

# Briefs

## Questioning the IT Arms Race

Technology was the great liberator of the 1990s. It opened new spheres of competition. It taught every company to reconsider the way it did business. It made doing business faster, smarter, and more personalized. But today, many companies have discovered that keeping pace with the technology “arms race” can be an unwieldy proposition.

Most technology managers are understandably torn: Should I invest in a promising new product? How can I afford to invest in the future and support my current technology base? For executives struggling with such decisions, I recommend three simple questions to ask before spending more technology dollars.

**1. Do my customers really want this?** Letting your customers drive technology, rather than the reverse, is one of the most important but most neglected principles of New Economy management. Every good technology department ought to be doing dozens of far-flung IT experiments.

But do new ideas — as brilliant as they may be — make things easier for the customer? Many customer-

relationship management software packages are available, along with tools designed to make the most of them. But if, after interacting with your online tools, your customers still call your 800 number, then either you haven't implemented the technology correctly, or it's the wrong technology for you.

**2. Is this overkill?** Wireless technology is the most exciting technology frontier, and it has the capacity to transform business. But don't make the common mistake of assuming a wireless device is simply a mobile version of a PC. Many companies are bringing the same cumbersome processes designed for PC-based Web access to the new generation of wireless devices. This is overkill. Much of what businesses offer customers on the Web is redundant or unnecessary on wireless. Most wireless customers want easy access to basic real-time information. Excessive data and functions only makes wireless less helpful and more difficult to manage.

**3. Do we have to do it here?** Most technology executives feel proprietary about their best products and services. As a result, they're loath to outsource what they rightly regard as the heart and lungs of their business. But just because it's a technolo-

gy project doesn't mean it can't be handled more efficiently and just as effectively outside your company. There are always functions that can be outsourced — especially offshore — where the time and financial savings can be substantial, and there is no intellectual property threat.

Companies should be eager to ship legacy systems maintenance abroad. At home, a company should not be reluctant to find a good strategic partner for peripheral but valuable technology projects. Then the more important, future-oriented projects can be kept in-house and receive a lot more attention and more “management bandwidth.”

These three questions don't completely relieve all the strains on today's IT departments. But they point to the best way to keep focused on priorities and ensure that technology investments stay strategic.

**Dawn Lapore**

## Online Aggregation: The Battle Ahead

People eager to check up on their bank, brokerage, and credit card

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accounts can go to the Web to see where they stand. But there's a problem: They can't make financial decisions based on a complete picture of all their accounts, because statements scattered across many different Web sites can't be viewed, much less analyzed, at the same time.

In response, the Web sites of major banks and brokerages, such as Citigroup Inc. and Merrill Lynch & Company Inc., now offer a remedy called aggregation. But so do personal finance portals, such as Yahoo Finance, OnMoney, and MSN's MoneyCentral. A recent Booz-Allen & Hamilton/e-Rewards study of consumers who aggregate shows financial portals are jockeying to give banks, brokerages, and other traditional players a run for their money, and their customers.

Aggregators collect data from an individual's multiple accounts and upload it to a single Web location. Customers get one-click access to all their financial information, while service providers get a deep look at customers' money situation, which they can use to create individually tailored offers.

Our survey showed that 36 percent of personal finance portal customers spend less time at the Web

sites of banks where they have checking, brokerage, and other accounts than they did previously, and 9 percent stop visiting these sites entirely.

Thus, once customers aggregate elsewhere, their connection to their financial institution slips, and they become targets for competitive offers.

Still, the survey also showed banks have an advantage. Sixty-eight percent of respondents said they would be inclined to try an aggregation service offered by a financial institution if they already had a relationship with it. By contrast, no single factor steered people to portals; 26 percent of portal users said they signed up at the first site they found that offered aggregation.

In one sense, both financial institutions and personal finance portals are supplying a commodity service, since most license the underlying technology from a single provider, Yodlee.com Inc. But the game will get more interesting for both portals and traditional institutions as they surround their core offering with distinctive services, branding, and incentives.

Portals can turn themselves into independent advisors. By definition, portals don't offer their own financial services. They do, however, have strong brands and strong skills at

assembling information. Smart portals could parlay these factors into a brand position as an independent "trusted advisor" that gives customers advice and offers from third-party companies.

Financial institutions can win aggregation business based on their existing checking, savings, investment, and mortgage relationships. Their bricks-and-mortar assets give them a reassuring physical presence, unlike virtual services. The big question is whether they should market third-party services or stick with house brands. Should Citibank, for example, offer only Travelers insurance? Carrying external products (even from competitors) promotes an impartial image and might keep users from shopping at other sites.

