20] (See Chapter 4.)

In some cases it may be more effective to examine existing customers in a new light. As A. G. Lafley and Lam Charam note, "segmentation itself can be an innovative act, if we identify a corner of our market that is rarely treated as a segment. Can we look at buyers through some other lens than typical tried and true variables like company size and industry? Identifying an overlooked segment is less expensive than inventing a new technology and may sprout even more opportunities."[21]

One interesting approach in business-to-business marketing today is the rise of account-based marketing (ABM), perhaps the ultimate expression of the trend toward smaller and more precisely targeted marketing strategies. ABM is an approach that treats an individual account as a market in its own right. Done right, it ensures that marketing and sales are fully focused on a target client's most important business issues and that they work collaboratively to create value propositions that specifically address those issues. Far beyond the basics of personalized messaging and segmented offers, true ABM has the potential to deepen relationships with existing clients and build profitability by shortening the sales cycle and increasing win rates and sole-sourced contracts.[22]

ABM is the ultimate in segmentation, as one company is viewed as a separate segment. This approach may become more prevalent in the future as industry consolidation continues to grow. One could see the commercial aircraft industry as a good example of this ultimate level of segmentation—only two companies now produce large, commercial airliners: Boeing and Airbus S.A.S. Similarly, in the diesel locomotive industry in the United States, only General Motors and General Electric make diesel locomotives.

Isolating Market Segment Profitability

To improve on traditional market segmentation, many business marketing firms categorize customers into tiers that differ in current and/or future profitability to the firm. "By knowing the characteristics of profitable customers, companies can direct their marketing efforts to specific segments that are most likely to yield profitable customers."[23] This requires a process of evaluation that makes explicit the near-term potential and the longer-term resource commitments necessary to effectively serve customers in a segment. In particular, special attention is given to the individual drivers of customer profitability, namely the cost-to-serve a particular group of customers and the revenues that result (see Chapter 4).

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[20] Arun Sharma, R. Krishnan, and Dhruv Grewal, "Value Creation in Markets: A Critical Area of Focus for Business-to-Business Markets," *Industrial Marketing Management* 30 (June 2001): pp. 391–402.

[21] A.G. Lafley and Ram Charan, "Making Inspiration Routine," *Inc* 30 (6, June 2008): pp. 98–101.

[22] Jeff Sands, "Account-Based Marketing," *B to B*, 91 (6, May 8, 2006): p. 11.

[23] Robert S. Kaplan and V. G. Narayanan, "Measuring and Managing Customer Profitability," *Journal of Cost Management* 15 (September–October 2001): p. 13.

FedEx Corporation, for example, categorizes its business customers (for internal purposes) as the good, the bad, and the ugly—based on their profitability.[24] Rather than using the same strategy for all customers, the company assigns a priority to the good, tries to convert the bad to good, and discourages the ugly. Like many other firms, FedEx discovered that many customers are too costly to serve and demonstrate little potential to become profitable, even in the long term. By understanding the needs of customers at different tiers of profitability, service can be tailored to achieve even higher levels of profitability. For example, FedEx encourages small shippers to bring their packages to conveniently located drop-off points and offers a rapid-response pick-up service for large shippers. Once profitability tiers are identified, "highly profitable customers can be pampered appropriately, customers of average profitability can be cultivated to yield higher profitability, and unprofitable customers can be either made more profitable or weeded out."[25]

Implementing a Segmentation Strategy

A well-developed segmentation plan will fail without careful attention to implementing the plan. Successful implementation requires attention to the following issues:

- How should the sales force be organized?
- What special technical or customer service requirements will organizations in the new segment have?
- Who will provide these services?
- Which media outlets can be used to target advertising at the new segment?
- Has a comprehensive online strategy been developed to provide continuous service support to customers in this segment?
- What adaptations will be needed to serve selected international market segments?

The astute business marketing strategist must plan, coordinate, and monitor implementation details. Frank Cespedes points out that "as a firm's offering becomes a product-service-information mix that must be customized for diverse segments, organizational interdependencies increase"[26] and marketing managers, in particular, are involved in more cross-functional tasks. Managing the critical points of contact with the customer is fundamental to the marketing manager's role.

