eMarketer™

Interactive Banking:

Integrating Online into Traditional Channels

October 2002

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Welcome to eMarketer

Dear Reader:

Welcome to the latest edition of eMarketer's *Interactive Banking* Report.™ This compendium of data, research and analysis offers an invaluable reference tool for tracking, forecasting and understanding the entire interactive banking universe as it crosses channels from the internet to ATMs, call centers, and branches.

The report gives bankers, other financial-service professionals, marketers and technology firms a fuller picture of online banking's size and growth trends, as well as strategic issues, customer attitudes, IT spending and industry best practices. In the following pages, you'll find analysis and research to help you develop business and marketing plans, answer questions from customers or management, create presentations and make critical decisions about ventures in the rapidly changing field of interactive banking.

Like all eMarketer reports, the *Interactive Banking* Report™ presents statistical information aggregated from a broad range of authoritative research sources—over 40 top sources in all. The pages ahead provide anyone working in the financial-service space with the answers they need, in an easy-to-search format.

If you have any questions or comments concerning eMarketer or any of the material in this report, please call, fax or e-mail us.

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Written by David Hallerman

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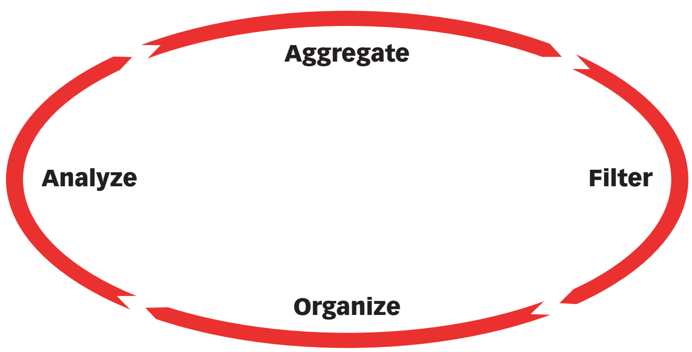
eMarketer's approach to market research is founded on a philosophy of aggregating data from as many different sources as possible. Why? Because there is no such thing as a perfect research study and no single research source can have all the answers. Moreover, a careful evaluation and weighting of multiple sources will inevitably yield a more accurate picture than any single source could possibly provide.

The eMarketer Difference

eMarketer does not conduct primary research. Neither a research firm nor a consultancy, eMarketer has no testing technique to defend, no research bias and no client contracts to protect.

eMarketer prepares each market report using a four-step process of aggregating, filtering, organizing and analyzing data from leading research sources worldwide.



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Using the internet and accessing a library of electronically-filed research reports and studies, the eMarketer research team first aggregates publicly available e-business data from hundreds of global research and consultancy firms. This comparative source information is then filtered and organized into tables, charts and graphs. Finally, eMarketer analysts provide concise and insightful analysis of the facts and figures along with their own estimates and projections. As a result, each set of findings reflects the collected wisdom of numerous research firms and industry analysts.

"I think eMarketer reports are extremely useful and set the highest standards for high quality, objective compilation of often wildly disparate sources of data. I rely on eMarketer's research reports as a solid and trusted source."

—Professor Donna L. Hoffman, Co-Director, eLab, Vanderbilt University

The Benefits of eMarketer's Aggregation Approach

Objective: information is more objective than that provided by any single research source
Comprehensive: gathered from the world's leading research firms, consultancies and news organizations
Authoritative: quoted in leading news publications, academic studies and government reports
All in one place: easy to locate, evaluate and compare
Readily accessible: so you can make quick, better-informed business decisions
Above the hype: accurate projections that business people can use with confidence
Time saving: there's no faster way to find internet and e-business stats, online or off
Money saving: more information, for less, than any other source in the world

"Benchmarking" and Projections

Until recently, anyone trying to determine which researcher was most accurate in predicting the future of any particular aspect of the internet did not have a definitive source with which to do this. For instance, over 10 firms predicted e-commerce revenues for the fourth quarter 1998 online holiday shopping season, and yet no single source could be identified after the fact as having the "correct" number. In the Spring of 1999, however, the US Commerce Department finally began measuring e-commerce B2C activity so business people and others could have a benchmark with which they could compare and evaluate projections.

eMarketer has adapted its methodology to recognize that certain government and other respected, impartial sources are beginning to provide reliable numbers that can be consistently tracked over time. Most of these established sources, however, only measure past results; typically, they do not make predictions.

Methodology

US Market Size, Growth & Trends

The Interactive Banking Customer

Channels & Services

Electronic Payments

Financial-Service Technology

Online Banking: Barriers & Possibilities

Community Banks

Rank the Banks

Insurance Online

Global Online Banking

Index of Charts

Today, eMarketer formulates its Essential E-Business Numbers by first identifying the most established, reputable source for a given sector being measured and then adopting that organization's figures as *benchmarks* for the historical/current period. For instance, eMarketer's US internet user figures will be based on a combination of the most recent data from the US Census Bureau and the International Telecommunication Union. Using this data as the benchmark for 2000 and 2001, eMarketer will make projections for subsequent years based on the following factors:

- a comparative analysis of user growth rates compiled from other research firms
- additional benchmark data from internet rating firms, e.g., Nielsen//NetRatings, comScore Media Metrix, which use panels to measure internet user activity on a weekly and monthly basis
- an analysis of broader economic, cultural and technological trends in the US

Similarly, US e-commerce revenues are being "benchmarked" using historical data from the US Department of Commerce, and broadband household and penetration rate forecasts are being built off baseline data from the Organization for Economic Cooperation and Development (OECD).

