

The Consumer-Driven Organization

STRATEGIES FOR TRANSFORMATION



The Consumer-Driven Organization:

Strategies for Transformation

Consumer-Driven Organization Program

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About the Institute for the Future

Located in the heart of Silicon Valley, the Institute for the Future (ITF) is a not-for-profit research organization with over 30 years of experience in long-term data-based forecasting. ITF identifies future trends and key discontinuities that will transform the marketplace. We provide key foresights and guide our members in drawing insights as input to their strategy, as well as possible action steps. Through the exploration of possible futures, we help companies, government agencies, and private foundations make better decisions in today's uncertain world.

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Introduction

The consumer-driven organization—an organization that fully utilizes consumer data as a strategic asset—will set the criteria for success in the marketplace over the next decade. Successful consumer-driven organizations will take advantage of two significant and intersecting trends. The first trend is the growing sophistication of the new consumer and her ability to manage information as a resource in her interactions with business. The new consumer is an active and sophisticated consumer—one who uses new technologies and new forms of interaction to take action in the marketplace. The second trend is the continued development and adoption of information and communications technologies by businesses. New forms of gathering, integrating, and displaying information will provide new pathways to the consumer and new channels for interaction. Together, these two trends challenge traditional business supply chains and the role of the consumer in the business-consumer relationship.

The consumer-driven organization of 2012 will understand how active and sophisticated consumers use and value information as a resource to support interactions with business. Business winners in 2012 will have developed core processes that listen and respond to the savvy consumer and respect the consumer's expanded role in the business-consumer relationship.

In this report, *The Consumer-Driven Organization: Strategies for Transformation*, we share our insights into how companies can better organize themselves based on trends brought about by new and sophisticated consumers. The report presents a synthesis of results that have been gathered over the course of the research year in the Consumer-Driven Organization Program from various methods, including: a national consumer survey, discussions with technology experts, and interviews with a range of communication experts from business and academia. This

synthesis identifies several insights related to changes in consumer communication preferences, consumer use of information, new information and communications technologies, and business strategies that can take advantage of these changes. The report is organized into seven chapters, each of which focuses on a key issue or insight.

- *New consumers are evolving unique information needs and preferences.* New consumers tend to use more information than average consumers. They also favor information that comes from two-way interactions with business, particularly those that they initiate themselves. New consumers use information to drive change and meet their own needs (Chapter 1).
- *Consumer data drives strategies to reach new consumers.* Consumer data is at the heart of the different types of communications strategies available to business. Getting the right type and depth of consumer data will shape how well businesses can meet consumer needs (Chapter 2).
- *Consumer data should be converted into a strategic asset.* Consumer data is an asset that will drive business process and interactions with consumers. How businesses manage consumer data—the collection, analysis, and application of it—across the supply chain will be a core strength for successful consumer-driven organizations. Sometimes, however, there are barriers that prevent effective use of consumer data (Chapter 3).
- *There are new constraints and criteria for investment in information and communications technologies.* The end of last decade's investment boom means that new investments in information and communications technologies will be driven by a different set of criteria than in the past (Chapter 4).
- *New technologies create new kinds of interactions and data.* Over the next decade, several new technologies—ranging from new displays, to soft tags, sensors, web services, and intelligent algorithms—promise to help companies use data efficiently and facilitate their evolution into consumer-driven organizations. These technologies will create new kinds of customer data, support new ways of sharing data within and between companies, and help companies interact with their customers more efficiently (Chapter 5).
- *There will be new demands of and responses by the consumer-driven organization.* Several organizational challenges will emerge as companies respond to the new, active consumer and reorganize themselves to become more consumer-focused. New technologies and new demands by sophisticated active consumers will require new core business processes that hold the consumer in the center (Chapter 6).
- *The final chapter forecasts how firms in retailing, finance, and brand manufacturing might act in the future to keep in touch with the active and sophisticated consumer.* These strategies outline ways to gather and apply consumer data, develop effective interactions with consumers, and identify and develop core consumer oriented business processes (Chapter 7).

Chapter 1

New Consumers: Sophisticated and Active

The way consumers use information technologies to empower themselves is the number one driver changing business-to-consumer interactions. In the last decade, the Institute for the Future (ITF) has tracked the profound shift in the way consumers use information technology. By using new telecommunications devices, more television channels, computers, and the Internet, to name a few of the more popular technology options, these new, more sophisticated consumers have learned to gather and process more and more information. Consumers now have more options for communicating directly with businesses, and they expect businesses to respond to their individual needs.

They have pushed for broader access to information, more focused messages, and more control over the information they receive. In doing so, they have become a force to reckon with, utterly transforming supply chains and communication practices, and will continue to do so for at least the next decade to come.

MEASURING THE GROWTH OF SOPHISTICATED CONSUMERS

New consumers are those who use information more intensively and interactively than more traditional consumers. Several demographic indicators are associated with the rise of these new consumers—educational attainment, household income, occupations that are information-intensive, and steady use of new information technologies. Each of these indicators by itself could be a predictor of the new consumer—that is, information use rises with the growth in any of these indicators and very distinct patterns of use emerge with these demographic characteristics.

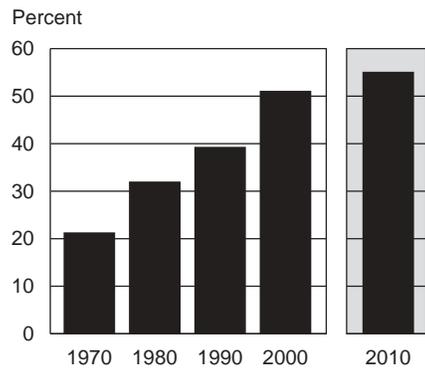
Let's look at the evolution of the new consumer in two steps: first by looking at the growing share of the population that demonstrate the four key new consumer characteristics, and then by tracking the patterns of information utilization that are associated with these characteristics.

The share of the population with at least one year of college education has been rising steadily and rapidly over the last 30 years (see Figure 1–1). The college-trained population now has reached over 51% of the total adult population. This growth comes primarily from younger adults. In fact, today’s 20 to 24-year-olds are more than twice as likely as today’s 65 and older consumers to have attended college. The share of adults with at least some college education should continue to rise at a rapid pace for at least the next decade due to replacement effects in the older generations. This means that over the next decade, an increasingly large share of adults will have the training that colleges provide in gathering and processing information—and they will be able to use that training in their interactions with businesses.

Income is another predictor of new consumer behavior, as higher income allows consumers greater latitude in purchasing decisions. The share of people living in households with incomes over \$50,000 (in constant 2001 dollars) has also risen, from around 28% in 1970 to 42% in 2000 (see Figure 1–2). This share, too, should continue to grow because the Baby Boomers, who are the first generation to reach 50% college attainment and 50% information-intensive jobs, will be in their peak earning years until the turn of the decade.

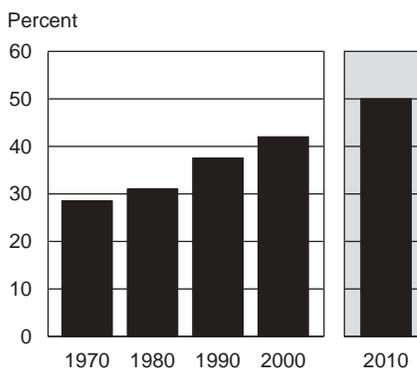
Information-intensive work is a third indicator of new consumer behavior. This is because the information practices that individuals learn at work often get translated to their home environment. The share of people who are in information-intensive jobs shows the same rapid trend of growth, jumping from 30% in

Figure 1–1
Rise in College Level Attainment
(Percent of U.S. adult population 25 and older who have gone to college)



Source: Institute for the Future; U.S. Census Bureau.

Figure 1–2
Share of High-Income Households Is Rising
(Percent of all U.S. households with \$50,000+ income in constant dollars)



Source: Institute for the Future; U.S. Census Bureau.

1970 to 46% in 2000 (see Figure 1–3). (We have defined information-intensive jobs to be the occupational categories of managers, professionals, technicians, and business sales.)

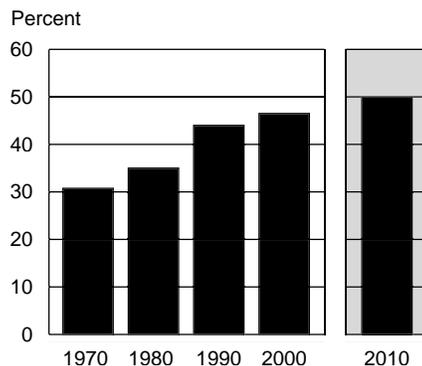
As desktop computers and personal use software such as spreadsheets and e-mail have spread into the office workplace, consumers learn, as workers, how to use these new tools to gather, assess, and manage information to make decisions, set priorities, and perform various other business tasks. Information has always been a basis for decision making, but the new tools have made new kinds of information, presentation of that information, and processes around that information much more accessible and more easily available. These information- and communications-based practices have migrated and been adapted to home life as personal computers, cellphones, e-mail, and other

communication tools have diffused to the household for personal use.

Finally, the share of the population who have ready access to PCs at home or who report they are regularly online is also growing rapidly (see Figure 1–4). This trend has earlier roots, but started to take off about ten years ago when personal computers became communications devices—first through the early email services at the beginning of the 1990s, and then in about 1994 with the introduction of the World Wide Web and graphical browsers. Regular use of PCs and the Internet by new consumers created a new environment for integrating information and communications into daily life.

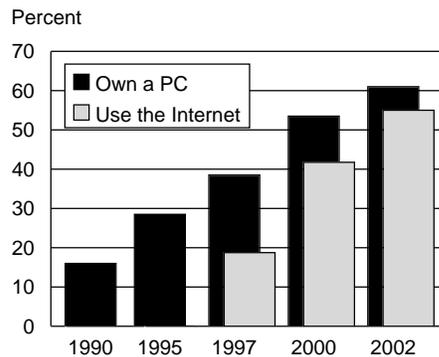
IFTF has tracked the growth of sophisticated new consumers for the past six years, primarily by monitoring shifts in technology

Figure 1–3
More People Are in Information-Intensive Jobs
(Percent of U.S. workers in jobs that are information-intensive)



Source: Institute for the Future; U.S. Department of Labor.

Figure 1–4
PC Penetration and Internet Use Are Rising
(Percent of U.S. households that own a PC and use the Internet regularly)



Source: Institute for the Future, Household Surveys.

ownership, household income, and educational attainment. In the last decade, new consumers as a group have grown rapidly as a share of the total population (see Figure 1–5).

In North America, new consumers account for about half of the adult population. More importantly, however, this group is growing in number five times faster than the adult population as a whole. New consumers are rapidly becoming the dominant force in today’s consumer market. What’s more, they recognize the power of information and that they can control parts of the information flow with business. Indeed, new consumers have developed distinct practices around using information and interacting with business.

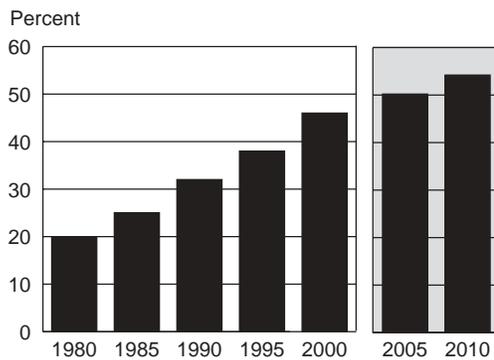
SOPHISTICATED CONSUMERS ARE INFORMATION-INTENSIVE

New consumers are more likely than other consumers to search for information and use more types and sources of information in their buying decisions. They also use information in new and different ways, in particular in ways that help them control their interactions with business.

New Consumers Use Multiple Information Sources

IFTF’s consumer surveys show that new consumers are likely to use a wider array of information channels before making important purchases. If we take the increase in the level of education as a proxy, we find that new consumers go to more information sources when they make a major household purchase.

Figure 1–5
New Consumers Population Is Growing
(Percent of total U.S. adult population that are new consumers)



Source: Institute for the Future

The higher the level of education, the greater the variety of sources they are likely to use when making purchasing decisions, although the number of channels levels out for those with some college and above (see Figure 1–6).

We also find a similar behavior when they are considering nutrition decisions (see Figure 1–7). Searching for information through a wide variety of sources is a new consumer characteristic that applies across a range of different purchasing categories.

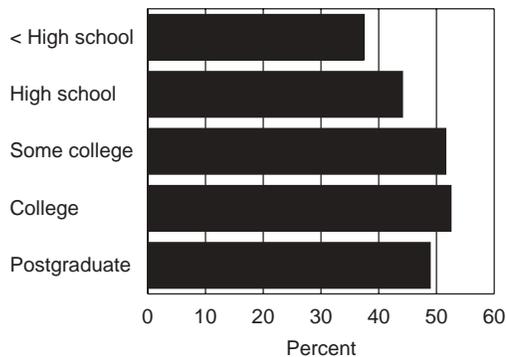
Three key factors underlie these sophisticated consumers’ high use of information. First, new consumers are relatively comfortable with the process of gathering and comparing information. Second, they realize the limitations of any single information source—they want more information because they feel better about products

and services that earn high marks from a variety of sources. And third, new consumers are price-conscious—despite their high income, they don’t want to spend a lot of money for things if they don’t have to, and they are willing to shop around for the best deal.

New Consumers Want Information When Making Changes

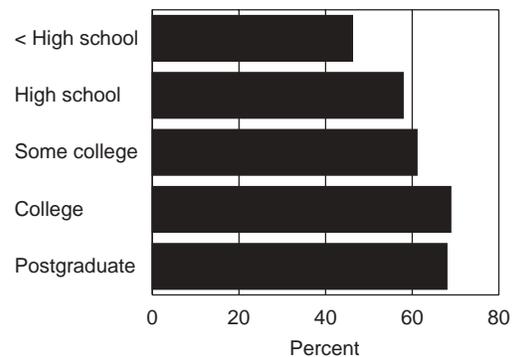
Sophisticated consumers process more information when they are making important changes in their lives. When they are making health care decisions, for example, sophisticated consumers are much more likely to look for extra information about their medical treatment options rather than relying completely on the information they get from their doctor. Sophisticated consumers are much more likely to search the Web or consult other sources (see Figure 1–8).