Whether Internet portals or bricks-and-clicks institutions, all online aggregation services will need to deal with similar issues. The first is security and privacy, since users are putting multiple accounts on one site and providing their user names and passwords to those accounts. Sites also will need to be innovative — developing and exploiting new market opportunities with enhancements such as fund transfers and bill payment. Finally, skillful customer rela-

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relationship management will be critical, especially for traditional financial institutions as they lose control over what was once proprietary customer data. In the rush to mine data, both banks and portals had better be mindful that the customer relationship comes first.

**Larry Altman, Anju Simon,  
and Zaki Hyatt-Shaw**

## Top 10 Innovation Themes

Does history repeat itself when companies seek ways to innovate? Are there patterns among the business strategies chosen by successful companies from one decade to the next?

To find out, we studied nearly 200 business strategies, most from the past 20 years, but some from a century ago. From this research we identified 10 essential "innovation themes," which are repeated and proven over time.

We believe these themes are building blocks that companies, across industries, can use to achieve long-term success through business innovation. Innovation themes help executives to distinguish growth-oriented strategies with staying power

from cost-driven operational measures such as total quality management (TQM) and Six Sigma, or from management fads, like the short-lived New Economy notion that a high valuation is a substitute for profits.

This is not to say that TQM and Six Sigma are not important competitive tools, but they cannot create sustainable value unless coupled with more innovative and forward-looking strategies. Consider the plight of the Xerox Corporation, a company that spent millions in the 1980s on TQM, and won the Malcolm Baldrige National Quality award in 1989, but never hit its strategic stride in the '90s and is now struggling to survive.

We suggest executives use the following 10 innovation themes as a checklist to assess strategic options. The first five relate primarily to industry structure — relationships

among companies and the channels of distribution they use.

1. **Consolidation** (rolling up competitors into a bigger, more powerful company). John D. Rockefeller merged 40 allied companies in the 1880s to create the Standard Oil Trust, a monopoly that controlled exploration, production, distribution, and marketing.

2. **Bypassing** (or cutting out the middlemen). Dell's direct-to-consumer model, for example, bypasses computer retailers. Stephen King ignored booksellers and publishers alike when he self-published his novel *Riding the Bullet* on the Internet.

3. **Value migration** (shifting to a related but more profitable industry or niche). Consider Monsanto Company, which has transformed itself from a chemical concern to a life sciences company that competes against

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pharmaceutical leaders.

**4. Teaming up** (replacing vertical integration with alliances to create an end product). Auto manufacturers have allied with suppliers that provide entire “modules” for vehicles — engines, interiors, doors, electronics — which the manufacturers assemble and market. Magna International Inc. is one such supplier.

**5. Digital delivery** (providing online shopping, purchasing, and access to goods and services). Software companies like Adobe and Microsoft let customers buy and immediately download programs to their PCs. Online music distributors provide digital delivery and eliminate retailers and manufacturers.

The other five themes, overall, focus on the customer experience.

**6. Deep connections** (encouraging emotional attachments to products that go beyond the functional value to the consumer). The home-furnishing retailer Restoration Hardware exploited a niche in the home-improvement market, where instead of prosaic housewares, it sells nostalgia for an imagined, simpler lifestyle.

**7. ASAP** (delivering information or end products faster). Inventor Samuel F.B. Morse revolutionized communications by using his Morse

code to send the first “instant message” via telegraph on May 24, 1844, on a line connecting Washington, D.C., and Baltimore. Wells Fargo Bank, a leader in online banking, performed the first recorded online transaction via the telegraph in 1864.

**8. Customization** (letting customers design the end product to their specifications). Mass personalization is associated with diverse products — computers, cars, cosmetics, clothing, and more. Levi’s Original Spin program, for example, lets shoppers choose from 1.7 million variations of fit, style, and color to create their distinctly personal jeans.

**9. Mass-market** (extending availability of a product from the elite to the average consumer). The average consumer was liberated from daily food shopping in 1918, when Kelvinator marketed the first truly practical home refrigerator. Frigidaire’s model followed in 1919, and General Electric offered the first hermetically sealed refrigerator compressor in 1926.

**10. Fix-it-for-me** (solving a pressing customer problem with a comprehensive solution or breakthrough product). Michael Bloomberg designed a total hardware/software system with Wall Street traders in mind. Thus, two monitors let traders

see all the information they need at a glance, with no switching between PC windows. Built-in analytic capabilities allowed for rapid financial calculations, eliminating the hassles of data downloads and paper-and-calculator analyses.