Estimating Segment Demand

Looking back at the Internet boom, executives at telecommunications firms like Alcatel-Lucent and Nortel Networks Corporation now openly acknowledge that they did not see the steep drop in demand coming. Indeed, spending by phone companies

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[24]R. Brooks, "Alienating Customers Isn't Always a Bad Idea, Many Firms Discover," *The Wall Street Journal*, January 7, 1999, pp. A1 and A12, discussed in Valarie A. Zeithaml, Roland T. Rust, and Katherine N. Lemon, "The Customer Pyramid: Creating and Serving Profitable Customers," *California Management Review* 43 (Summer 2001): p. 118.

[25]Zeithaml, Rust, and Lemon, "The Customer Pyramid," p. 141.

[26]Frank V. Cespedes, *Concurrent Marketing: Integrating Product, Sales, and Service* (Boston: Harvard Business School Press, 1995), p. 271.

on telecommunications gear nearly doubled from 1996 to 2000, to $47.5 billion; all forecasts indicated that this attractive growth path would continue.[27] During this period, telecom equipment makers were dramatically expanding production capacity and aggressively recruiting thousands of new employees. However, in 2001, the demand failed to materialize and the major telecom equipment makers reported significant financial losses. In turn, firms across the industry announced a series of massive job cuts. What happened? "Lousy" sales forecasts played an important role, according to Gregory Duncan, a telecom consultant at National Economic Research Associates.[28]

The Role of the Demand Estimation

Estimating demand within selected market segments is vital to marketing management. The forecast of demand reflects management's estimate of the probable level of company sales, taking into account both potential business and the level and type of marketing effort demanded. Virtually every decision made by the marketer is based on a forecast, formal or informal.

Consider a company that wishes to introduce new telecommunications services to businesses. How large is the market opportunity? An estimate of demand provides the foundation for the planning process. Three broad groups of stakeholders require demand forecasts: engineering design and implementation teams; marketing and commercial development teams; and external entities, such as potential investors, government regulators, equipment and application suppliers, and distribution partners. In the marketing area, commercial questions that must be answered before launch of service and that depend on the estimate of demand include: Where should sales outlets be located? How many are required to cover the target market? What sales levels should be expected from each outlet? What performance targets should be established for each? Demand forecasts are needed to project the company's revenues, profits, and cash flow to assess business viability; to determine cash, equity, and borrowing requirements; and to determine appropriate pricing structures and levels.[29] In short, without knowledge of market demand, marketing executives cannot develop sound strategy and make effective decisions about the allocation of resources.

A primary application of the estimates of demand is clearly in the planning and control of marketing strategy by market segment. Once demand is estimated for each segment, the manager can allocate expenditures on the basis of potential sales volume. Spending huge sums of money on advertising and personal selling has little benefit in segments where the market opportunity is low. Of course, expenditures would have to be based on both expected demand and the level of competition. Actual sales in each segment can also be compared with forecasted sales, taking into account the level of competition, in order to evaluate the effectiveness of the marketing program.

Consider the experience of a Cleveland manufacturer of quick-connective couplings for power transmission systems. For more than 20 years, one of its large distributors had been increasing its sales volume. In fact, this distributor was considered one of the firm's top producers. The manufacturer then analyzed the estimates of demand for each of its 31 distributors. The large distributor ranked thirty-first in

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[27] Dennis K. Berman, "'Lousy Sales Forecasts Helped Fuel the Telecom Mess," *The Wall Street Journal*, July 7, 2001, p. B1.

[28] Ibid.

[29] Peter McBurney, Simon Parsons, and Jeremy Green, "Forecasting Market Demand for New Telecommunications Services: An Introduction," *Telematics and Information* 19 (2002): p. 233.

INSIDE BUSINESS MARKETING

Accurate Forecasts Drive Effective Collaboration between Boeing and Alcoa

Alcoa supplies raw aluminum to Boeing for constructing wings for most of Boeing's commercial airplanes. As a result of sharing accurate demand data with Alcoa, Boeing was able to achieve cost reductions and improve delivery-time performance throughout the entire supply chain.