Figure 1–6
New Consumers Use More Information Sources
(Percent of U.S. adult population that used 4 or more information sources before making a major household purchase)



Source: Institute for the Future, Household Survey 2002.

Figure 1–7
New Consumers Search for More Information About Nutrition
(Percent of U.S. adult population that uses 4 or more information sources)



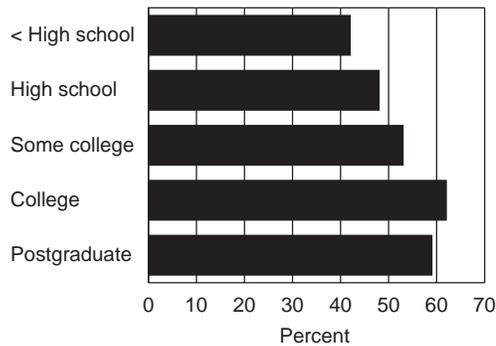
Source: Institute for the Future, Household Survey 2002.

Even when householders are making small changes in behavior—like trying a new brand of food—they also rely on information more than other consumers. The share of consumers who “almost always” check the nutritional content of a new food product before they try it rises dramatically with education (see Figure 1–9).

New Consumers Like Self-Initiated and Interactive Information

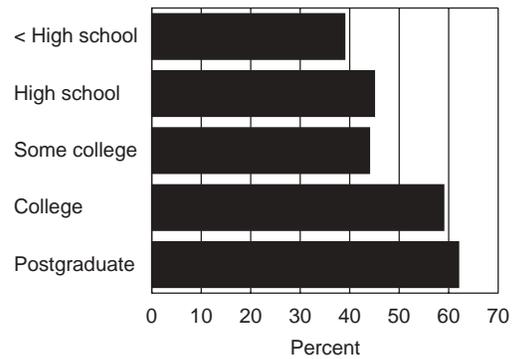
Commercial information comes in many different formats. Much of it is presented to the consumer as they participate in other activities—commercials while watching television, advertisements while reading a newspaper or magazine, items in a retail shop, outdoor ad-vertisements, event sponsorship, and direct mail. Sophisticated consumers, however, are more likely to place a much

*Figure 1–8
 New Consumers Look Widely for Medical Treatment Options
 (Percent of U.S. adult population that used sources other than their doctor in the last 12 months for information regarding alternative treatment options)*



Source: Institute for the Future, Household Survey 2002.

*Figure 1–9
 New Consumers Want More Information Before Trying New Foods
 (Percent of U.S. adult population that “almost always” checks the nutrition label before buying a new brand)*



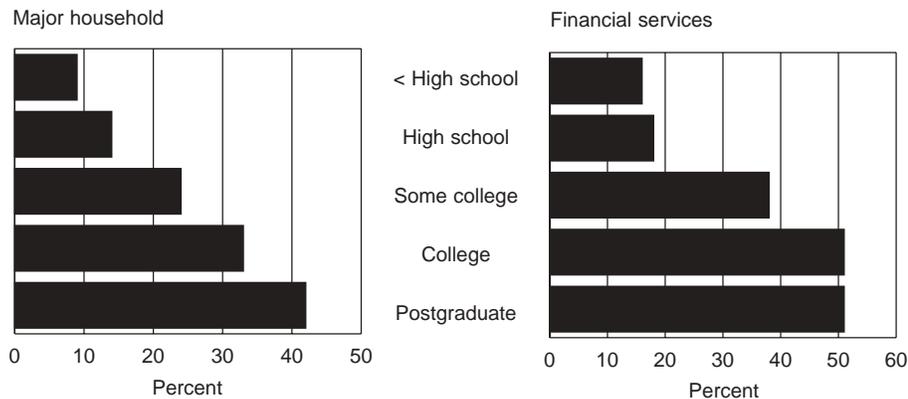
Source: Institute for the Future, Household Survey 2002.

higher value on commercial information that they obtain themselves on their own initiative, such as doing a Web search or asking a company to send information. For sophisticated consumers such information is two to three times more likely to be considered “the most useful information” in their final decision than information from other sources. Such information is even more important for those making financial service decisions than for those making major household purchases (see Figure

1–10). Because they are initiating the search for a specific type of information that they can “pull” to them, it is more likely to be specific to their needs and interests.

Sophisticated consumers are also much more likely to welcome information exchanges with businesses. Although such exchanges are down by over 25% from their peak in the year 2000, the most sophisticated consumers are still much more likely than other consumers to give permission to compa-

Figure 1–10
Self-Initiated Information Is Important to Sophisticated Consumers
(Percent that report self-initiated information* was most useful before making ... purchase decision)



* Self-initiated information includes Internet information and information requested from companies.

Source: Institute for the Future, Household Survey 2002.

nies to send them regular updates about products or services (see Figure 1–11).

New Consumers Rely on Friends and Family

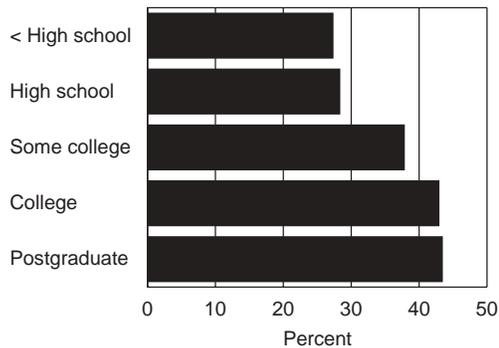
In addition to their faith in self-initiated information, new consumers rely heavily on friends and family to provide information. It is important to note that friends and family are a major source of information for everyone; Figure 1–12 shows that after retail environments themselves, friends and family are the second most important source of information for everyone’s deci-

sions about major household purchases.

But new consumers are especially likely to use their friends and family as resources when making purchasing decisions. As education levels increase among consumers, the most highly educated are up to 50% more likely to use friends and family to help them make purchases in a range of domains (see Figure 1–13).

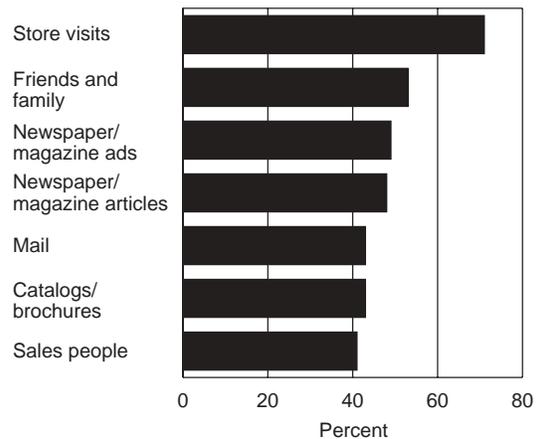
Another way to think about people’s friends and family is as a social network—a network of relationships between people met through family, work, school, religious or

*Figure 1–11
 New Consumers Are More Willing to Exchange Personal Information
 (Percent that have given permission to companies to send them regular updates about products or services)*



Source: Institute for the Future, Household Survey 2002.

*Figure 1–12
 Retail Environments and Friends and Family Are Relied Upon Most Frequently
 (Percent of U.S. adult population who used ... as a source of information for last major household purchase)*



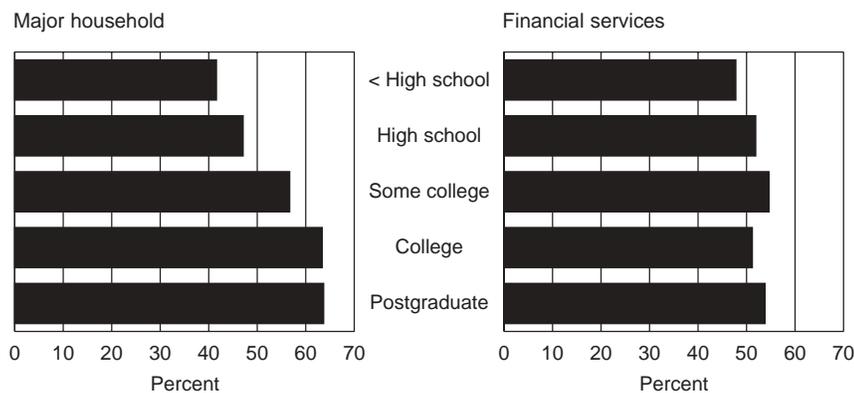
Source: Institute for the Future, Household Survey 2002.

political activities, hobbies and interests, sports, or in other contexts. These relationships form an extended web of resources that can be called upon for a variety of purposes—to help one get a new job, find a date, find out what to do on Saturday night, or as we have seen, help find out what new products and services would best meet a specific persons’ needs. New consumers are more likely to have active and broad social networks that support them in their interactions with business.

Although everyone has a social network, some people’s networks have a farther “reach”

than others’ networks. (Think of people you know who seem to know all sorts of interesting people from a wide range of contexts.) Social reach seems to evolve with increased mobility and change. When people move to a new neighborhood, start a job at a new company, or join a new social club, they have a much greater opportunity to make new connections with new people, as compared with people who stay in the same place for a longer period of time. With these new connections come new kinds of information—not just the same opinions about products and services

Figure 1–13
New Consumers Rely Upon Friends and Family More
(Percent of U.S. adult population that used information from friends and family before making ... purchase)



Source: Institute for the Future, Household Survey 2002.

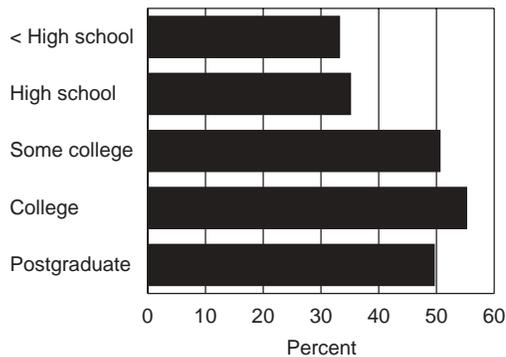
held by the “usual” people they talk to, but rather fresh ideas about what is out in the marketplace. Social reach is very important for spreading innovations and new technologies.

IFTF has quantitatively assessed consumers’ social reach, by measuring several indicators: moving to a new neighborhood, starting a job at a new company, or joining clubs and organizations. Using a scale that combines these behaviors, we created an index of social reach that ranges from low to very high reach. Approximately one-third of Americans have high or very high social

reach, but new consumers are much more likely to have this level of diversity in their networks (see Figure 1–14). These consumers tend to have well-developed social networks containing a range of different kinds of people. By talking to family, friends, and others in these networks, new consumers mine the collective wisdom, insight, and experience extensively to get the very best information about products and services.

In the next chapter, we see how businesses have responded to new consumers’ information gathering and use patterns.

Figure 1–14
New Consumers Have High Social Reach
(Percent of U.S. adult population who has high or very high social reach)



Source: Institute for the Future, Household Survey 2002.

Chapter 2

The Spectrum of Communications Strategies

Interactive communications channels and the increasing importance of the new consumer are changing the way consumers communicate and interact with businesses. Consumers are looking for relevance and engagement around issues of importance to them. In response, many companies are reformulating their communications strategies for dealing with consumers. They are changing all of their communications strategies—from how they think about brand awareness, to the intensity put into direct personal interactions.

RETHINKING COMMUNICATIONS AT EVERY POINT

There is a spectrum of possible communications strategies that ranges from undifferentiated mass media messages to personalized messages. At one extreme of the spectrum are the messages that create broad brand awareness among large groups of people, and at the other extreme are personal one-on-one interactions involving very specific content. As we move along this spectrum toward greater personalization, information flows become more intensely interactive, demonstrating conditional responses back and forth between consumer and business. Segmentation of customer groups becomes more dynamic and narrower as more information is gathered over time.

Every large branded product or service company and most retailers are developing new strategies for multiple points along the communications spectrum. We have identified five major points along the spectrum from mass to personal, each of which captures a different type of communications strategy (see Figure 2–1 on page 14). As we move along this spectrum towards greater personalization, these strategies progressively increase the focus and relevance of the communications message. They also capture unique trade-offs between increased efficiency and better service, and allow companies to use different kinds of consumer data to their advantage. While no company focuses

exclusively on one single place on this spectrum, some of these strategies may support a company’s consumer base better than others. And, over time, any one company may evolve its communications to include other strategies on the spectrum.

FIVE STRATEGIES ALONG THE SPECTRUM

Let’s look at the five points along the spectrum and describe their key components and expected outcomes.

Brand Messages Driven by User Feedback

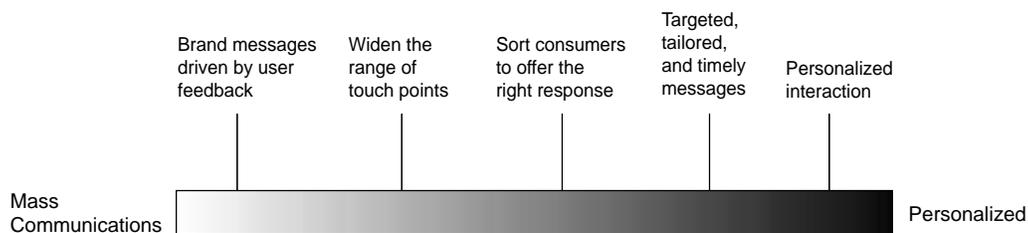
Many large consumer brand companies provide products or services that are clearly focused on the mass market. Their business models are oriented toward producing and distributing products to large numbers of people in the most efficient manner possible. Examples of these types of companies include some of the most successful brand companies in the world. Coke and Pepsi need to reach a huge global market of consumers on a regular basis to sustain their success. McDonald’s provides a limited standardized product and service (prepared meals) at a huge number of convenient locations at high value. Credit card

companies like Visa are trying to maintain an image of a brand that is distributed in a variety of formats through banks and affinity groups. And one of the most successful brands of all, Wal-Mart, provides accessible retail locations that offer value pricing of popular national brands. Today, the successful communications strategy for these companies is to continually emphasize to the broadest audience the value offered by the brand (such as “refreshment,” “a value meal,” “convenient payment options,” and “every day low prices”).