How can you decide whether your company or industry is ripe for innovation? Which themes may be appropriate for your company? To answer these questions, start by looking for innovative approaches inside your industry, or within a company — your own or another. If you are considering a strategy theme that is not being utilized, ask yourself why it is not. Is it because of uninterested customers? Overly cautious executives? Lack of infrastructure?

Look at other industries, too. Often, an innovation will jump from one industry to another as its value becomes obvious. Mass personalization strategies are moving from clothing and computers to automobiles and even to foods such as cereal.

If an innovation theme is present in your industry, consider driving it to the next level. Can you shake up industry structures or make high-value consumer products broadly available, customized, or emotionally appealing? Push the scenarios; however implausible they may be at first, see if they really make economic sense.

And never assume you have reached the end of the line with a theme. Based on historical evidence, we believe it is much more likely that your imagination will run dry before the theme does.

**David Y. Choi and Liisa Välikangas**

## M2M — The Next Wireless Frontier

Today's hype around the wireless Web typically centers on consumer applications. Witness the phenomenal popularity, especially among teens, of NTT DoCoMo Inc.'s i-mode wireless services in Japan. According to research by Nissan Motor Company, many Japanese kids pay more each month than the cost of a car payment to send messages and play interactive games.

But wireless service companies elsewhere in the world fret about whether they can find the true "killer app" to yield returns on the billions of dollars they've invested in new licenses and third-generation (3G) infrastructure. We think a shift in focus from consumer-to-consumer to machine-to-machine (M2M) communications

may offer the solution.

According to ARC Advisory Group, a leading analyst of industrial automation and e-business, sales of cellular engines — the "guts" of a cell phone, without key pads, microphones, and power chargers — will outsell cellular phones within the next few years. These cellular engines will provide M2M links among stationary and mobile machines to central enterprise systems. In many cases, field operators will have direct access to remote devices to gain critical operating information. In other cases, the machines will interact directly during the night when wireless networks are less congested from consumer use.

If you have ever visited an English pub, you have surely noticed the gaming machines in a corner and patrons happily clunking £1 coins in

the slots. But even as you noticed the machines, you probably didn't consider the complexity of managing these devices. Pub gaming machines offer a range of features, but eventually regular users tire of playing the same games, so machine owners must physically rotate the machines among pubs to keep up user interest. The machines must also be serviced, and the coin boxes must be emptied regularly to secure the profits. M2M commerce can dramatically simplify the process, increasing revenues and operating efficiency.

Ztango Inc., a pioneer among M2M wireless service providers, has developed technology specifically for gaming machines that can simplify or eliminate these tasks, and more. When problems occur, remote diagnostic technology built into the machines instantly connects to central

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operations with information about the failure. Repair technicians can then get the machine back online — and earning profits — far faster than in the past.

Wireless connectivity will also allow the machine operator to track daily yields and better plan field visits to collect the coins, reducing the cost of collection. Most importantly, machines can be remotely reconfigured with new software to create a new user experience, rather than relocating an entire machine. Plus, information on daily activity is collected via the wireless network each night, which allows the fleet owner to accurately assess the popularity of each game and rotate the mix without ever setting foot in the pub.

M2M also has huge potential in industrial settings. Take the remote monitoring of plastic resin storage tanks located outside the thousands of factories around the world manufacturing plastic parts. These silos

typically hold 40,000 to 60,000 pounds of resin and need refilling every five to 30 days. Programmable Logic Controllers (PLCs), special-purpose industrial computers, monitor and control many storage tanks, but few resin tanks are linked into a central control system for quality assurance or materials management. Accordingly, most materials managers send a technician to bang a wrench on the side of the tank or plunge a stick in from the top to determine inventory levels and plan replenishment orders.

Enter a new offering that combines industrial systems and Internet technology expertise, from a joint venture between the GE Fanuc Automation Corporation and Cisco Systems Inc. By adding a cellular module with unique wireless software reporting data to a central host computer, materials managers can remotely monitor inventory levels to ensure just-in-time replenishments.

The device can be configured to link directly to the supplier sales and logistics systems to enable vendor-managed inventory, creating a differentiated service for an otherwise commoditized business.

As these examples indicate, M2M applies in a variety of contexts. With the expansion of the wireless infrastructure, there will be many new cost-effective applications. The greatest challenge to the expansion of M2M comes from the traditional barrier to innovation: change management. Although end-users immediately see the quantifiable benefit of M2M communications, IT professionals, unfamiliar with wireless technology, fear the unknown. The task of putting in place and managing comprehensive M2M wireless data solutions requires expertise in many areas, from machine interface and equipment installation to managing complex integration with carrier networks and enterprise systems. But many companies are now blazing a trail that others will inevitably follow — the newest fast lane on the information superhighway.

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