Boeing began by developing an electronic sales forecast to allow Alcoa to receive the forecast file directly into its system. Included in the forecast are all the data Alcoa needed to understand the demand for the raw aluminum to be used in constructing aircraft wings. The forecast data were provided so that they could be loaded into Alcoa's system in an efficient manner, and great emphasis was placed on forecast accuracy. Because forecast errors would totally undermine the supply process, Boeing developed a process to identify errors in demand before communicating the forecasts electronically to Alcoa. Boeing provides Alcoa with electronic visibility into its ERP (Enterprise Resource Planning) System so that Alcoa can understand when orders will be coming and can thereby respond more effectively to Boeing's needs. In short, Boeing realized that for Alcoa to make decisions on when it should have materials in Boeing's plant, Alcoa had to be given the most accurate forecast data possible.

In working together in the supply chain, the electronic sharing of demand forecasts made it possible for Alcoa to maintain the appropriate levels of aluminum inventory to meet Boeing's requirements.

SOURCE: Adapted from Victoria A. Micheau, "How Boeing and Alcoa Implemented a Successful Vendor Managed Inventory Program," *Journal of Business Forecasting* 24 (Spring 2005): pp. 17–19.

terms of volume relative to potential business, achieving only 15.4 percent of estimated demand. A later evaluation revealed that the distributor's sales personnel did not know the most effective way to sell couplings to its large-customer accounts.

It is important to keep in mind that estimates of probable demand should be made only after the firm has made decisions about its marketing strategy for a particular segment. Only after the marketing strategy is developed can expected sales be forecasted. Many firms are tempted to use the forecast as a tool for deciding the level of marketing expenditures. One study (which sampled 900 firms) found that slightly more than 25 percent of the respondent firms set their advertising budgets after the forecast of demand was developed.[30] Small companies whose budgeting and forecasting decisions were fragmented made up the majority of the firms in this group. Clearly, marketing strategy is a determinant of the level of sales and not vice versa.

Supply Chain Links Sales forecasts are critical to the smooth operation of the entire supply chain. When timely sales forecast information is readily available to all firms in the supply chain, plans can be tightly coordinated and all parties share in the benefits.[31] Sales forecast data is used to distribute inventory in the supply chain, manage stock levels at each link, and schedule resources for all the members of a supply

[30]Douglas C. West, "Advertising Budgeting and Sales Forecasting: The Timing Relationship," *International Journal of Advertising* 14 (1, 1995): pp. 65–77.

[31]John T. Mentzer and Mark A. Moon, "Understanding Demand," *Supply Chain Management Review* 8 (May–June 2004): p. 45.

chain that provide materials, components, and services to a manufacturer. Accurate forecasts go hand-in-hand with good business practices and effective management policies in directing the entire supply chain process. Specific tools are available to develop accurate estimates of market potential; the business marketer must understand the purpose of each alternative technique as well as its strengths and limitations.

Methods of Forecasting Demand

Estimating demand may be highly mathematical or informally based on sales force estimates. Two primary approaches to demand forecasting are recognized: (1) qualitative and (2) quantitative, which includes time series and causal analysis.

Qualitative Techniques

Qualitative techniques, which are also referred to as **management judgment** or **subjective techniques** rely on informed judgment and rating schemes. The sales force, top-level executives, or distributors may be called on to use their knowledge of the economy, the market, and the customers to create qualitative demand estimates. Techniques for qualitative analysis include the executive judgment method, the sales force composite method, and the Delphi method.

The effectiveness of qualitative approaches depends on the close relationships between customers and suppliers that are typical in the industrial market. Qualitative techniques work well for such items as heavy capital equipment or when the nature of the forecast does not lend itself to mathematical analysis. These techniques are also suitable for new-product or new-technology forecasts when historical data are scarce or nonexistent.[32] An important advantage of qualitative approaches is that it brings users of the forecast into the forecasting process. The effect is usually an increased understanding of the procedure and a higher level of commitment to the resultant forecast.

Executive Judgment According to a large sample of business firms, the **executive judgment method** enjoys a high level of usage.[33] The judgment method, which combines and averages top executives' estimates of future sales, is popular because it is easy to apply and to understand. Typically, executives from various departments, such as sales, marketing, production, finance, and purchasing, are brought together to apply their collective expertise, experience, and opinions to the forecast.

The primary limitation of the approach is that it does not systematically analyze cause-and-effect relationships. Further, because there is no established formula for deriving estimates, new executives may have difficulty making reasonable forecasts. The resulting forecasts are only as good as the executives' opinions. The accuracy of the executive judgment approach is also difficult to assess in a way that allows meaningful comparison with alternative techniques.[34]

The executives' "ballpark" estimates for the intermediate and the long-run time frames are often used in conjunction with forecasts developed quantitatively.