But even these companies can make incremental improvements in product and service offerings by using consumer data as a learning tool. While it may not be affordable or even possible to develop a one-to-one interactive relationship with mass-market consumers, those consumers still provide important feedback—by not buying a product, by trying it once but not repeating the purchase, by making simple queries, or sometimes by complaining.

Many mass-market companies, such as Coca-Cola, are turning to businesses like Epinions and PlanetFeedback that help companies develop listening posts to tap into

Figure 2–1
From Mass Brands to Individual Interaction—Strategies for Communicating with Consumers



Source: Institute for the Future

consumer buzz about products, brands, customer service, and other important corporate indicators of trust and satisfaction. Even mass-market companies can convert these information streams into adaptations and adjustments in their product offerings. For example, Coke has kept its focus on the non-alcoholic beverage market but has continually adjusted its product—adding bottled waters and fruit drinks, vanilla and blue versions of its cola products, changing the look of its bottles and cans, entering into partnerships, and adding new distribution points. Each of these changes has required finding the appropriate large consumer group and communicating about the change. The key to this communication strategy is to continually reform products and processes and tell the right people about the changes.

Widen the Range of Touch Points

As we move along the spectrum, the goal is not just to target narrower groups with brand messages, but to build multiple touch points that can allow greater message differentiation. Adopting this approach requires knowing more about broad differences between groups of customers; for example, when and where they want to take care of their banking, or what kinds of media channels they prefer. The essence of this strategy is to create narrower segments based on communication and delivery options so that interactions with the consumer can be maximized and quickly converted to a sale.

Wells Fargo provides a good example of this strategy. It has broadened the range of touch points with its customers by allowing them to do basic banking services at places and times the customers set themselves. It has tremendously increased the number of locations that consumers can choose for their banking services. Currently it has 5,600 branches, and it has moved many of its retail

operations into grocery stores so customers can do grocery shopping and banking with a single stop. It has widened the range of operations that can be done at its 6,200 ATMs. It is currently the number-one-ranked Internet banking site. And it has successfully migrated many transactions to telephone, and currently services 20 million telephone inquiries per month. But more importantly, Wells Fargo is refining its brand message of ubiquitous presence by emphasizing its availability for particular customer segments. For example, Wells Fargo has recently begun offering ATM services in Spanish and Chinese, talking ATMs, and greater investment options in its grocery store operations.

Even big users of mass media are reaching out to communicate in specialized channels to specific consumer groups. For example, Procter & Gamble recently broadened its media deal with Viacom to spend up to \$350 million (up from \$300 million in 2001) in a wide collection of media outlets. The package will now cover over 14 divisions of Viacom's cable, network, and syndication channels, and it adds focused outlets like MTV Español, Nick Jr., CBS.com, and MTV.com.

Sort Consumers to Offer the Right Response

As we move along the spectrum, a third communication strategy is to use sorting mechanisms to identify smaller groups of consumers and offer them different products and services. These targeted offers have traditionally happened through direct mail, targeted catalogs, and cable television stations.

For example, the credit card company Capital One does most of its advertising through direct marketing; in fact, they are the second largest mailer in the United States. Their communications approach is to target a range of small groups with different credit

card offers. Capital One relies heavily on quantitative techniques to segment and tailor their product offerings. They segment by hundreds of different characteristics—location, income, age, home ownership, education, sex, purchasing patterns, hotel usage, or type of car—and vary the offering by initial cost, interest rate, fee, repayment conditions, and penalties. Furthermore, their messages themselves are also varied by wording, color, format, and content. All together, their direct marketing materials have thousands of options. The relatively low cost of segmenting an offering allows Capital One to run hundreds of different marketing experiments at the same time—over the course of a year they may have up to 64,000 different approaches to small market segments. Whenever a trial produces slightly higher rates of return they will repeat it on a larger basis, or combine it with other elements that seem to work for particular groups.

But some companies are experimenting with their customer data in different media. For example, a company that has found success sorting customers is the casino company, Harrah's Entertainment. Its "Total Rewards" loyalty card offers benefits to customers who use the card while gambling. Customers earn points based on spending levels that can be redeemed for a range of rewards including complimentary meals, free or heavily discounted hotel rooms, upgraded rooms, and show tickets. While these benefits please the customers, the cards give Harrah's an even bigger benefit—the ability to track the behavior patterns of individual customers.

Using complex computer models, the company takes basic demographic characteristics of individual customers, such as age, sex, and hometown, and combines them with the information gathered when users swipe their loyalty cards at slot machines and card tables,

tracking such things as how long Mrs. Cooke gambled, how many games she played, her average bet, and how much money she spent (and won!). Customers are later sent different offers, based on their potential business, to entice them to come back to a Harrah's property sometime in the future. This is the key to success here—how customer information is used internally. The goal is not to get people to gamble more per se, but to increase the enjoyment and pleasure of their customers so they stay longer and come back into Harrah's casinos rather than a competitor's on their next trip. Harrah's strategy has proven very successful, raising it from the ranks of a "second-tier" player to the third largest casino operator in the United States (behind Park Place Entertainment and MGM Mirage) with more than \$3.7 billion in revenue in 2001.

Targeted, Tailored, and Timely, Messages

As we move further along the spectrum, we can find examples of companies that spend more money and effort to build on knowledge of small groups of consumers. The goal of providing timely, targeted, and tailored communications is to respond quickly and with relevant information at the time that would have the most impact on the consumers' decision-making.

Today, many businesses try to approximate this experience by offering as many options as possible within a purchasing category. For example, Expo Design Center, Home Depot's upscale design store, is organized into ten specialty stores ranging from kitchen and bath to appliances, custom closets and outdoor living. Each "store" includes fully decorated display rooms or spaces that cover wall and floor coverings, furniture, lighting, and decorative items. As consumers wander through the spaces to find the one that comes closest to their particular tastes and needs, there are

designers available to help individual customers talk through variations.

But often these “category killers” simply offload on consumers the burden of sorting through multiple options. Although the perfect product may be somewhere in the store, consumers still have to put the effort into looking for it. In this respect, online retailers today may be much closer to providing timely, targeted, and tailored communications. For example, Amazon gives customers targeted book recommendations based on past purchases and the buying patterns of others who have made similar purchases. When a consumer visits Amazon’s Web site, she immediately receives extremely tailored information to guide her to exactly the right book or CD. Similarly, UPS provides package tracking information to shippers and receivers on its Web site.

Other service providers and brand retailers should be looking for ways to combine customer data so that ever smaller segments get increasingly relevant and specific messages. An airline mileage credit card, for example, provides enough information to package all the elements of a trip from past experience: “We know you are going to London again—we can get you a special rate at your favorite hotel, get you some theatre tickets, make dinner reservations at your favorite restaurant.” Having the right customer data is key to using this communication strategy effectively.

Personalize Interactions to Individuals

As we move toward the end of the spectrum, the goal of the fifth type of communications strategy is to get appropriate customers into a personal interaction with a company person who can provide exactly the type of information the customer needs—or, at the least, interact with those high-value customers who feel that personalized service is an important

element of the business transaction.

Historically, most stores rely on sales staff to personalize consumer experiences. For example, the retailer Nordstrom utilizes a very high ratio of sales clerks to customers. A high ratio of incentive pay keeps the sales clerks involved throughout the customers’ decision-making process. This is personal service in a very people-oriented low-tech way. Similarly, Ritz-Carlton, the upscale hotel chain, offers beautiful and luxurious settings but does only the simplest personalized services, such as recording how many times a customer stayed there, what his favorite room is, and any simple requests that he typically makes.

Although these interactions can be very effective at providing personalized service, they are expensive and rely too much on individual employees to capture and re-use consumer data. As we shall discuss later in this report, emerging information and communication technologies will increase the efficiency of gathering and using customer data to create personalized interactions.

IMPLICATIONS FOR BUSINESS

Large brand-oriented companies, service companies, and retailers must find the places along the communications spectrum that will maximize their ability to interact with consumers. Table 2–1, on page 18, summarizes the range of key strategies, each of which offers a chance not just for more communications, but for the opportunity to build more value into the communications stream.

But the costs for increasing the relevance of communications at each point can vary dramatically by area. The move from mass media to more narrow media increases the cost per person to send messages. Increasing touch points is also a substantial added expense in infrastructure, locations, and design. And as we get to more complex personal interactions,

the cost to effectively gather, maintain, and utilize the right data is higher still.

The “sweet spot”—the area where the greatest activity will be in the next decade—is in the three places in the middle of the spectrum. These strategies allow companies to improve their broad undifferentiated messages

while avoiding the costs and time-intensity of personal messages. However, many companies today do not have the data and information infrastructure that would allow them to play well in these areas. In the next chapter we look at the major barriers to such changes.

Table 2-1
Communications Strategies, Company Actions, and Outcomes

Communications Strategy	Company Actions	Communication Outcomes
Brand messages driven by user feedback	Continually reform process and tell the right people about the changes.	Builds brand awareness among smaller groups.
Widen the range of touch points	Offer products and services in new places and expand potential pool of customers.	Effectively communicates to specific groups of consumers across a variety of touch points.
Sort consumers to offer the right response	Quickly identify correct segments for consumers; offer best solutions for that segment.	Presents consumers with options that are appropriate to their needs.
Targeted, timely, and tailored messages	Design relevant messages for ever smaller segments and send at the right moment.	Presents critical information at key moments in the buying cycle.
Personalize interactions with individuals	Respond interactively to individuals with unique problems or questions.	Increases personal communications when it provides high value.

Source: Institute for the Future

Chapter 3

Companies Struggle with Limited Data Options

Over the next ten years, consumer-driven organizations will be the companies that gather, analyze, and use consumer information as a strategic asset. They will be able to use that information to add value to what they do and to build a competitive advantage. There are already some good examples of companies that have moved in this direction and have been very successful, such as Wal-Mart, Capital One, Dell, and Amazon. Each of these companies had a very clear vision from the start to utilize their points-of-interaction with consumers to gain knowledge and improve their business models. Over the next ten years we will see more companies take steps to position consumer information as a strategic corporate asset. Key to doing this is developing a data strategy.

Successful implementation of a data strategy requires organization and cultural adaptations that a lot of companies don't and won't pay attention to. In this chapter, we consider how companies should view data as a strategic asset, and some of the obstacles that today prevent companies from using their data better.

ELEMENTS OF A DATA STRATEGY

Five elements make up a successful data strategy: having a clear vision, capturing relevant data, data integration, analyzing and interpreting the data, and volume management (see Table 3–1 on page 20). Several obstacles, however, are presenting challenges to business and making it more difficult to realize these elements.

A Clear Vision

A clear vision for the utilization of data up front (before even gathering the data) is essential. Creating this clear vision was the most often mentioned challenge in the business interviews we conducted. A lot of companies are aware of the fact that they do not have a comprehensive data strategy. There are three issues that must be resolved

to create a clear vision. First, the data should lead to opportunities to add value for consumers. Placing consumer needs at the center of one’s data vision will help companies make the direct link between new information and new opportunities, and it will be easier to red-flag potential privacy violations.

Second, the company needs to figure out what consumer information will prove of value to its partners along the supply chain—in helping them to move earlier, to redesign products, or to make longer-term commitments. Any of these elements will add value regardless of the company’s position along the supply chain and provide both higher leverage

and higher profit. Wal-Mart is an interesting example of a company that is very good at gathering and utilizing so-called “back-end data”: information on exact inventory and what is being sold right now at which location. Wal-Mart does not use individual consumer data, but focuses on gathering data that will help improve the supply-chain process. This helps Wal-Mart to make good deals with suppliers in order to give consumers better product offers.

Third, the company should identify what consumer data may help its employees to work effectively across the the organization. Consumer information that can prove valuable to several

Table 3–1
Five Essential Elements of a Data Strategy

Element	Description
Clear vision	Businesses need to start with a clear strategic vision of how consumer data can be used to add value for customers, assist supply chain partners, or create incentives to improve communications within the company.
Data capture	Data capture is the gathering of new primary data about consumers and their behavior. This data can get captured through many venues including transactions systems, Web sites, physical observations in stores, call centers, and so forth.
Integration	Integration combines primary data from all sources into a standard accessible format. This includes integrating data across channels and possibly from third parties, with the goals of creating an integrated and complete view of customers and enabling diverse parts of the organization to access and exchange data with each other.
Analytics	Analytics is the processing, mining, and synthesis of data to extract meaning with the goal of informing decision-making.
Volume management	Volume management is the storage and maintenance of an increasing amount of consumer data, in a manner that will still allow companies easy access.

Source: Institute for the Future

parts of an organization could be the key to creating incentives that lead to effective sharing.

Key Obstacle: Value Pricing

However, there are two forces at play that create dilemmas for strategists who would envision a clear data plan. The first force is the data and communications revolution that has dramatically increased the amount of new data about consumers. This opens the opportunity to learn and respond quickly to the interests of people. But the second force is at times antithetical to the first—this is the widespread use and availability of value pricing, the offer of high-quality branded products and services at low prices.

For consumers, the two forces often work together. As we have seen in Chapter 1, the most sophisticated consumers use a variety of sources of information to find value offerings. But for companies, these forces typically lead in different directions. While interaction and learning from customers can produce more targeted and customized services and products, they also raise costs. Thus, consumers who value good information and services will continually have to trade-off value pricing against communications policies that reflect greater attention to their needs. Often consumers will use information-intensive interactions to select the product or service needed and then use dif-

A CLEAR STRATEGIC VISION

Back in the late sixties, early seventies when companies and managers were just starting to get some analytic strength, some tools were being developed, but they didn't have data. So [analysts at many companies] were sitting around thinking—if we had the data, this is what we think we'd see. And they would really think before they would act. ... They would get some numbers and they would test their models and theories and sometimes revise them, but it was thinking before acting. But today, it's like drinking from a fire hose. You have ALL of this data. So companies are saying: let's summarize this data and see what it's telling us. And in some sense, they are giving up their responsibilities as thinkers. And many companies and industries are worse off today than they were 30 years ago, even though the data is much better.

