



Technology

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We're living in a time of immense opportunity for marketers who maintain faith in new information technologies. While the recent past was characterized by massive investments in interactive service technologies, the future will be characterized by customers empowering themselves to take advantage of the technology that's been created. Marketers who truly understand the desires and concerns of the growing base of e-service customers will be the winners in this new era.

Contrary to predictions by doom-sayers, insights from extensive consumer research we have conducted suggest that the new economy is alive and well. There continues to be steady growth in e-services, which we define as "all services delivered

via an electronic medium (usually the Internet) and comprising transactions initiated and largely controlled by the customer."

E-services are not limited to the domain of new economy companies. In fact, much of the success in this arena has occurred among established organizations that are augmenting their traditional offerings with e-services. For example, credit card companies may sign up new customers on the Web and allow them to access account information and pay bills online. Airlines have also reaped benefits through online ticketing and self-service check-in kiosks. Local and state governments offer an increasing number of services online, and membership associations let members conduct research, register for confer-

ences, and order products online.

And, despite the so-called dot-com bust during the recent past, not all new economy companies have failed, and they too account for the increasing acceptance of e-services. Many of the names that gained prominence in the 1990s, such as Amazon, eBay, AOL, Expedia, and E*Trade, are viable enterprises filling important market niches.

Technology's Role

Companies' traditional modes of marketing—through employees (e.g., salespeople, call-center operators) or promotional media (e.g., TV commercials, point-of-sale displays)—are being increasingly augmented or replaced by technology-based systems. The Pyramid Model proposed by Parasuraman as an

Never mind the doomsayers.

E-services are alive, well, and positioned for growth.

still matters



EXECUTIVE briefing

In the wake of dot-com collapses and statistics suggesting that household penetration of Internet access has peaked, doomsayers believe the online service model has reached its potential. Two experts in e-service marketing suggest an opposite conclusion—that e-services have considerable potential for growth. They're part of a quiet revolution that has been steadily transforming the services and information sectors and will continue to do so for years to come.

extension of Kotler's Triangle Model illustrates the role of technology in the marketing process. (See Exhibit 1.) The triangle at the base of the pyramid identifies three traditional forms of marketing. External Marketing focuses on the company-customer link and consists of conventional marketing-mix activities such as advertising, pricing, and distribution. Interactive Marketing focuses on the employee-customer link and consists of making a good impression on customers by delivering on service promises made or implied by external marketing. Internal Marketing focuses on the company-employee link and consists of treating customer-contact personnel as internal customers and providing them with appropriate training, support, motivation, and rewards to serve external customers well.

The positioning of Technology at the apex of the Pyramid Model emphasizes its central role in changing the structure of conventional forms of marketing. Specifically, technology is transforming and enriching the traditional marketing links in the following ways:

- The most visible role of technology is in the *company-customer* link. Companies can now communicate directly with their customers via the Internet, reaching them at home, work, or in transit. A marketer can use interactive media to build brands, provide customer service, and even deliver digitized products directly to customers.
- Technology that links company and customer also augments the *employee-customer* link. Employees are better-equipped to help customers, taking advantage of internal e-services that enable them to access relevant information and deliver service on the customer's behalf.
- And technology is revolutionizing the *company-employee* link. Interactive technologies such as the Internet and intranets are increasing communication efficiency and interconnecting geographically dispersed resources. They also facilitate two-way flows of information—sending intelligence from the field to headquarters and communicating information about corporate objectives, products, and customer satisfaction to frontline personnel.

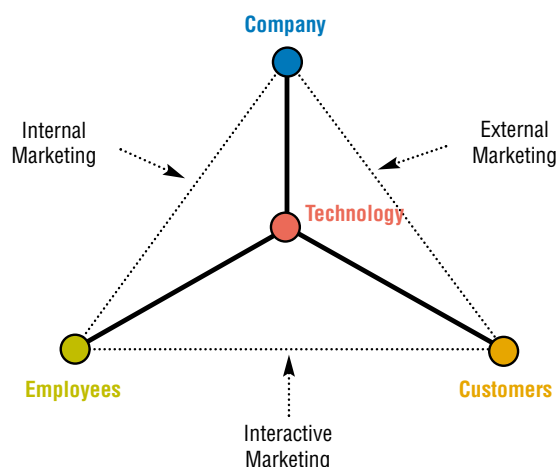
In the 1990s, the locus of activity was primarily on the apex of the pyramid, with companies, governments, and non-profits investing heavily in technologies with the hope of simultaneously improving service and cutting costs. For example, a

self-service capability over the Internet gives a customer 24-hour-a-day access to service, while costing the organization much less than the cost of fielding phone calls from customers. However, in making such investments, organizations by and large took a "build and they will come" approach. While visionary organizations made these investments even if they did not immediately offer paybacks, the reality was that a minority of customers had access to the Internet, and those who did often struggled to learn to use the new services and overcome security concerns.