[32] A. Michael Segalo, *The IBM/PC Guide to Sales Forecasting* (Wayne, PA: Banbury, 1985), p. 21.

[33] Nada Sanders, "Forecasting Practices in U.S. Corporations: Survey Results," *Interfaces* 24 (March–April 1994): pp. 92–100.

[34] Spyros Makridakis and Steven Wheelwright, "Forecasting: Issues and Challenges for Marketing Management," *Journal of Marketing* 41 (October 1977): p. 31.

However, when historical data are limited or unavailable, the executive judgment approach may be the only alternative. Mark Moriarty and Arthur Adams suggest that executive judgment methods produce accurate forecasts when (1) forecasts are made frequently and repetitively, (2) the environment is stable, and (3) the linkage between decision, action, and feedback is short.[35] Business marketers should examine their forecasting situation in light of these factors in order to assess the usefulness of the executive judgment technique.

Sales Force Composite The rationale behind the **sales force composite** approach is that salespeople can effectively estimate future sales volume because they know the customers, the market, and the competition. In addition, participating in the forecasting process helps sales personnel understand how forecasts are derived and boosts their incentive to achieve the desired level of sales. The composite forecast is developed by combining the sales estimates from all salespeople. By providing the salesperson with a wealth of customer information that can be conveniently accessed and reviewed, customer relationship management (CRM) systems (see Chapter 4) enhance the efficiency and effectiveness of the sales force composite.[36] CRM systems also allow a salesperson to track progress in winning new business at key accounts.

Few companies rely solely on sales force estimates; rather, they usually adjust or combine the estimates with forecasts developed either by top management or by quantitative methods. The advantage of the sales force composite method is the ability to draw on sales force knowledge about markets and customers. This advantage is particularly important for a market in which buyer-seller relationships are close and enduring. The salesperson is often the best source of information about customer purchasing plans and inventory levels. The method can also be executed relatively easily at minimal cost. An added benefit is that creating a forecast forces a sales representative to carefully review these accounts in terms of future sales.[37]

The problems with sales force composites are similar to those of the executive judgment approach: They do not involve systematic analysis of cause and effect, and they rely on informed judgment and opinions. Some sales personnel may overestimate sales in order to look good or underestimate them in order to generate a lower quota. Management must carefully review all estimates. As a rule, sales force estimates are relatively accurate for short-run projections but less effective for long-term forecasts.

Delphi Method In the **Delphi approach to forecasting**, the opinions of a panel of experts on future sales are converted into an informed consensus through a highly structured feedback mechanism.[38] As in the executive judgment technique,

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[35] Mark M. Moriarty and Arthur J. Adams, "Management Judgment Forecasts, Composite Forecasting Models and Conditional Efficiency," *Journal of Marketing Research* 21 (August 1984): p. 248.

[36] Robert Mirani, Deanne Moore, and John A. Weber, "Emerging Technologies for Enhancing Supplier-Reseller Partnerships," *Industrial Marketing Management* 30 (February 2001): pp. 101–114.

[37] Stewart A. Washburn, "Don't Let Sales Forecasting Spook You," *Sales and Marketing Management* 140 (September 1988): p. 118.

[38] Raymond E. Willis, *A Guide to Forecasting for Planners and Managers* (Englewood Cliffs, NJ: Prentice-Hall, 1987), p. 343.

management officials are used as the panel, but each estimator remains anonymous. On the first round, written opinions about the likelihood of some future event are sought (for example, sales volume, competitive reaction, or technological breakthroughs). The responses to this first questionnaire are used to produce a second. The objective is to provide feedback to the group so that first-round estimates and information available to some of the experts are made available to the entire group.

After each round of questioning, the analyst who administers the process assembles, clarifies, and consolidates information for dissemination in the succeeding round. Throughout the process, panel members are asked to reevaluate their estimates based on the new information from the group. Opinions are kept anonymous, eliminating both "me-too" estimates and the need to defend a position. After continued reevaluation, the goal is to achieve a consensus. The number of experts varies from six to hundreds, depending on how the process is organized and its purpose. The number of rounds of questionnaires depends on how rapidly the group reaches consensus.