—Professor of marketing at a top-5 U.S. business school

I think at a lot of other companies, they make understanding of the consumer the market research function. ... [at our company], that's not true. It is the function of the person who does basketball shoes to understand basketball players. It's within the business. It's not someone else's function to feed them information. The person had better be spending time with basketball players. They don't have a researcher do it, then write them a report to understand the basketball player. I've never been a believer in that.

—Director of Consumer Insights and Brand Planning at a major sporting goods company

ferent channels to search for that product or service where it is cheapest.

Gathering Relevant Data

Data gathering comes in many forms—companies have the option of purchasing information from other companies, utilizing data that is available at their points of contact, building long-term data-rich relationships with their customers, or using market research to fill in their gaps in understanding. Most companies already can and do use some or all of these options to gather relevant data about their customers. However, it is getting increasingly difficult for companies to identify what data they need (and on which consumers), given accelerating consumer market fragmentation.

Key Obstacle: *Consumer Market Fragmentation*

Market fragmentation has several important dimensions—it involves fragmentation of consumer populations, product offerings, and communication channels. But for the purposes of gathering relevant data, consumer market fragmentation can represent a serious challenge. Populations in developed countries and many developing countries are becoming increasingly diverse as a result of migration, extended life spans, shifting household arrangements, and increased access to technologies and information. For example, more than 28 million residents in the United States are foreign-born, and this number is on the rise (growing from 4.5% of the total population in the 1970s to about 10% today). Extended life spans in virtually every country in the world lead to more niches within the elderly population. And changing household compositions are leading to a greater diversity of family configurations and living arrangements in developed countries. Households

consisting of married couples with children account for less than 25% of all households, and today the fastest growing households are the non-traditional ones—single-person households, unmarried cohabiting couples, extended families and the like.

In such an environment, it becomes more difficult to identify and sort customers into the right buckets—the buckets keep getting smaller! For example, consider the PRIZM system, a proprietary system of geodemographic segmentation from Claritas. In the 1970s and 1980s there were 40 clusters in the PRIZM system; now there are 62, of which only 20 are unchanged from 1980. Changes due to immigration, mobility, and the economy have shifted the entire mix of clusters, generating new groups. And even small-scale segmentation systems may not be flexible enough to match today's fragmented markets. As increased consumer connectivity allows people to quickly identify and jump onto the latest trends, companies may find that their best customers are not at all who they are "supposed" to be.

Integration of Data

If consumer data is the key element of your organization around which everything else is organized, then all relevant employees should have access to all of that data and be working off the same numbers. However, typically data is gathered in multiple repositories, as different functional groups (marketing, sales etc.) gather their own data for their own databases. Furthermore, data may be fragmented by product or geographical region, which is inherent to the structure of many companies, as many companies are structured around product groups. This means that integration of the consumer data is a real issue.

Key Obstacle:
Data Fragmentation Within Companies

Many companies are challenged by the large amount of customer information they already have that is spread out through the company in separate databases. There was great promise from new software systems during the 1990s—customer relationship management systems that were meant to unify key contacts into a single database and enterprise software that attempted to rebuild companies’ legacy systems into a single unified system. But these systems alone proved incapable of changing cultures and organizational rigidities. There has been a sharp fall in spending on them and skepticism about their ultimate value. (See Chapter 4 for a discussion of the promises and gaps in software.)

**Analyzing and Interpreting
the Data**

Even if a company has defined a good strategy, gathers the right data and is able to integrate the data, it can for different reasons find it really hard to analyze the data, interpret it, and create insights that are understandable and lead to action. But technologies are bringing tools to help and companies are coming to understand the unique skills needed to find the right use for data.

Key Obstacle:
**Choosing the Right Perspective
on Your Market**

Companies today have the option to choose from a range of perspectives when seeking to understand their markets: they can think of their markets as segments, individuals, users, networks, or swarms.

DATE INTEGRATION

Another factor is the inability of most companies to synchronize all their customer contact points. Which sounds like an argument for [customer relationship management] CRM, but I think it’s much more how they organize themselves. In fact, I’ve got a lot of data that shows that the real driver of what I call customer relative capability is not CRM, but rather how they’re organized, what the incentives are, and in particular what the culture is. ... But the basic problem is that [many companies’] culture is one of functional silos—[they] say “ah. I’ve got a real problem. I’ve got a lot of data files, a lot of legacy systems, and no one can speak to anyone else in the organization. Let me introduce CRM technology to get this coherent view of the customer.” But if they don’t have the right conditions in place, they don’t implement it very well, and they get disappointed and frustrated, and may drop the project. So we are seeing huge disappointment with these applications. Not that they aren’t appropriate—under the right conditions at least—but it’s the inability to get the conditions right. Focusing the strategy is a critical part.

—Best-selling business author and professor of marketing at a top-5 U.S. business school

The most common perspective on a market is that of segments—fairly large groups of people with similar sets of characteristics. These characteristics could be demographic, socio-economic, geographic, psychographic (attitudinal), or lifestyle. However, the increasing cultural, linguistic, ethnic, religious, and lifestyle diversity in the United States means that segmented groups are becoming smaller and smaller. Segmentation systems with small groups become more unwieldy for businesses. However, this trend has also provided the model for many companies to market to “segments of one”—a fully personalized market. This perspective allows companies to pursue an understanding of individual customers, under the assumption that people have innate and unique individual preferences that are relevant in different situations.

R&D functions within companies may also have their own understanding of markets, which primarily concerns the customer as a product or service user. This perspective seeks to understand customer experience in order to design the most appropriate product or service, with a particular emphasis on users’ needs, pains, desires and sensations. This

experience-based approach focuses on the sensual, emotional, and memorable ways that users interact with a product or service. Obviously consumers look to different kinds of products and services for different experiences—the point here is that each offering should be considered in light of the experiences it provides for consumers.

Companies are also increasingly becoming interested in understanding their customers in the context of their social networks—that is, the intricate web of relationships that links individuals to other individuals or groups, organizations, institutions and communities. Information technology facilitates these relationships by helping people build new ties with others all around the world who share their passions, lifestyles, or professional interests, while at the same time helping them to strengthen ties with those they already know. Whom people include in their networks and whom they leave out tell businesses much about their customer’s values, beliefs, interests, lifestyles, and circle of influence. Understanding consumers and their social networks can tell businesses not only who their customers are, but more importantly, what

CHOOSING THE RIGHT PERSPECTIVE

It’s really again an organizational issue of focusing on getting multiple points of view of the customer and then coming up with a picture the team can agree on. I think we have the methods to come up with new insights—I don’t see a lot of companies using them systematically to come up with a comprehensive picture. So there are lots of opportunities there.

—Best-selling business author and professor of marketing at a top-5 U.S. business school

they want, what they are willing to pay for, and who influences their decisions.

And finally, by viewing customers in groups as “swarms,” business can begin to understand emergent consumer behavior that otherwise would not be easily categorized. Ever wonder why certain neighborhoods are busier than others, or why certain restaurants, and for that matter fashions, come in and out of favor among consumers? Each of these incidents is an example of a swarm—an emergent phenomenon or unanticipated behavior or pattern of activity that is the result of the independent action of multiple people. A classic example of a swarm is a large crowd that arrives at shopping malls the day after Thanksgiving or the day after Christmas. The larger pattern is not the result of a single cause, but comes from the innumerable interactions of many shoppers (e.g., seasonal needs, freetime, holidays, new products introduced, clearance

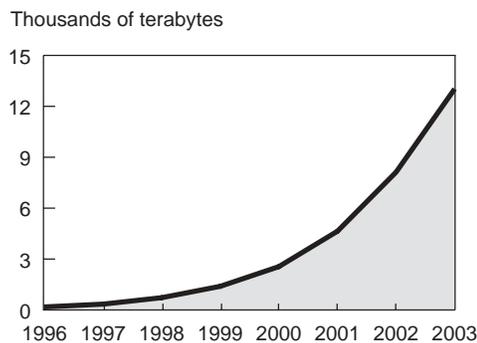
pricing). Understanding the reasons behind these unique swarms could help businesses anticipate and take advantage of sudden bursts in demand.

In Chapter 5, we will consider technologies that will help businesses to gain a greater understanding of swarms and social networks.

Volume Management

New needs will emerge that will drive technology adoption and, in turn, change the way businesses communicate with and serve their customers. The most important new need that will emerge will be the ability to handle the impending flood of customer data. Increasing interactions between businesses and consumers threaten to flood organizations with massive amounts of data (see Figure 3–1). The scale of this increase—it is almost doubling every year—will require higher levels of automation and intelligence throughout business systems.

Figure 3–1
A Flood of Data Coming
(Amount of new data stored on PCs and company servers)

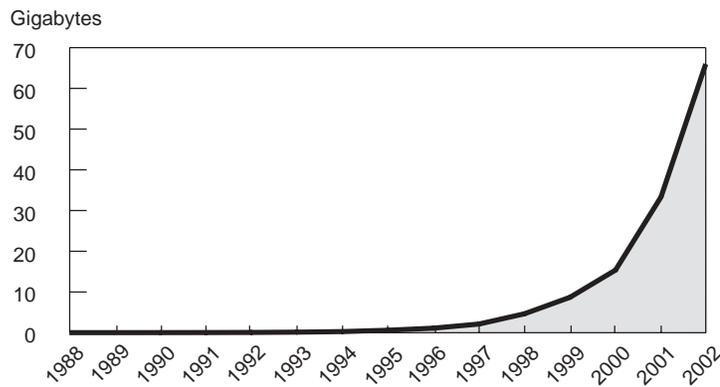


Source: School of Information Management and Systems, University of California, Berkeley.

As storage becomes ever cheaper, by about 50% per year, making use of all of this data becomes an even bigger challenge (see Figure 3-2). Indeed, Wal-Mart recently doubled the size of its data storage facility, thus creating the world's largest commercial database. At a capacity of 200 terabytes, it can store about 25

times all the information in the Library of Congress. Compare this to seven years ago, when Wal-Mart's data center could store "just" 3.5 terabytes. Therefore companies will need new tools to make effective use of all this data; in Chapter 5 we examine the tools that are most likely to be adopted by businesses.

Figure 3-2
Cheaper Storage Each Year
(Gigabytes per \$200)



Source: Wall Street Journal

Chapter 4

The Technology Investment Environment

The diffusion of new technologies, in particular those that enable companies to improve customer communications and services, will be slower during the next few years than it has been in the past. A major driver of this is that the economic climate has made it harder to fund new technology applications. We are now experiencing a major disruption in businesses' information technology (IT) investment.

AN INTERRUPTION IN INVESTMENT

The United States led the world in spending on innovative information technologies over the last decade. It also led the world in the sharp reductions in spending on such technologies during the recession of 2001–2002. In 2001, U.S. businesses reduced their real spending on information technology (including computers and peripherals, software, telecommunications, and other information processing equipment) by over 6% (see Figure 4–1 on page 28). This marked the first time in decades that business invested less in IT than the previous year.

In large part, the roots of the IT investment decline can be traced back to three events around the turn of the millennium: the end of the Y2K threat, the dot-com bubble, and the over-expansion of the telecom infrastructure. In the late 1990s U.S. companies spent approximately \$100 billion upgrading computer systems to become Y2K-compliant, but the impulse to “clean” existing systems fell off dramatically after January 1, 2000. During this same time frame, the dot-com mania produced a plethora of new business-to-business and business-to-consumer market applications that promised to absorb an almost limitless amount of new bandwidth and led to increased purchases of fiber optic lines, servers, routers, and Web software. The telecom industry's gigantic investments in creating the infrastructure to meet the promise of unlimited demand for bandwidth and mobile telephony made them the biggest single IT customers in the 1990s. However, the inability of

nearly all the dot-com companies to create profitable business models, and the resulting huge oversupply in capacity in the telecommunications sector, led to sharp falls in spending by many of the IT industry's best customers. These three trends worked in concert to accelerate IT spending in the late 1990s, and the aftermath precipitated a sizeable investment decline.

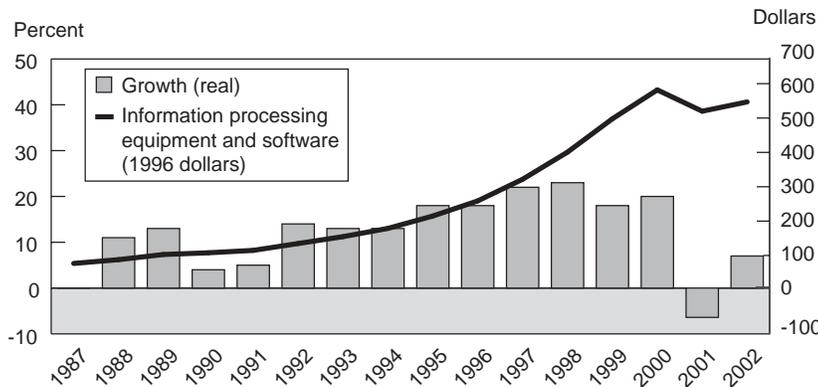
**THE SOFTWARE SECTOR:
PROMISE AND SKEPTICISM**

The software industry has been especially hard hit by the crash. Software companies promised some of the biggest advances in productivity, and the perception that these promises did not come to fruition has generated strong skepticism that will probably last for the next few years. Customer relationship management (CRM) software provides a good example of the transition from promise to skepticism.