In our view, the current decade will experience a surge of growth in e-services. However, this period will be different because technology users, and not providers, will drive it. The locus of action is shifting from technology to both external and internal customers. Based on our ongoing tracking of people's technology beliefs and behaviors, we predict that most of the growth in e-services will consist of customers and businesses leveraging existing technology-based systems by either adopting them for the first time or expanding their usage. Our findings indicate that e-services are growing, even if many concerns about interactive technology remain the same.

■ Exhibit 1

The pyramid model of techno-ready marketing



Source: Adapted from Exhibit 1 in Parasuraman, A. (2000). "Technology Readiness Index (TRI): A Multiple-Item Scale to Measure Readiness to Embrace New Technologies." *Journal of Service Research*, 307-320.

Organizations desiring to accelerate the adoption of e-services need to focus on and understand the customer-technology and employee-technology links in the Pyramid Model. Findings from our studies consistently indicate wide variance in people's technology readiness (TR)—a natural propensity to embrace and use new technologies for accomplishing goals in home life and at work. All people can be arrayed along a continuum from low to high TR. The distribution of TR scores (measured as an index we call the Technology Readiness Index or TRI) for the adult U.S. population fits a classic bell curve, or normal distribution. People high in TR tend to adopt cutting-edge technologies sooner than others, and make greater use of them following adoption. It's worth noting that TR is a measure of mental disposition, and is not a measure of technical competence.

The Impact of TR

E-services are essentially innovative technologies—meaning they are cutting-edge and devoid of some or all of the human element in conventional services. Therefore the growth paths of e-services will be governed by the technology readiness of their intended users. The role of TR is especially critical for technologies that continue to evolve and, as such, will have features unfamiliar to many customers for the foreseeable future.

Technology readiness is more complex than a simple continuum from low to high, or adopting early to adopting late. Findings from our multi-year research program on technology beliefs reveal four distinct facets of TR, two of which are contributors to technology adoption, while the other two are inhibitors.

The contributors include innovativeness (an inherent desire to experiment with technology, learn about it, and influence others) and optimism (a faith in the ability of technology to provide real benefits). The inhibitors include discomfort (a feeling of lacking control over technology) and insecurity (a need for assurance that technology is working properly along with a fear that it can cause problems).

TR and its four facets are good predictors of technology-related behavior. TR is strongly correlated with the use of the Internet and e-services. For example, 56% of the upper one-third most techno-ready adults who are online at home report they pay bills online, compared to only 8% of the lower one-third.

Among the components of TR, one of the most significant is insecurity, including fears of doing business online and providing financial information over computers. These security concerns have not abated appreciably in recent years and are a barrier to the adoption of e-services. For example, in 1999, 58% of U.S. adults did not consider it safe to do any kind of business online. In 2002, this sentiment was still held by a majority of adults (51%).

A consistent finding from our research is that individual technology beliefs can vary independently on the four facets, and that the beliefs may include a mix of the positive and neg-

Exhibit 2

Description of five technology segments

Technology Segment (in descending order of techno-readiness)	Technology Belief Dimension			
	Contributors		Inhibitors	
	Optimism	Innovativeness	Discomfort	Insecurity
Explorers	High	High	Low	Low
Pioneers	High	High	High	High
Skeptics	Low	Low	Low	Low
Paranoids	High	Low	High	High
Laggards	Low	Low	High	High

Note: Areas shaded in dark gray are associated with a high degree of techno-readiness, while areas shaded in light gray are associated with a low degree of techno-readiness.

ative. Our research suggests there are five distinct technology segments with varying combinations of beliefs and posing different marketing challenges/opportunities. (See Exhibit 2.)

Explorers. The most techno-ready of any segment, this group makes up 17% of the adult population in the United States. They're the first to adopt new technologies. They have strong motivations to adopt technology and few inhibitions. They are more affluent, younger, more likely to be male, and work in technology professions. The marketing opportunity with this segment is leveraging them to evangelize e-services and create early demand.