Generally, the Delphi technique is applied to long-term forecasting of demand, particularly for new products or situations not suited to quantitative analysis. This approach can provide some good ballpark estimates of demand when the products are new or unique and when there is no other data available. Like all qualitative approaches to estimating demand, it is difficult to measure the accuracy of the estimates.

Qualitative forecasting approaches are important in the process of assessing future product demand, and they are most valuable in situations where little data exists and where a broad estimate of demand is acceptable. New or unique products do not lend themselves to more quantitative approaches to forecasting, so the qualitative methods play a very important role in estimating demand for these items.

Quantitative Techniques

Quantitative demand forecasting, also referred to as systematic or objective forecasting, offers two primary methodologies: (1) time series and (2) regression or causal. **Time series** techniques use historical data ordered chronologically to project the trend and growth rate of sales. The rationale behind time series analysis is that the past pattern of sales will apply to the future. However, to discover the underlying pattern of sales, the analyst must first understand all of the possible patterns that may affect the sales series. Thus, a time series of sales may include trend, seasonal, cyclical, and irregular patterns. Once the effect of each has been isolated, the analyst can then project the expected future of each pattern. Time series methods are well suited to short-range forecasting because the assumption that the future will be like the past is more reasonable over the short run than over the long run.[39]

Regression or **causal** analysis, on the other hand, uses an opposite approach, identifying factors that have affected past sales and implementing them in a mathematical model.[40] Demand is expressed mathematically as a function of the items

[39] Spyros Makridakis, "A Survey of Time Series," *International Statistics Review* 44 (1, 1976): p. 63.

[40] Segalo, *Sales Forecasting*, p. 27.

that affect it. A forecast is derived by projecting values for each of the factors in the model, inserting these values into the regression equation, and solving for expected sales. Typically, causal models are more reliable for intermediate than for long-range forecasts because the magnitude of each factor affecting sales must first be estimated for some future time, which becomes difficult when estimating farther into the future.

The specifics of the quantitative approaches to estimating demand are beyond the scope of this chapter. However, the key aspects of these approaches for the business-to-business manager to keep in mind are as follows:

1. To develop an estimate of demand with time series analysis, the analyst must determine each pattern (the trend, cycle, seasonal pattern) and then extrapolate them into the future. This requires a significant amount of historical sales information. Once a forecast of each pattern is developed, the demand forecast is assembled by combining the estimates for each pattern.
2. A critical aspect of regression analysis is to identify the economic variable(s) to which past sales are related. For forecasting purposes, the *Survey of Current Business* is particularly helpful because it contains monthly, quarterly, and annual figures for hundreds of economic variables. The forecaster can test an array of economic variables from the *Survey* to find the variable(s) with the best relationship to past sales.
3. Although causal methods have measurable levels of accuracy, there are some important caveats and limitations. The fact that demand and some causal variables (independent variables) are correlated (associated) does not mean that the independent variable "caused" sales. The independent variable should be logically related to demand.
4. Regression methods require considerable historical data for equations to be valid and reliable, but the data may not be available. Caution must always be used in extrapolating relationships into the future. The equation relates what *has* happened; economic and industry factors may change in the future, making past relationships invalid.
5. A recent study on forecasting methods suggests choosing a methodology based on the underlying behavior of the market rather than the time horizon of the forecast.[41] This research indicates that when markets are sensitive to changes in market and environmental variables, causal methods work best, whether the forecast is short or long range; time series approaches are more effective when the market exhibits no sensitivity to market and/or environmental changes.

CPFR: A New Collaborative Approach to Estimating Demand

CPFR, or Collaborative Planning Forecasting and Replenishment, is a unique approach to forecasting demand that involves the combined efforts of many functions

[41] Robert J. Thomas, "Method and Situational Factors in Sales Forecast Accuracy," *Journal of Forecasting* 12 (January 1993): p. 75.

within the firm as well as with partners in the supply chain. In this approach, one individual in the firm is given the responsibility for coordinating the forecasting process with functional managers across the firm. So sales, marketing, production, logistics, and procurement personnel will be called upon to jointly discuss their plans for the upcoming period. In this way, all the parties who may influence sales performance will participate directly in the demand estimation process.

Once the firm has a good grasp internally of each function's forthcoming strategies and plans, the "demand planner" from the firm will then reach out to customers, distributors, and manufacturers' representatives to assess what their marketing, promotion, and sales plans are for the product in question.