Enterprise software—software that supports core business processes such as enter-

prise resource planning, customer relationship management, and supply chain management—was a key part of building an infrastructure for the new consumer-centric economy. As a part of that, CRM software had the task of bringing together all of an organization's data on its customers into a format that could be easily shared by all employees. It became an umbrella term for software applications designed to improve customer service, sales-force automation, customer analytics, and marketing. The promise that CRM could provide higher levels of customer service and retention, cost savings, and increased revenues by improving these areas led to an increase in CRM purchases by 89% in 2000, with large companies paying \$60 to \$130 million for implementations. By 2001, the whole range of enterprise software accounted for about \$40 billion, or about 8%, of total IT spending. Financial services, telecommunications and retail companies became the biggest users.

Figure 4-1
A Real Decline in IT Spending
(Real percentage of growth in IT spending and billions of 1996 dollars spent annually on information processing equipment and software)



Source: U.S. Department of Commerce

However, CRM applications ran into trouble inside the organization. Resistance to CRM initiatives from both individuals and organizations has been high for many different reasons. Successful sales staff, for example, often resented “sharing” the secrets of their personal success with internal competitors. Furthermore, it was difficult to integrate all company data that had previously been kept in a diverse set of systems each with their own clear need and purpose. Besides personnel and organizational issues, existing legacy systems challenged the utilization of new CRM applications. Many legacy systems are already uniquely adapted to local knowledge-gathering and note-taking practices, and changes to these systems often seemed disruptive.

Because of these problems, many CRM initiatives have failed. For example, a recent Gartner survey found that 55% of CRM projects failed to meet their goal. Another survey by Nucleus Research said that 61% of Siebel’s clients (Siebel being the largest single seller of

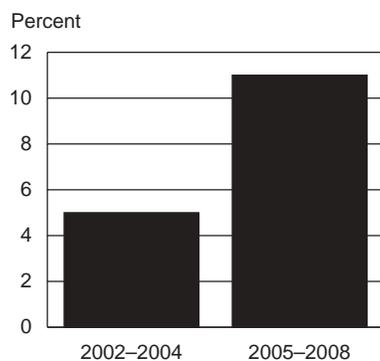
CRM systems) claimed that they did not achieve returns on their investments in CRM systems. As a consequence of these kinds of failures, CRM spending decreased by 8% during 2001 and grew very little during 2002. Aside from the cyclical effects of the downturn, companies began to doubt that software alone would transform markets and relationships. Adding fuel to this argument, customer satisfaction rates dropped during the very time period when CRM investment increased. Still, today total spending on CRM applications and other enterprise software remains high, as companies continue to look for technological solutions.

HOW BIG WILL THE NEXT BOOM BE?

Based on these market and economic trends, it is likely that growth in technology spending will remain at about two times GDP over the next two years, and up to three times GDP for a few years after that (see Figure 4–2). In the short run, companies will avoid large IT purchases and try to maximize their previous investments in software, hardware, and communications. In doing so, they are likely to experiment with smaller, more modest and inexpensive technologies that enhance the effectiveness of existing databases and infrastructures. (See the text box, “Businesses Will Adopt New Technology Criteria on page 30.”)

The success of these new technologies in getting the existing infrastructure to live up to the promises and visions of the boom years will determine whether the 2005–08 period promises a moderate IT boom (8–12% annual growth rates, which would be well below the 18% growth rates of the mid- to late-1990s), or a period of only modest recovery and a relatively slow growth in investment (5–7% growth). It is likely that the strength of the underlying consumer market and the promise of the new technologies will be enough to cre-

Figure 4–2
Information Technology Sector Will See a Modest Boom
(Average annual percent growth in IT spending)



Source: Institute for the Future

ate a moderate expansion of business investment, though well below the boom years of the late 1990s. However, the magnitude of the expansion will depend upon the promise of

the new consumer-oriented technologies. We discuss the most promising new technologies in the following chapter.

Businesses Will Adopt New Technology Criteria

Underutilized capacity remains a critical issue for business. The post-boom atmosphere has forced businesses to focus on maximizing the technologies they already have. They will increasingly use a new set of criteria for assessing emerging technologies. According to these criteria, the most successful technologies will:

- *Fit with existing infrastructure.* Technologies with few new infrastructure needs will become especially attractive. These would include smaller technologies that are less dependent on large fixed infrastructures. Essentially, companies will be looking for technologies that fit in with their existing investments and legacy systems rather than replace them.
- *Be consumer-led.* Consumer spending remains the strength of the economy. Technologies that allow companies to get closer to consumers or to respond quicker to their needs will be viewed as a safer bet.
- *Be cost saving.* Technologies that have cost-saving attributes (rather than promise new revenue streams) could be attractive in the next few years, as companies put a higher value on integration and emphasize leveraging existing systems.
- *Have low up-front costs.* Companies will look for technologies that can be built up and paid for incrementally. These technologies provide manageable investment risks, as opposed to the substantial and upfront risks associated with larger technology implementations.
- *Have known metrics.* Companies will seek out technologies whose outputs can be measured with known metrics.

Chapter 5

Technology Opportunities

There are several important emerging technologies that will address one of the most important business communications needs: to efficiently and effectively collect, store, share, analyze, and protect customer data. In this chapter we discuss nine key technologies (biometrics, displays, intelligent algorithms, pervasive wireless, physical tagging, positioning technologies, sensors, soft tags, and web services), explain their potential business applications, and discuss the role of software in the success of these technologies.

TECHNOLOGIES FOR GATHERING AND PROCESSING INFORMATION

Let's first look at the nine key technologies and give a brief description. Table 5–1 on page 32 displays some of these key technologies that will emerge over the next decade, and lists their transformative qualities.

Biometrics

Biometrics are tools that measure phenotypic, or observable characteristics of an organism. The underlying technology is reducible to two components: 1) the device or sensor that collects the phenotype (e.g., fingerprint or eyeprint) and 2) the pattern matching algorithms that correlate the observed phenotype with a library of previously observed phenotypes. There are many potential applications of biometrics technologies. Biometrics could be used to identify individual consumers, for example by using fingerprints or iris patterns to identify the best customers and pull up their shopping profiles and preferences. Biometrics could also be used to identify customers who need special attention based upon their inferred emotional states; for example, by automatically flagging sales representatives in a store when a customer is displaying signs of frustration (frowning, looking over the same areas repeatedly). Privacy concerns and the potential for abuse will be the major barriers for these technologies to overcome. Rather than being used from the start to cap-

ture customer data, biometrics technologies actually may be more likely to first enter retail locations as part of a technology suite for theft deterrence. For example, wirelessly networked cameras would film shoppers inside a store, and the data would be sent to biometric tools for pattern matching to identify “suspicious” behavior.

Displays

The flexibility and low cost of new display technologies, such as organic light emitting diodes (OLEDs) and light emitting polymers (LEPs), will make displays an active design element, allowing food labels that show nutritional information of interest to you when you pick up a package; clothing tags that display ads for “matching” items; pants pockets that

Table 5-1
Nine Key Emerging Technologies

Key Technology	Transformative Quality
Biometrics	Biometrics will allow companies to capture biological data about consumers that could be used to identify either individual consumers, or customers who need special attention based upon their inferred emotional states (e.g., frustration, anger).
Displays	New display technologies will allow companies to communicate interactively with consumers through product packaging and other previously non-interactive surfaces.
Intelligent algorithms	Intelligent algorithms can be used to automate data mining activities and discover emergent phenomena in large volumes of data.
Pervasive wireless	Pervasive wireless technologies will allow companies and consumers alike to move information faster, easier, and in new places and spaces.
Physical tagging	Physical tagging will allow objects to carry more information on them as they move from place to place, allowing companies to monitor products and processes more closely.
Positioning technologies	Positioning technologies will allow companies to obtain more information on the location of people or things.
Sensors	New sensors will allow companies to cheaply and easily identify and track consumers, and continuously evaluate the quality of products.
Soft tags and the Grid	Soft tags will generate electronic identities for pieces of data that are standardized and sharable across systems (and companies). The Grid will be the storage and processing infrastructure for this data.
Web services	Web services are a collection of software applications that will allow companies to quickly integrate different software systems, without the need for individually coding interfaces between systems.

Source: Institute for the Future

are part wearable storage medium and part visual display; smart cards that deliver e-mail reminders; or ubiquitous interactive displays in public spaces. All of these are representative of the initial changes that will take place once this type of technology is used. The emerging display technologies will likely transform the manufacture of these components from high-volume, high-tech assembly, to small-to-medium volume, service-driven custom production runs. The ubiquity of these devices will dramatically affect the ways, times, and places companies approach communication with consumers.

Intelligent Algorithms

Intelligent algorithm software is built around a core of mathematical algorithms that look for new patterns of consumer behavior in large volumes of transactional and observational data. Unlike a software program searching for a user-defined match, intelligent algorithms search through data to identify new combinations of characteristics. These intelligent algorithms automate data mining—an activity that companies struggle with and will continue to struggle with in the future. Intelligent algorithms also show great promise as a tool for understanding the mechanisms of consumer “swarms.” Developments in artificial intelligence and mathematics will feed innovation in this space; one of the most promising areas will be Machine Learning, or the study of computer algorithms that improve automatically through experience. Applications range from data-mining programs that discover general rules in large data sets, to information filtering systems that automatically learn users’ interests. Companies that are experimenting with these algorithms for data mining include Web Fountains, ABLE, and Retech.

Pervasive Wireless

Wireless technology is actually a variety of technologies, solutions and concepts that have their roots in even the earliest radio experiments. Much of the current fascination with wireless can be directly attributed to changes that have occurred in supporting technologies over the past quarter-century, specifically electronics and networking. As electronic component manufacturing has lowered prices, decreased size and increased power, communications and computing ability have become increasingly decentralized, leading systems to stray from physical communication links. The most important opportunities in the coming decade will come from changes in governmental regulation (internationally); consolidation and change in the supplier and carrier industries; and the move from closed- to open-source devices, device software, bandwidth, networks, and platforms. Companies will have to assess these changes to determine when and how fast to move towards wireless communications with consumers. In the meantime, wireless communications between store employees and inventory systems and eventually among products themselves will generate efficiencies along the supply chain.

Physical Tagging

Radio-frequency identification (RFID) tags—which communicate to a receiver through short-range radio waves—will allow products and goods to efficiently contain large amounts of updateable information. These tags, which can be “read” quickly by the receivers, can include such information as product freshness or spoilage, production history, time spent in specific locations, or even the number of times a product was taken off the store shelf. As such, the tags promise to increase logistics and supply-chain efficiency. Currently, RFID is being used worldwide to track the locations of

Boston Marathon runners, trashcans in Barcelona, readers of utility meters in Maine, and vehicles in Singapore. Within the next 3 to 5 years, there will be two important developments within the core technology: the development of a 5-cent tag and a \$100 radio receiver, widely accepted as the necessary price points for mass distribution. Over the next decade, RFID tags will become widely adopted within supply chains, consumer products and packaging, corporate assets, and retail goods. Combinations of tags on physical goods feeding information to Extensible Markup Language (XML) (“soft”) tags will be important to watch, potentially enabling quicker understanding of consumer shopping behavior in retail stores and supermarkets.

Positioning Technologies

Positioning technologies are designed to determine the geographical position of mobile objects. They come in two types of systems: networked-based and satellite-based. Network-based systems use the time and angle of incoming signals from mobile devices to base station antennas and can locate individuals within a mile of their current location. The location measurements can be made more precise by combining readings from two or more antennas. In cities and other areas with an installed base of network antennas, carriers can determine the location of individuals to about 50 yards. The second type of positioning technology uses a small global positioning system (GPS) receiver integrated into a device. Whereas antenna location systems measure location relative to a cell antenna, a GPS device receives and measures signals from satellites to determine positioning within an accuracy of ten meters. These systems can be used to help understand shopping patterns and swarming behavior, as well as to communicate location-relevant messages.

Sensors

While sensors vary with the attributes they are designed to detect, developments in power management and materials science will accelerate the penetration of sensors into our business, home, and personal lives. Sensors will be cheap and small. As they are embedded in manufacturing and monitoring, systems will expedite identification and tracking; measure the freshness of produce and meat; monitor air quality in offices; warn of dangerous pollutants; and tell a retailer when a packaged good has been opened. Companies seeking to use product and environmental sensors for consumer understanding will need to find ways to use them that respect consumers’ privacy.

Soft Tags and the Grid

Soft tags are electronic identifiers for pieces of data that give standard descriptions about the type of information contained in that data. The standardization of these identifiers will allow data to be exchanged across systems and organizations without expensive customized programming. XML provides the basic programming standard; for that reason soft tags are often called XML tags. On a higher level the Universal Business Language (UBL) Consortium is in the process of developing standard electronic business documents (e.g. purchase orders, shipping notices, etc) that will enable XML tags to work across industries and among large businesses and small.

The Grid is a means of creating an infrastructure that would allow storage, processing, and sharing of this data across the Web by interested parties. IBM (Websphere), Microsoft (.NET), and Sun (N1) as well as others (such as Platform Computing, Entropia, and Avaki) are building web-based systems to provide shared systems based on the standardized languages. One major application of these technologies could be to share data between

different parties using different legacy systems without having to reprogram or get rid of those legacy systems. This will make data-sharing partnerships easier across the supply chain.

Web Services

Drawing heavily on the existence of soft tags, web services represent an attempt to provide easy integration of systems within and between companies—which today is an expensive, time-consuming process of coding interfaces between legacy systems. Web services rely heavily on the use of XML tags to standardize data and use the Internet to allow software applications to interact with each other. Each application publishes data feeds in standard formats that allow other programs to use it. Application servers manage this flow of data among applications. Big players are trying to fit the pieces together. Siebel and Microsoft have an alliance to optimize Siebel’s applications to Microsoft’s (.NET). Other major players who are trying to become central players in this space include IBM (Websphere) and Sun (N1).

USING NEW TECHNOLOGIES TO ADDRESS THE DATA CHALLENGE

While each of these new technologies will produce its own applications, their most important impacts will be determined by how they work together to address the future business needs around data capture, integration, analytics, and volume management. We identified three clusters of emerging technologies that will be able to address these critical business challenges, with each focusing on a specific area of the data challenge (see Table 5–2). The only strategic element of a data strategy that will not be transformed by these technologies is the need for a clear strategic vision—which to our knowledge will always come from human strategists rather than machines.