Pioneers. Twenty-three percent of the population falls into this category. Pioneers are highly motivated to adopt technology but at the same time are inhibited by a high level of insecurity and discomfort. They are the most ethnically diverse of any segment. Marketers face the challenge of helping them overcome their inhibitions to e-services through friendly design, support, and reassurance.

Skeptics. Representing 24% of the population, this group is not far behind the Pioneers. Skeptics have few motivations but also few inhibitions to adopt technologies like e-services. Marketers have the opportunity to convince them of the underlying benefits to e-services.

Paranoids. This group, which covers 18% of the population, believes in technology's benefits but is constrained by a high level of insecurity and discomfort. They tend to be lower income and more female. The marketing challenge here is offering high levels of reassurance about the safety and security of e-services (and building security into the product design).

Laggards. The least techno-ready segment, Laggards make up 18% of the population and have little motivation and a high level of resistance to using new technologies like the Internet and e-services. They are lower income and much older. Marketers may reach out to them by developing streamlined, easy-to-use offerings.

Each of these segments adopts technologies such as e-services at different rates. For instance, while more than half (54%) of Explorers who are online have purchased items costing more than \$100 in a one-year period, the incidence of such purchases is only about one-third among Pioneers (32%) and Skeptics (41%), and less than one-fourth among the less techno-ready Paranoids (23%) and Laggards (15%). The Internet itself is also a good example of how more techno-ready consumers embrace technology to a greater degree. Each of the segments has adopted the Internet at different rates, ranging from 84% for Explorers to 31% for Laggards. Yet the users in the more techno-ready segments have found more applications for this medium. A case in point is the previous example of high-end purchases made online. Even among users who have access to the Internet, the more techno-ready segments are more likely to use the Internet to make substantial purchases.

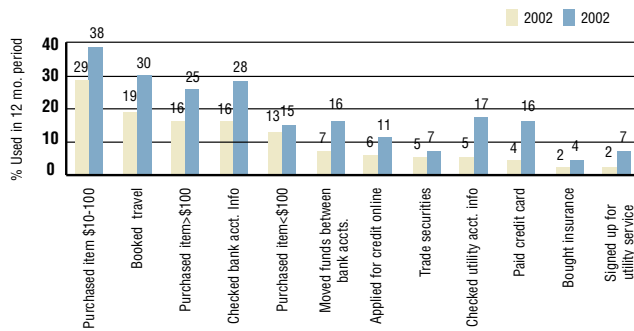
There is a natural cascading of adoption of e-services from the most techno-ready to the least techno-ready segments. Initially, the Explorers seed the market with early demand and help evangelize the e-service. If the e-service is properly marketed, it takes hold among Pioneers and Skeptics. It ultimately filters down to Paranoids and Laggards as the benefits become obvious and the kinks (such as security issues) are worked out of the service. To maximize the effectiveness of marketing efforts and accelerate the adoption of the e-service, the marketer should anticipate changes in the TR composition of its customer base as the e-service evolves, and adjust the marketing mix accordingly.

E-service Trends

Despite widespread perceptions of the Internet being an unsafe venue for commerce, there is evidence that e-services are beginning to expand rapidly. First of all, the Internet as a communication medium seems to be pervasive. Our 2002 National Technology Readiness Survey (NTRS) revealed that 79% of the adult population has some kind of access; this includes 61% who have home access, an additional 8% who do not have access at home but have it at work, and another 9% who have accessed the Internet from a source other than home or work (usually a friend's home or a public library).

The NTRS has been conducted over four consecutive years, allowing us to track changes in some key e-service behaviors. There has been continued growth in a wide range of e-services, including online purchasing, online travel, credit-card management, and banking. (See Exhibit 3.) From 2001 to 2002, growth in some of these services stalled (e.g., online travel), probably due to the economic climate, but the use of other e-services (e.g., online banking, bill-paying, e-government) has continued to grow. In each case, the long-term growth in use has outpaced the growth in the Internet. In other words, the growth comes not only from more people getting online, but also from those already online starting to engage in new behaviors.

Exhibit 3
Usage of online services



The Future

Marketers should expect and plan for major growth in e-services over the next decade. In nearly all of the categories of e-services we have tracked, there's a wide disparity between the incidence of adoption among the most techno-ready segment (Explorers) and less techno-ready segments, particularly Paranoids and Laggards. For instance, 62% of Explorers who are online report having booked travel reservations on the Internet in a one-year period, compared to only 19% of Laggards who are online. Since Explorer usage is a harbinger of future growth, one can expect continued growth as more segments reach comparable penetration over time. E-services have a long way to go on the path of diffusion before becoming "mass market" technologies, suggesting tremendous untapped potential.