These plans are then shared with the company's functional managers and demand estimates are adjusted accordingly. The demand planner then develops a final demand estimate for the coming period based on this wide array of input. As one might expect, the CPFR approach to estimating demand often results in a very accurate forecast of demand due to the intensive sharing of information among the firm's functional managers and key supply chain and channel partners.

The most practical approach for application of CPFR is for the trading partners to map their partners' forecasts into their own terms, understand where their partners' plans deviate significantly from their own, and then collaborate on the assumptions that may be leading to different estimates. Through this iterative process, intermediaries and manufacturers use collaborative feedback to synchronize their supply chains, while keeping their enterprise planning processes intact.[42]

Combining Several Forecasting Techniques

Recent research on forecasting techniques indicates that forecasting accuracy can be improved by combining the results of several forecasting methods.[43] The results of combined forecasts greatly surpass most individual projections, techniques, and analyses by experts. Mark Moriarty and Arthur Adams suggest that managers should use a composite forecasting model that includes both systematic (quantitative) and judgmental (qualitative) factors.[44] In fact, they suggest that a composite forecast be created to provide a standard of comparison in evaluating the results provided by any single forecasting approach. Each forecasting approach relies on varying data to derive sales estimates. By considering a broader range of factors that affect sales, the combined approach provides a more accurate forecast. Rather than searching for the single "best" forecasting technique, business marketers should direct increased attention to the composite forecasting approach.

[42] "Taking It One Step at a Time: Tapping into the Benefits of Collaborative Planning, Forecasting, and Replenishment (CPFR)," *An Oracle White Pape*, (August 2005), http://www.oracle.com/applications/retail/library/white-papers/taking-it-one-step.pdf.

[43] J. Scott Armstrong, "The Forecasting Canon: Nine Generalizations to Improve Forecast Accuracy," *FORESIGHT: The International Journal of Applied Forecasting* 1 (1, June 2005): pp. 29–35.

[44] Moriarty and Adams, "Management Judgment Forecasts," p. 248.

Summary

The business market contains a complex mix of customers with diverse needs and objectives. The marketing strategist who analyzes the aggregate market and identifies neglected or inadequately served groups of buyers (segments) is ideally prepared for a market assault. Specific marketing strategy adjustments can be made to fit the unique needs of each target segment. Of course, such differentiated marketing strategies are feasible only when the target segments are measurable, accessible, compatible, responsive, and large enough to justify separate attention.

Procedurally, business market segmentation involves categorizing actual or potential buying organizations into mutually exclusive clusters (segments), each of which exhibits a relatively homogeneous response to marketing strategy variables. To accomplish this task, the business marketer can draw upon two types of segmentation bases: macrolevel and microlevel. Macrodimensions are the key characteristics of buying organizations and of the purchasing situation. The NAICS together with other secondary sources of information are valuable in macrolevel segmentation. Microlevel bases of segmentation center on key characteristics of the decision-making unit and require a higher level of market knowledge.

This chapter outlined a systematic approach for the business marketer to apply when identifying and selecting target segments. Before a final decision is made, the marketer must weigh the costs and benefits of a segmented marketing strategy. In developing a market segmentation plan, the business marketing manager isolates the costs and revenues associated with serving particular market segments. By directing its resources to its most profitable customers and segments, the business marketer is less vulnerable to focused competitors that may seek to "cherry-pick" the firm's most valuable customers.

The forecasting techniques available to the business marketer are (1) qualitative and (2) quantitative. Qualitative techniques rely on informed judgments of future sales and include executive judgment, the sales force composite, and the Delphi methods. By contrast, quantitative techniques have more complex data requirements and include time series and causal approaches. The time series method uses chronological historical data to project the future trend and growth rate of sales. Causal methods, on the other hand, seek to identify factors that have affected past sales and to incorporate them into a mathematical model. The essence of sound demand forecasting is to combine effectively the forecasts provided by various methods.

Discussion Questions

1. Cogent is a rapidly growing company that makes software which identifies people using biometrics—fingerprints, faces, eyeballs, and other personal characteristics. The firm is making terminals that allow customers to pay for products with their fingerprints. Assess the potential of the "pay by touch" system and suggest possible market segments that might be receptive to the new offering.
2. Automatic Data Processing, Inc. (ADP), handles payroll and tax filing processing for more than 300,000 customers. In other words, firms outsource these functions to ADP. Suggest possible segmentation bases that ADP might employ in this service market. What criteria would be important to organizational buyers in making the decision to turn payroll processing over to an outside firm?