We will discuss each of the three clusters, by indicating the key technologies that make up the cluster, by describing how this cluster works, by indicating the key impacts and most important barriers, and by forecasting the future development of this cluster.

Table 5–2
Data Strategies Will Be Facilitated by New Technologies

Elements of Data Strategy	Transformative Technologies
Data capture	Biometrics, sensors, physical tagging, pervasive wireless, positioning technologies
Integration	Soft tags and the Grid, Web services
Analytics; volume management	Intelligent algorithms, soft tags and the Grid

Source: Institute for the Future

The Data Capture Cluster

- *Key technologies:* Biometrics, sensors, physical tagging, pervasive wireless, and positioning technologies.
 - *How it works:* These technologies could work separately or in combination to generate a range of new information about consumers—where they are, what they are looking at, whom they are talking to, the most likely emotion they are feeling, and so on. For instance, wireless “smart” cameras could track the movement and behavior of individual customers through retail environments. RFID tags could track the small movements of individual products within the retail environment—for example, whereas a bar code allows someone to see what a consumer purchased, a RFID tag can tell in what sequence they put items in their cart and what items they returned to the shelf. Positioning technologies can provide the bigger picture of where the “swarms” are heading at any one time. Examples of companies active in these areas include IBM’s Blue Eyes, and Alien Technology.
 - *Impacts:* This cluster addresses the problem of “not having the right data.” For example, a company could use these technologies to transform their retail environments into a laboratory for studying consumer behavior, thus further blurring the boundary between distribution and communication. The new observational data would provide an improved context for transactional data generated by point-of-sale systems. Alternatively, these technologies also could provide a solution to the problem of increased market fragmentation by allowing companies to take entirely new perspectives on their markets; for example by studying swarms or social networks.
- *Main barriers:* Tracking people and their behavior always involves privacy issues, and the success of the implementation of the technologies in this cluster depends on how these will be dealt with. Some of these technologies, such as biometrics, will have to have a steep learning curve if they are to avoid consumer backlash. In addition, the success of this technology cluster heavily depends on how well the data will be integrated and analyzed. The other two clusters, the Integration and Analytics clusters, will offer new technologies to support that.
 - *Forecast:* This cluster will emerge as a secondary consequence of other factors. For example, positioning technologies will be pushed along by federally mandated location identification requirements (e.g., for mobile phones), while biometrics technologies will be initially attractive because their theft-prevention benefits are near-term, cost-saving, and measurable. As these technologies become established for other purposes, there then will be opportunities to explore their effectiveness at capturing consumer behavior.

The Integration Cluster

- *Key technologies:* Soft tags and web services.
- *How it works:* Soft tags provide a flexible standard for exchanging data, while web services use the ubiquity of the Internet to allow web-based software programs to exchange data with other programs.
- *Impacts:* This cluster of technologies addresses a core data challenge within large corporations—integrating systems and allowing data to flow where and when it is necessary in real-time within the organization and to external partners. The Integration Cluster represents a very different

approach to this problem than ERP and CRM systems tried. Rather than creating standard formats that all systems need to comply with, “tags” are attached to each piece of data describing the format from which it came, allowing any application to interpret and use that piece of data.

Crucially, tags can be applied to data in legacy systems, leveraging legacy systems and the Internet to solve a critical data integration problem.

- *Main barriers:* Businesses and software vendors have still not fully agreed on standards for XML and UBL. Companies will still have their own needs, customs, and practices that create idiosyncratic ways of identifying their customers. With each user identifying a customer in a different manner, the processing of data remains a major barrier. Concerns of companies being willing to share valuable data about customer contacts need to be addressed too. Furthermore, adding tags to legacy systems will still require expensive custom programming, although the final cost still will be less than totally replacing the systems.
- *Forecast:* Integration will first have a big impact within large corporations, then with trusted partners of these large corporations, and eventually with more transactional partners. However, the largest players, for example Wal-Mart, appear to have the least to gain from this sharing of data, since they already collect so much themselves. But once the XML/UBL-based data-sharing model begins to bring benefits to Wal-Mart’s smaller competitors, its strategy of closely guarding its data may be less attractive than it is today.

The Analytics and Volume Management Cluster

- *Key technologies:* Intelligent algorithms including machine learning, soft tags and the Grid.
- *How it works:* Intelligent algorithms can search through customer databases to identify new segmentation systems or other combinations of characteristics. Machine learning would allow the software to improve its performance with experience. The Grid leverages the Internet and the installed base of personal computers running below capacity to provide the computing power necessary to apply these algorithms to large volumes of data. One could imagine using these technologies to do iterative product and communications development on large scale—similar to the way that Capital One runs 64,000 tests per year to identify effective communications and small customer segments.
- *Impacts:* In the near term, this cluster would address today’s dilemma of “we have so much data that we don’t know what to do with it.” But the long-term impact is that these algorithms will become necessary tools in a world where the amount of new data being generated doubles every 12 months, and where value is increasingly located in personalized service, products and communications. The identification of smaller and smaller groups of customers behaving in similar ways—“micro-segments”—is critical to providing more personalized data. These algorithms are necessary to augment human analytical skills and make decisions on a large scale in realtime. Examples of companies developing these technologies include IBM (e.g., ABLE and WebFountain research programs), Capital One, and Retech.

- *Main barriers:* The success of implementing the technologies in this cluster depends on highly skilled statisticians/mathematicians who can create algorithms and probably operate them too. This type of skilled professional may be hard to find.
- *Forecast:* There are no imminent breakthroughs in the technology likely, so the progress with Machine Learning will be steady but incremental. However, the incremental nature of the technology makes it well suited to the current investment climate. Heavy government investment in Machine Learning R&D could have private sector spillover later in the decade.

**SOFTWARE IS THE KEY TO ENABLING
NEW TECHNOLOGY CLUSTERS**

The key to making these technology clusters deliver on their potential will lie in how they connect with each other and with the business processes that they support. In a sense, software will be the most important enabler of the change underlying each of these technology clusters. For example, the integration cluster and analytics cluster will be completely driven by advances in software.

Even the devices central to the data capture cluster are infused with “smart algorithms” and are dependent on new code to make them function within existing business processes. Moore’s Law (that the processing power of computers will continue to double every 18 months) will continue for at least the next decade, and companies will continue to buy more storage and faster servers, but the transformative change will be defined by how these systems work with each other.

Software has become the limiting factor to solving today’s business problems. It currently accounts for about 40% of the cash outlay for IT budgets. In order for new technologies to

solve future business problems, justify continued investment, and merely manage its own complexity, software needs to advance at a rate comparable to these other technologies. But can it do so?

Although there is no Moore’s Law for software, the shift from highly customized software projects toward standardized “off the shelf” software packages has been the closest equivalent (see Table 5–3). The price of prepackaged software dropped by 7% a year in the 1990s while the costs of custom and modified software were rising. Emerging technologies such as XML, UBL and web services are the key to creating a Moore’s-Law-like type of advance for software investments. Standards for data and documents promise to automate processes that today are supported by expensive programmers. Herein lies the best chance for software to catch up to the pace of the rest of the technology infrastructure.

*Table 5–3
The Rise of Standardized Software
(Share of business software investment)*

	1975	1998
Prepackaged	8	26
Modified	42	40
Custom	50	34

Note: “Prepackaged” refers to standardized software that is not altered for each customer, “Modified” refers to software tailored to a specific business using existing modules, and “Custom” software is new code written for businesses for their own use.

Source: Department of Commerce.

Chapter 6

Transforming Organizations

A company can only successfully implement consumer-driven communications strategies if it has an organization that supports such strategies. Whether a company focuses on mass communications, one-to-one communications with their customers, or any other point on the communications spectrum, the success of the company depends on how well it is able to utilize important consumer information, and adapt its customer service and communications strategies according to this information. Here are four elements of organizational change that are part of implementing successful communications strategies.

ALLOW REGIONAL VARIATION

One key goal of building a consumer-driven organization is to be more attentive and responsive to customers who come back to buy a product or service again and again. A company should always keep in mind that new technology applications and strategic thinking should support those supply-chain and communications improvements that can mean the most to the consumer. Companies don't always have to make fundamental changes in their value proposition to succeed, but they do need to get better every day at meeting problems that come up and making changes that benefit the consumer. Even the largest brand companies have to be attentive and responsive to the final consumer.

One way that large organizations can increase their responsiveness is to allow local managers options for incremental improvements. In any service organization, local managers are always looking for ways to improve the delivery of services. For example, Wells Fargo, a large national bank, has found the need to build a knowledge base of what is working well for consumers. The central office has become a service staff that tries to share ideas about service challenges and how they have been dealt with across the country. This opens collaboration and sharing of ideas across all parts of the firm. But each local

manager is encouraged to make those incremental improvements that work best in the local environment. No service ideas are imposed on local managers, but they can use ideas generated elsewhere to achieve goals and targets. What works in Reno, NV may not work in Fort Wayne, IN, but the bank people in Fort Wayne may want to hear how and why processes worked in Reno when a similar issue arises. A national bank can define standards and provide a common technological infrastructure, but it can at the same time continue to be a large grouping of local banks with their own unique blend of personal services.

Sometimes these variations can also be sources of differentiation from the competition. The grocery chain Albertsons wants desperately to differentiate itself from Wal-Mart, which recently became the largest seller of groceries in the United States on the basis of quality brands at low prices. Albertsons' research has found that 33% of people will always buy the products they want at the store with the cheapest prices. But the other 66% are susceptible to offsetting the pure price equation with options for quality, choice, service, and convenience. Thus, the Albertsons' strategy is to integrate services and communications in and around the store that can add value for the consumer.

The new CEO of Albertsons is from GE and brought some strategic ideas with him: get information about transactions, new products, and customer feedback as quickly as possible to store managers; focus on those markets where it is on top and where it has the potential to use its buying clout to play a leading role in defining and meeting neighborhood expectations; and use information technology where it has the greatest impacts—human resources, finances, store transactions, and supply-chain management.

Albertsons is also using the smaller average size of its stores at 50,000 square feet to present a manageable alternative to Wal-Mart's larger 100,000 square feet average. Those smaller stores are tailored to local neighborhoods and feature combined groceries and drugs.

Over the next decade, companies that are in daily contact with the consumer will need to be able to take leadership roles in defining the characteristics of product and service standards in their local communities. Keeping close to the local customer and learning from them is the key element in this.

CONSOLIDATION VS. OUTSOURCING

When reorganizing its organizational structure, each company at a certain point has to make a decision about outsourcing or consolidating certain functions. And huge amounts of consolidation are taking place among successful companies across virtually every industry. It is easy to cite examples in high tech (where companies such as Intel, Microsoft, Cisco, Sun, and Siebel dominate their markets) and in retailing where Wal-Mart dominates not only general merchandise stores but groceries as well. But product brands like Coke, Pepsi, and Budweiser also stand out in their markets. Even in a sector like restaurants that has traditionally been dominated by mom and pop stores, major sit-down chain restaurants like Olive Garden, Cheesecake Factory, Morton's, and PF Chang's China Bistro now account for a majority of the \$270 billion restaurant market.

Yet along with this consolidation comes the growth of outsourcing activities, especially in the arenas of technology and strategic data systems. Many firms are trying to improve internal systems by outsourcing key functions—called *strategic* or *transformational outsourcing*. These firms try to generate savings from the more efficient systems of the outsource

companies and then re-invest all those savings in designing, building and implementing new internal systems. Their relationships with the outsource firms have shifted from concern over reliability and cost to more sophisticated strategic questions about changing the way the supply system is managed, reducing inventories, or increasing customer acquisition or retention. There is a further advantage to the contracting firm, which is that they can keep their systems up to date without huge upfront capital investments, because the service providers “take the risk.” The biggest service vendors in this area are Cap Gemini, Ernst & Young, Computer Sciences Corp, IBM, and Accenture. They offer to take responsibility for technical support for ten years for \$1 billion, and then try to add value in a market where merely running the technical infrastructure for a company is increasingly a low-margin, commodity-like market.

A variation on this tech infrastructure market is Business Process Outsourcing (BPO). This involves a third party taking over parts of the organization previously done in-house. In addition to the traditional service players in this area, like Accenture, Cap Gemini, Ernst & Young, and PricewaterhouseCoopers, there are a number of specialist software firms that have carved out a major role in a single area of concern like ADP (payroll), Rebus (human resources), and Hayes and Ryder (logistics). To help transform businesses, these companies develop deep knowledge of a single specialist market. The steps they go through when working with a client company include understanding the company they are working with, creating a new culture, developing simple management structures and procedures, and providing dedicated technology support. Services can often be provided over the Internet as well. The goal

of hiring a specialist outsourcing company, again, is not to save money but to make the organization leaner and more flexible and to help it react quicker to the market.

There is, of course, some danger in outsourcing. Sometimes, outsourcing can lead a firm to lose some of its critical intelligence-gathering activities to agencies and consulting firms. The strategic success factor is not to outsource those activities that provide the company its competitive advantage. A company should only outsource activities if a service company can provide more flexibility than would be available in-house. For example, Borders made a mistake several years ago by sub-contracting out to Amazon its online activities, assuming that consumers made a distinction between online and offline purchasing. They ended up losing a key contact route to their best customers, and a good number of customers to Amazon.

Over the next decade size will be important in building and maintaining market leadership. But size alone will not be the only criteria of success. Running critical operations efficiently and having a long-range vision regarding outsourcing will be important as well.

CROSS-SELLING

Many large companies have identified cross-selling as a means of taking advantage of a stronger relationship with customers. But it is not as easy as it sounds. It is really a subtle issue to get current customers of one product or service (or brand) to buy another. And the danger of alienating your better customers is high. In fact, many firms that have tried a strategy of cross-selling have backed off—Citigroup, the banker, broker, and insurer, is trying to become much less intrusive in its selling tactics (and has taken some severe hits from the Securities and Exchange Commis-

sion for its poor use of its market research staff to sell shares to consumers that it had picked up from its investment banking customers). AOL Time Warner and AT&T have similarly backed off from an aggressive cross-selling strategy.