A variety of factors bode well for the continued expansion of e-services in the coming years:

A growing Internet. Computer and Internet penetration at home continue to grow, despite some press right after the dot-com slump in 2000 that suggested the contrary. Looking at the adoption trends over the past few years, it's not unreasonable to expect the vast majority of households to be online in the next few years.

Technology that enables. Advances in technology will also play a role in the growth of e-services. We believe the most important ones will be those that enable consumers to access e-services easily in their homes and businesses. For example, a major barrier right now is the amount of time it takes to activate services. Home networks and energy-saving computers will allow access comparable to a dial tone on a telephone. Increasing availability of broadband connections will speed up online transactions and allow new functionality. By the end of 2002, 31% of households already had high-speed access at home (2002 NTRS). Voice-over-Internet and home video-conferencing will provide customer service options needed by less techno-ready consumers. Portable access will allow greater freedom of mobility of commerce.

Economic conditions. Interestingly, the current stagnant economy is helping to stimulate growth in e-services rather

than slow it because managers in all sectors are turning to e-service models as a way to cut overhead costs.

Lifestyle changes. In the United States, lifestyles are being significantly altered by such trends as increasing time pressures and traffic congestion. News about terrorism and war are contributing to greater concerns about personal security and an emphasis on home and family over travel and materialism. These factors make online shopping from home more appealing. Our research shows that there is a great belief in technology's ability to provide convenience, time savings, and schedule flexibility.

What Marketers Must Do

How should marketers respond to the challenges and opportunities presented by a massive shift to e-services? The most logical starting point is to conduct a "techno-ready marketing audit" or a systematic review of your current market, organization, and services from a technology perspective. Key questions need to be asked, such as who are our customers and how techno-ready are they? What e-services do we have in place, and how responsive are they to customer needs?

it's also important to include features in demand by more techno-ready consumers to ensure the service is "future-ready." For example, an online store might include customization, the ability to institute automated ordering, and e-wallet payment options, even if most users will not initially use these features.

Customer-focused design. E-services need to be designed so that even the least techno-ready customer can comfortably use them. This requires ongoing usability testing, satisfaction monitoring, and feedback about whether customers understand the strategic value of services. For example, do users who apply for loans online understand that their credit has been checked and they have been "approved," or do they think the site is just giving them rate quotes to help them shop around?

Responsive customer support. E-services will never penetrate beyond Explorers unless less techno-ready segments learn to use them effectively. This requires adequate customer support. For example, management may want to skip a toll-free number for technical support in order to save on overhead, but this may be an essential tool to ensure long-term acceptance.

Reassuring design and communication. Most users need assurance that e-services are working properly. For example,

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How do our e-service systems address the unique needs and psychology behind technology adoption? (e.g., are they secure? user-friendly?) How prepared are our senior management, marketing organization and employees to meet these challenges? What is the gap between their techno-readiness and that of customers and prospects?

In asking these questions, there needs to be a fundamental recognition that technology should be marketed differently from traditional goods and services. For example, as the market matures for an e-service, the customer base changes as penetration filters down to the less techno-ready segments. There are also special challenges, such as having to educate customers on how to use the product.

Our book, *Techno-Ready Marketing: How and Why your Customers Adopt Technology* (Free Press, 2001) presents some specialized strategies that should be considered for marketing cutting-edge technologies such as e-services.

Technology evangelism. It's critical to build support among Explorers and use them to evangelize to other segments about the benefits of the e-service. The personal influence of these early adopters can be an important factor in advancing a relatively new service option.

Future-ready design. Careful consideration needs to be given to the right mix of features built into an e-service. While it's important to avoid overwhelming users with complexity,

many services will e-mail a confirmation to the user immediately after conducting a transaction online. Security concerns are such a major drag on e-commerce in the current environment that companies can gain significant competitive advantage by positioning their brands as safe options.

Proving benefits. Marketing communications need to convince Skeptics of the tangible benefits of technology. For example, the message needs to go beyond the fact that there is 24/7 access. It needs to identify specific benefits, such as being able to pay a bill online before there is a payment penalty.

The future of e-services certainly looks promising because of ample growth potential as part of a natural technology diffusion process and environmental pressures ranging from evolving technology to changing lifestyles. Marketers in all sectors should be prepared to take advantage of these trends, creating or enhancing their own e-service systems and implementing them in a "techno-ready" fashion. ■

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