3. FedEx believes that its future growth will come from business-to-business e-commerce transactions where customers demand quick and reliable delivery service. Outline a segmentation plan that the firm might use to become the market leader in this rapidly expanding area.
4. Sara Lee Corporation derives more than $1.5 billion of sales each year from the institutional market (for example, hospitals, schools, restaurants). Explain how a firm such as Sara Lee or General Mills might apply the concept of market segmentation to the institutional market.
5. Some firms follow a single-stage segmentation approach using macrodimensions; others use both macrodimensions and microdimensions. As a business marketing manager, what factors would you consider in making a choice between the two methods?
6. Compare and contrast the sales force composite and the Delphi methods of developing a sales forecast.
7. Although qualitative forecasting techniques are important in the sales forecasting process in many industrial firms, the marketing manager must understand the limitations of these approaches. Outline these limitations.
8. As alternative methods for demand forecasting, what is the underlying logic of (1) time series and (2) regression or causal methods?
9. What limitations must be understood before applying and interpreting the demand forecasting results generated by causal methods?
10. What features of the business market support the use of qualitative forecasting approaches? What benefits does the business market analyst gain by combining these qualitative approaches with quantitative forecasting methods?

Internet Exercises

1. Xerox positions itself as "The Document Company" because the firm provides solutions to help customers manage documents—paper, electronic, online. Go to http://www.xerox.com, click on "Industry Solutions," and
   a. Describe the industry sectors that the firm seems to cover in its market segmentation plan.
   b. Identify the particular product and service that Xerox has developed for bank customers.

CASE

Federated Insurance: Targeting Small Businesses[45]

Targeting small and medium-sized business (SMB) customers, Federated Insurance offers clients and prospects a program of complete insurance protection, covering the spectrum from commercial property and casualty insurance and life and disability insurance to group health insurance. Since its founding over a century ago, the market plan for the company has centered on a clear-cut strategy: provide the highest quality, best-value service available to *selected* businesses.

Based in Owatonna, Minnesota, with regional offices in Atlanta and Phoenix, Federated has 2,600 employees and operates in 48 states. Consistent with its heritage and original market plan, the company specializes in business insurance for selected industries:

- Auto dealers and auto parts wholesalers
- Building contractors (for example, electrical, plumbing-heating-cooling)
- Equipment dealers (for example, agricultural, lawn and garden)
- Funeral services
- Jewelers
- Machine shops
- Petroleum marketers and convenience stores
- Tire dealers

Cultivating Business Relationships

Marketing representatives at Federated can tailor insurance protection to meet virtually all of a business owner's insurance needs: property, casualty, health, retirement, and more. They also provide quality risk-management services that respond to the specific needs of business owners. The goal here is to help customers develop procedures and practices that can reduce losses and improve worksite safety conditions.

Federated enjoys a strong reputation among SMB customers, as the following testimonials demonstrate:

> "One of the things Federated does very well is that they have focus. It's not about selling insurance, it's about taking care of your customers, and the businesses that do best are the ones that take care of their customers."
>
> [Tim Smith, President, Bob Smith BMW, Calabasas, California]

[45] "About Federated: Our History and Mission," accessed at http://www.federatedinsurance.com on July 10, 2008.

"I've had friends who are in businesses that jump insurance companies all the time and they're price shopping. They don't realize the relationship that you have to build with an insurance company. It's such a close relationship, but yet so secure. With Federated, we don't worry—we don't have to."

[Greg Nesler, President, Rochester Plumbing and Heating, Rochester, Minnesota]

Discussion Questions

1. By directing attention to particular types of businesses (for example, convenience stores or auto dealers), Federated emphasizes macrosegmentation. To further sharpen strategy, suggest possible ways that particular macrosegments could be broken down further into meaningful microsegments.
2. In buying insurance, some SMB customers just want the lowest-priced option for each type of insurance, whereas others want value-added services (for example, risk-management guidance) and a complete, integrated insurance solution. How should Federated respond to customers who are strictly focused on price? In your view, what are the points of difference that Federated should illuminate in the customer value proposition?