Disney, on the other hand, has been the leader for decades in cross-selling. Its characters appear in movies, TV shows, theme parks, toys, and restaurant promotions. But it is in danger of over-selling characters that have not built a solid base of support and never quite get a grip on the popular imagination. The key to successful cross-selling is the quality of information that you can gather about individuals so that you have better knowledge about when it works and when it becomes intrusive.

Capital One is an example of a firm that has been successful in cross-selling. It sells a range of credit card products and have moved into loans and credit. They found that consumers' confidence in the institution brand is what sells loads to credit card holders, rather than just the terms of the deal. Usually consumers did not see Capital One as a seller of loans and credit. But consumers have a great deal of confidence in Capital One's credit card products, which has led to its success in loans as well. To use consumer data effectively in sorting through what works with what types of people, Capital One does a huge amount of experimenting. It has developed a unique type of organization that fosters this analytic sharing. Everyone who works there has to have at least some level of quantitative skills (for example, every potential employee takes a test that measures analytic aptitude).

Wells Fargo, the bank, sets aggressive cross-selling targets, trying to almost double the number of different types of products a customer has. It does it by trying to offer better value on each product and to reach its cus-

tomers with appropriate offers at the times they may be most susceptible—reaching them at all hours in branches and ATMs. Strategically it is trying to eliminate the notion of itself as a bank, and to appear as an entity that offers a broad array of products together at a point of convenience for the consumer. It accepts the fact that it will be perceived as being intrusive at times, but find that overall its response rates are positive. In fact, Wells is the best cross-seller in the financial industry.

Over the next decade, effective cross-selling will be key to the success of many national brands. But cross-selling must be an activity that is forever being recreated and redesigned. It must be integrated with products that work and have won their way into people's trust and confidence before they can be used beyond that. Consumers will only tolerate cross-selling that is built on trust or with obvious connections to the core product.

SILOS VS. TEAM-BASED FLEXIBLE ORGANIZATIONS

Silo-based operations—the decentralization of responsibility inside an organization with each separate part of the organization having its own incentives and clear strategic mandates—are a characteristic of large organizations. They have been very effective in organizing complex enterprises and creating incentives that work to motivate people on a daily basis. But they are a barrier to effectively responding to the needs of small groups or individual customers.

Over the last decade, an alternate way of organizing large business organizations has been fostered by the decentralizing tendency of the new information and communications technologies. Team-based, cross-functional, flexible patterns have empowered large organizations to act quickly and flexibly with market changes. Many management-consulting firms like McKinsey and Bain are successfully

organized in team-based models. HP has organized well around customer service segments that feed the whole organization, moving from 27 divisions that were radically decentralized to two larger, multi-segment operations that were client-driven. As information generated by the consumer at the point of transaction becomes more important to a firm's success, the decentralized model takes even more importance in listening and responding quickly to consumer needs.

But there still remains the problem of effective action. While there is plenty of technology to gather information, the real trick is to bring it all together and generate a complete picture. Managers must retain the ability to see the impact of a consumer on a number of

points within the organization and then to paint a picture for other employees. Often there will be occasions when, in the attempt to build coordinated responses to consumer activities in two arenas, two parts of the organization claim responsibility. While policies can always be made to identify a single center of response, strategic decisions must remain a management prerogative.

All in all, there are a series of challenges for firms wanting to become a fully consumer-driven organization. In the next chapter we outline three scenarios of companies—a retailer, a brand manufacturer, and a full-service bank—that have adapted their organizations to the needs of the sophisticated and active consumer.

Chapter 7

Consumer-Driven Organizations of the Future: Three Scenarios

In this chapter, we use the lessons that have emerged from our research on consumer-driven organizations to build three future business model scenarios. The scenarios describe successful consumer-driven organizations in three industries: retail, branded consumer products, and financial services. Each scenario looks out seven years and describes a successful company that understands the new consumer world. These companies are responding to sophisticated and aggressive consumers who want to interact more with businesses around important decisions. They take full advantage of new information and communications technologies. These companies also organize their own resources to optimally interact with consumers in a variety of formats and times.

In each scenario we pick out a particular example—for retail we look at an innovative grocery store; for branded consumer products we look at an electronics manufacturer; and for financial services we look at a full service bank. We examine what a successful company in these areas will look like if they organize themselves effectively around consumer information—that is, they become consumer-driven organizations. We describe the concrete actions each company is likely to take around the five points on our communications strategy continuum—brand messages driven by user feedback; widen the range of interaction points; sort consumers to offer the right response; targeted, tailored and timely interactions; and personalize interactions to individuals (see Table 7-1 on page 46).

RETAIL: THE NEW GROCER

It is 2010. The New Grocer—an innovative grocery store—realizes that a growing share of the population is very interested in the role of food in family, social life, and long-term health maintenance. The New Grocer wants to

Table 7-1
Action Points for Consumer-Driven Organization Models

	<i>The New Grocer</i>	<i>The Advanced Electronics Company</i>	<i>The New Bank</i>
Brand messages driven by user feedback	<ul style="list-style-type: none"> • Continuous experimentation with products and services 	<ul style="list-style-type: none"> • Constant innovation 	<ul style="list-style-type: none"> • Technology supports security and incremental improvement
Widen the range of touch points	<ul style="list-style-type: none"> • Store as interactive information center • Multiple interaction channels • Experimental convenience stores 	<ul style="list-style-type: none"> • Store as combination showroom/retail laboratory • Blur work/entertainment boundaries • Use influential consumers to push technology adoption throughout social networks • Make internal processes transparent to consumers 	<ul style="list-style-type: none"> • Ubiquitous presence • Aggressive cross-selling
Sort consumers to offer the right response	<ul style="list-style-type: none"> • Store format offers both quick check-out and intensive visit options • Signage and product placement vary depending on shopper mix 	<ul style="list-style-type: none"> • Broad segments by product, purchase level, ... 	<ul style="list-style-type: none"> • Microsegment customers • Target communications at all touch points by microsegment
Targeted, tailored, and timely messages	<ul style="list-style-type: none"> • Use purchase histories to cross-sell and offer discounts at just the right time • Provide extensive in-store information • Offer expert opinions on relevant topics 	<ul style="list-style-type: none"> • Rely upon range of partners: infrastructure, content, agencies 	<ul style="list-style-type: none"> • Incorporate cross-sell responses into records
Personalize interactions with individuals	<ul style="list-style-type: none"> • Loyalty cards capture and maintain shoppers' information histories • Face-to-face interactions with experts 		<ul style="list-style-type: none"> • Personalize interactions with medium- to high-profit customers • Track customers with best chance of shifting into most profitable segments

Source: Institute for the Future

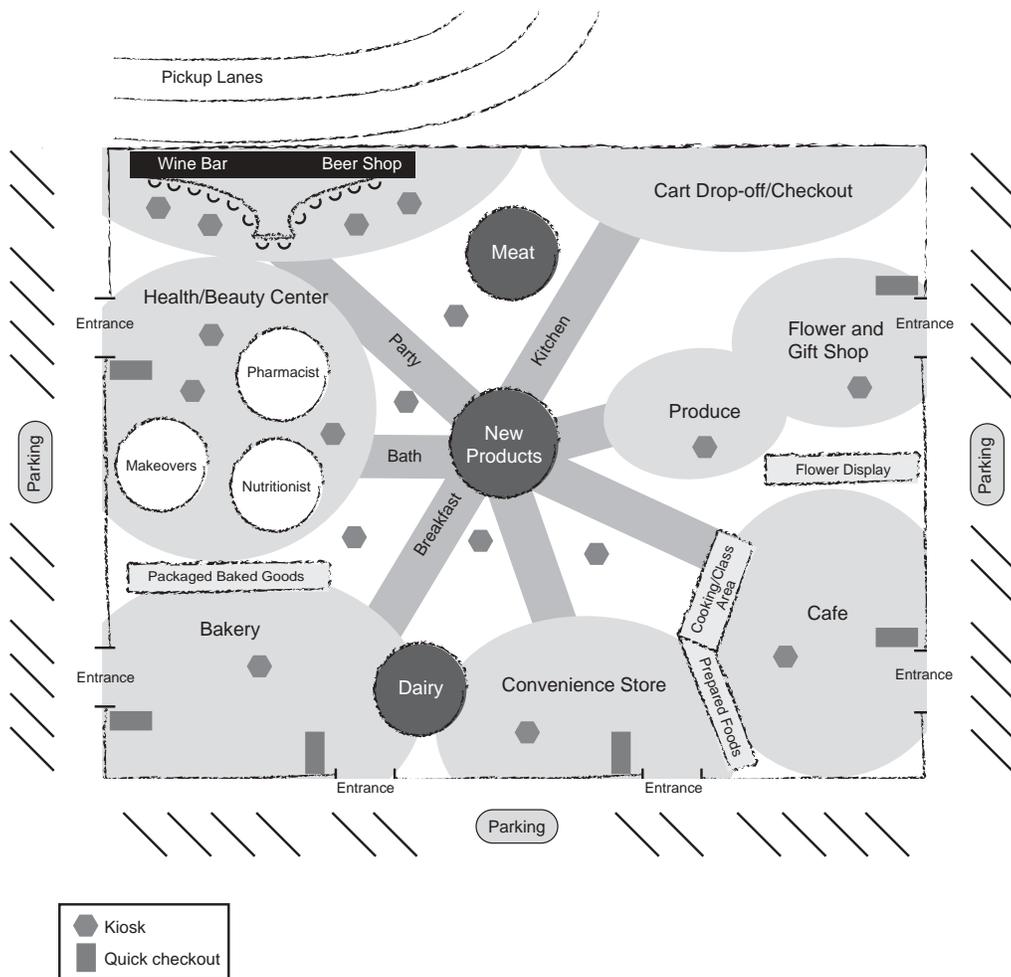
respond to these consumers' needs, while still maintaining (remaining sensitive to) its customer base of traditional shoppers. Figure 7-1 shows a model floor plan of how The New Grocer will accomplish that.

Brand Messages Driven by User Feedback

In 2010, retailers will still need to state their brand propositions clearly and reach as broad

an audience as possible. But this value proposition will be more fragmented, because even in their branding messages, retailers need to reach out to different segments with messages that make sense to them. This is the clear consequence of the changes that have taken place in the consumer market. The New Grocer has to send out messages based on its key themes of selection, convenience, price, and innova-

Figure 7-1
The New Grocer



Source: Institute for the Future

tion. However, some of the most important segments—those who are interested in organic foods, supplements, healthy snacks, or detailed nutrition information—must also have these concerns addressed.

To learn which message to emphasize to which group, The New Grocer is actively learning from its customers by continuous experimentation—adjusting products, product placements, and services that it thinks will meet the changing needs of particular segments of customers—and measuring how these groups are responding to those changes.

The individual stores of The New Grocer experiment with new and varied products. There are both brand and house-brand products available at all times; places in each store reserved for samples of new products to try in the store or take home; and subtle variations on the delivery services run by local stores.

Each of these experiments provides real-time consumer data on what consumers want and respond to. They do not inhibit the selection of the brands that people buy and rely on every day—in fact, in some stores with more older customers in a mature neighborhood, there may be less experimentation. In neighborhoods with a younger, more mobile population there is more experimentation. But The New Grocer is much more active in processing data to build selections that anticipate and appeal to the ever-changing needs of their core community. Point-of-sale data is continually mined using intelligent algorithms to assess the outcomes of the experiments.

Soft tags and web services allow The New Grocer to sell information to brand makers about which of their products are being purchased by whom in what settings. This lets brand makers get direct data about their customers, and the sale of this data provides an extra stream of revenue for The New Grocer.

All of these experiments allow The New Grocer to piece together profiles of store users and to build responses to local communities. These responses take place within the framework of its brand messages—selection, convenience, price, and innovation. But it also can claim to be running a hundred different models of stores, with each store built upon the variation of design and products that local consumers like best.

Widen the Range of Touch Points

For The New Grocer, the main point of contact is a transformed store, with a range of touch points throughout the building. Products are still laid out and available on the shelves. But the whole environment is much more of an information center. Information is available in new formats—an expanded center for product experimentation and trials, more detailed labels on packaging, information kiosks, interactive displays responsive to individual customers' needs, and centers where shoppers can interact with nutritionists.

But just as important, The New Grocer is trying to reach out to consumers outside the store. As many grocers offer today, there are regular mailings to neighborhoods about specials, and there are advertisements in the local newspapers. But The New Grocer also offers a range of delivery options, a web site for information and ordering, easily accessible telephone service representatives to answer shoppers' queries, and opportunities to pre-order regular items for pick-up (thus allowing more time for customers to shop for high-margin discretionary items). The New Grocer is even going to experiment with sponsored "convenience" shops scattered in locations near neighborhood roadways. These shops will feature their highest turnover items. The New Grocer's goal for these extra touch points is

not just to function as profit centers, but also to reach new customer segments (e.g., convenience-oriented shoppers) and strengthen relationships with the most profitable customers.

Sort Consumers to Offer the Right Response

The New Grocer figures that the vast majority of customers at most times are on routine visits to find and buy products that they are familiar with. But on a large shopping trip most consumers will also experiment with one or two new products. A few others will be looking for a new experience or even a range of new products. Individual people take on these alternate personas during different trips.

The New Grocer facilitates these experiments by setting up “trigger” points that allow people to move into higher levels of engagement seamlessly. The store starts with easy access (parking close to multiple entry points) with clear routes of entry, direct access to areas of the store where short visits are likely to be focused (prepared meals, snacks, drinks, produce), and quick checkouts for those who are there for a short focused visit. But for those with a longer shopping list, the interior of the store is set up with easily negotiable aisles and full shelves.

And finally, the store itself takes on a different look with OLED signage throughout the store and selected shelving near the entryways changing over the course of the day to meet the demands of different groups of customers. The items for trial and experimental products available throughout the store change with the characteristics of the typical consumer in the store. For instance, the younger, more male crowd that comes after 8 p.m. enters a store with pre-prepared meal selections within easy reach, automobile- and music-themed magazines at each checkout stand, and special dis-

counts on male-oriented products such as aftershave.

Targeted, Tailored, and Timely Messages

For the last year, The New Grocer has used an intelligent algorithm program that continuously analyses the huge amounts of data on its customers. This data comes from all of The New Grocer’s touch points—point-of-sale data, information kiosk search records, tracked interactions with store experts and employees, and so on. The data, combined with knowledge about product usage cycles, means that The New Grocer can produce extremely targeted communications. Some of these communications are oriented towards cross-selling; for example, their most profitable customers regularly receive direct mailings suggesting new products and recipes. (Think along the lines of Amazon’s recommendations—“Customers who recently purchased our premium extra-virgin olive oil also like our organic farfalle pasta.”). Other communications are based on the customers’ product usage cycles (“We suspect you’re almost out of soy sauce. Want to order more and receive 50 cents off?”). In this way, The New Grocer’s best customers get communications with highly relevant content at just the right time.

Within the store itself, The New Grocer has a significant information infrastructure. Each shelf has OLED displays that can be activated by a consumer’s encoded loyalty/information card to provide information tailored to his unique shopping behavior, including key information about product nutrition, origin, and price comparisons. Each department has an interactive kiosk and printed information that allows shoppers to learn more about the nutritional values of store products. The kiosks also allow customers to update their loyalty/infor-

mation cards with new search patterns that could be used to generate coupons later.

There also is a lounge area in the back of the store that has seats, printed and interactive information devices, and (on a few days a week at key hours) a nutritionist or chef who can answer questions and provide helpful hints. Traffic is not heavy here, but a majority of regular customers of the store use the area a couple of times a year to answer their questions. When they're available, the local "experts" handle about ten conversations per hour—a good investment in building customer loyalty and a great area of customer feedback about what information the local consumer is using to make regular decisions. The lounge is mostly paid for by companies who use the area to hand out samples of new products for consumers to try.

Personalize Interactions with Individuals

A retail store—especially a grocery store—makes money by having lots of people come through its doors every day and by having them purchase a good number of items. The store makes its profits as a very small percentage on a large volume. This makes it hard to set aside a sizeable amount of money for personal relationship building. However, The New Grocer realizes that some personalization helps it build long-term relationships with local families as they go through the process of adapting diets to life-cycle changes.

That is why The New Grocer spent money not only on automation, but also on its employees. The key to its success at personalization is that it has both in-store information centers and on-site experts available for interactions. This brings the option of personalization to those who feel they need it, while people who don't want to interact with a person can make use of the automated information centers.

Over time, these new relationships can overcome what is today the weakest link in the grocery business—the ability to provide personal service.

BRANDED CONSUMER PRODUCTS: THE ADVANCED ELECTRONICS COMPANY

It is 2010. The Advanced Electronics Company (AEC) makes a variety of electronics goods—everything from PCs and peripherals, to mobile phones, and a range of entertainment products. It has an established brand name in this very competitive area that crosses international boundaries.

The company wants to be a global competitor—at the forefront in the most advanced countries—and provide a range of goods that can appeal across the rapidly emerging markets in the global economy as well. Because it needs to be technologically competitive, its brand needs to be associated with constant innovation.

Brand Messages Driven by User Feedback

AEC's brand message is quality and innovation, although the expression of that message is different for each of the major product markets that it is involved in. For example, durability is a more central component of the quality message for its TVs and DVD players, which have a longer replacement cycle, than for their mobile phones. Interactive displays and other new communication technologies will be especially attractive as branding mediums, because they can effectively convey the spirit of innovation.

AEC constantly makes incremental changes in its products. AEC regularly adds features to products, changes look and style, provides improved service, and becomes proficient in new applications. These adaptations are partially driven by the engineers in the back room and partially driven by the feedback that AEC is getting from its customers about

look, feel, and performance. AEC gathers feedback not only through Web sites but also uses electronics products that include sensors that detect customer frustration (e.g., repeated fast punching of the same button) and offer consumers the option to connect to live tech support or interactive help dialogues.

Partnerships are very important for AEC—often AEC decides that it can't do things on its own and needs to partner with a company that provides a new application area, variances on interesting content, or striking new designs. These partnerships are always changing, and it is these constant shifts in partnerships that bring new ideas and new looks into core products that maintain quality and performance standards.

Widen the Range of Touch Points

AEC puts a major effort to reach out to its customers by offering a whole variety of touch points. The stores selling its products cover the gamut from specialty stores carrying state-of-the-art innovative technologies, to the discount stores that sell on value and quality. AEC is also making a major push to open up new lines of direct contact with consumers in a wide variety of places:

- AEC displays its products in showrooms located in downtown metropolitan shopping centers, where foot traffic is high. These rooms have comfortable chairs, stylish rugs, and edgy pictures so that people can see the flat screen TVs and sound systems in settings that look like an improved version of their own living rooms. Of course, these showrooms also contain wirelessly networked cameras and biometric sensors to help AEC observe consumers' responses to their products. AEC's showrooms are not only a consumer touch point, but also a retail laboratory to gather data.
- AEC is using the workplace as a means of distributing innovative technologies. It has found that many workplaces have niches where many truly innovative products can make a difference—printers, lighter laptops, wireless networks. Changes can come in many forms: performance, styling, or convenience. And once the improvement shows up at the office, it becomes an effective reason to try the product at home too. Employees of the firm begin seeing the product in action, attracting attention and helping build both the brand image and the notion of practical uses.
- AEC invests in research on consumers' social networks. It has found that these networks efficiently drive technology adoption—especially as people purchase communication devices to help them manage their networks. AEC's researchers identify influential technology users in its key markets, who are given free AEC products. These consumer innovators then model the products' use in daily life for others in their networks. And because these free samples are also linked up to the latest positioning technology, AEC is able to see where and when their key markets are congregating.
- AEC allows consumers into their own systems. AEC uses RFID technology in its products so that it is possible for consumers to track their product of choice through the production cycle. AEC also allows customers access to the store that has the exact configuration of the sound system they are looking for (much like what UPS and USPS do now with their tracking Web sites). By letting customers know where the products are in the supply chain or what the inventory is in a certain store, the customer problem of unsuccessfully driving over to check on a few different stores or waiting

on a phone line for an on-site sales representative is solved.

Sort Consumers to Offer the Right Response

AEC uses its touch points to identify and sort through the vast number of people who come in contact with its products. The consumers divide into natural groupings by product category (e.g., PCs, mobile phones, entertainment systems, games); purchase level (e.g., purchasers of basic systems or gaming and software add-ons); product experience (e.g., a dedicated user who is looking for an upgrade or a first-time user of a product), and by brand loyalty (e.g., owning only one versus several AEC products). AEC even has specific microsegments for owners of its mobile products, such as phones and PDAs; these customers are tracked via positioning technologies for range of regular use and other usage characteristics. However, its database is not as rich as The New Grocers', because it does not have as many direct interaction with consumers.

Targeted, Tailored, and Timely Messages

Each of AEC's segments periodically needs reminders of available upgrades, discount offers for cross-sell products, or premium packages combining content and devices. AEC attempts to reach its customers to send these periodic reminders. In practice, though, this endeavor remains troublesome, because AEC has not figured out who its key partner is. In some cases, it relies on the retailer to showcase and provide a setting for its products. It needs the music companies and the information producers and the game designers to develop content that will challenge today's standards of play. Sometimes, it relies on its advertising agency to get its message out to the broadest segment. But more often now it is finding that specialized firms that can help it

with events, or product placements, or with the distribution of its products to scouts and users are the key partner. AEC uses all of these types of players but this does cause problems for being able to directly reach customers in a timely fashion.

Personalize Interactions with Individuals

Most of the one-to-one consumer relationships for AEC are done at the retail shop where products are shown, described, and sold. The company will have centers to respond to queries and comments, but it will continue to see even its best customers as part of larger groups. Building one-to-one relationships is probably the weakest attribute of AEC's communications with consumers.

FINANCIAL SERVICES: THE NEW BANK

The New Bank (TNB) is a full service bank, trying to reach consumers on a national level. While it provides a range of business services, its acknowledged core is household and small business accounts. The goal of TNB is to provide basic banking services for a large group of customers and offer this core group a range of value-added services that meet their needs, including insurance and investment services.

Brand Messages Driven by User Feedback

TNB's brand message conveys security and confidence in a world of uncertainty, and ease of access to a variety of services. Like The New Grocer and AEC, TNB uses a range of technologies to help it capture consumer feedback. For example, cameras and biosensors help to identify signs of frustration—or pleasure!—at its ATMs and branch offices; this data is later examined to find opportunities for improvement.

In fact, TNB finds it easier to use innovative technologies than either The New Grocer or

AEC. The highly visible cameras and sensors actually heighten its brand message of security. And these kinds of technologies do raise questions about privacy—but consumers who turn over their hard-earned cash to TNB for safekeeping have already demonstrated a high level of trust.

Of course, TNB also uses more traditional ways to incrementally improve its services. It is constantly working to improve the back office technical operations to make data processing simpler, faster, cheaper, more convenient, and more secure. These goals are often contradictory—more security does not mean simpler. Yet what the consumer sees is incremental improvements in the way they interact with the bank—the automated phone system is easier to work with and quicker than it was the last time; account errors are rectified a little quicker each time; the forms and confirmations are a little easier to read.

Widen the Range of Touch Points

TNB has worked hard to meet customers wherever they might be—inside their home, near their homes, near their jobs (for both working spouses), and when they are traveling for work or holiday. They have the traditional stand-alone branches with full-service operations, grocery store operations, an extensive network of ATM machines, wired and wireless online banking services, and 24-hour call centers. Each touch point represents a valuable setting where information, data and money are exchanged. TNB also searches for new ways to help the mobile consumer; for example, it uses positioning technologies to tell consumers where they can find the nearest ATM or store in unfamiliar places. At each location TNB concentrates on getting the basic service needs taken care of conveniently and efficiently.

Yet, each of the touch points also offers a little more. TNB can handle transactions or questions at each of the sites, and uses each of the sites to do cross-selling. In fact, TNB is aggressive in its pursuit of growth opportunities. It uses complex algorithms from its growing data sets to generate focused cross-sell offers at each site—ATMs, telephones, the Internet, the teller encounters. It is willing to be somewhat pushy and obtrusive as long as the basic services at each touch point are working well, the cross-selling offers are relevant and targeted, and the customers find that, on balance, the more aggressive attitude can easily be ignored (and customer responses are integrated into their continually updated profile).

Sort Consumers to Offer the Right Response

TNB knows first-hand the difficulty of tracking fragmenting, dynamic consumer segments. It works very hard to divide its clients into small microsegments according to a whole range of factors, including traditional income, geography, and account balance characteristics; to behavioral factors like types, venues, and frequencies of transactions; and shifts in household purchasing patterns that may link to life-stage changes. TNB experiments with thousands of different approaches to credit cards and loan offerings, investment advice, and insurance suggestions.

This means that different groups often receive different offerings—not only through traditional media such as direct mail or telemarketing, but even at physical touch points. For example, the signage in TNB bank branches changes to emphasize different services at different times of day. ATM screens and sequences are also targeted to different microsegments—offering different services automatically and even displaying value-

added messages for some segments (e.g., showing financial management tips, nature-themed illustrations, or daily news on the ATM screen as customers' transactions are being processed). These value-added messages don't directly link to any services TNB offers, but help customers feel that the bank knows what sort of person they are.

Targeted, Tailored, and Timely Messages

The key to cross-selling is to keep learning more about the customer and to build a response that is tailored to those insights. Trying to cross-sell the same product for the tenth time to a customer can be extremely irritating. But TNB is adapting its cross-selling procedures so that there are constant experiments going on to try a whole range of product variations for specific groups at different times and in different venues. If there is some response to an earlier offering, the information from that interchange (everything from a flat-out "no" to "I can do better than that") is integrated into the customer profile and is taken account of when new offerings are made which might be more amenable.

Personalize Interactions with Individuals

TNB personalizes a great deal of its interactions with consumers. This is because TNB learned a valuable lesson from its business customers—that big, profitable relationships come from nurturing mid-sized ones. Some of TNB's biggest business accounts have taken 30 years to work up from average accounts, while a smaller amount suddenly increased in size because of a change in fortune. With their consumer market, TNB applies this learning by not only maintaining personalized relationships with their best clients, but also personalizing relationships with "average" accounts

that have the potential to make a big shift. The big challenge, of course, is to identify this latter group. TNB meets this challenge by tracking the potential mobility of customers across profitability microsegments. This endeavor requires soft tags, intelligent algorithms, and web services to create an extensive internal information infrastructure.

A range of personalized services is made available to the customers that make the cut. Probably the simplest service is the "human touch" provided by local bank officers. TNB has seen its officer-to-account ratio rise over each of the last five years as they invest in this service. But there are other options for personalization as well. For example, these customers can modify the sequence and options appearing on their ATM screens, essentially personalizing their ATM visits (e.g., to immediately offer withdrawals for a certain amount, or always offer postage stamps as the last step). Sensors on phone lines identify callers who seem upset or agitated (e.g., cursing, repeatedly pressing number keys) and seamlessly transition them to a service agent or supervisor.

CONCLUSION

The three scenarios give indications of the keys to success. They outline ways to gather and apply consumer data, develop effective interactions with consumers, and identify and develop core consumer-oriented business processes. They have a strong presence in many—although not all—of the five key points on our communication strategy continuum: brand messages driven by user feedback; widen the range of touch points; sort consumers to offer the right response; providing targeted, tailored, and timely communications; and personalizing interactions with individuals. By using consumer data as a strategic asset, these businesses point the way toward becoming a consumer-driven organization.