Through this benchmarking process, eMarketer will be holding itself – and our projections – accountable.

"When I need the latest trends and stats on e-business, I turn to eMarketer. eMarketer cuts through the hype and turns an overabundance of data into concise information that is sound and dependable."

— Mark Selleck, Business Unit Executive, DISU e-business Solutions, IBM

In the seven years since Wells Fargo became the first major US bank to offer full internet access to its retail customers, online banking has become as familiar, essential and expected as, well, as the local branch of your neighborhood bank.

And that's just the point—or at least one of them. For banks perhaps more than for most retail enterprises, the fusion of online with offline has become old hat. Even as more and more customers sign up for internet services, the gain in online numbers comes more from the existing customer base than from adding new customers.

That's okay, too. Banks such as Wells, Bank of America and others "increasingly assert that online customers generate more revenue than offline customers by opening more accounts and maintaining higher balances," according to *Banking Strategies*, a magazine published by the Bank Administration Institute (BAI), a Chicago-based professional organization. "Viewed this way, there's less pressure to make the service pay for itself." In addition, many institutions claim that a well done website improves retention of a bank's best customers.

To an extent, this has proved to be true. Celent Communications (a financial services research and consulting firm) maintains "churn rates at banks have dropped from 12% before 1999—a breakthrough year in online banking—to 8.4% now at banks [it has] surveyed."

For banks, serving customers through electronic channels is an old story—think of automated teller machines. Think of ATMs, too, as a "rough proxy" for trying to predict online banking's eventual penetration rate—about two-thirds of all consumers reports *Banking Strategies*. Currently, however, online banking estimates range between 15% and 25% of all American households.

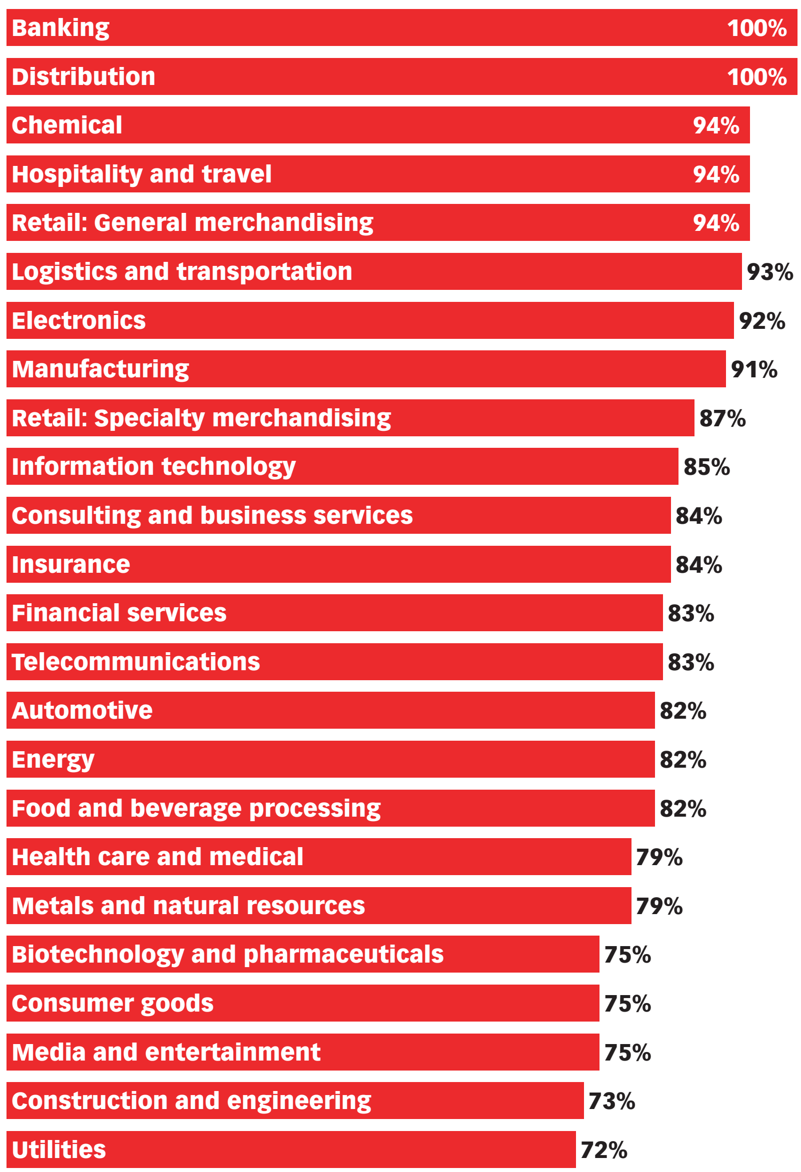
Back in the late 1990s, even banking—a notoriously conservative business—found itself as caught up in the internet hype as many other industries. Today banks are searching for means to move online banking into their mainstream activities. Another reason for boosting the online side of banking is the hope of "transitioning customers from higher-cost channels, such as branches and call centers, to the lower-cost internet channel," according to *Bank Technology News* (*BTN*).

For example, Celent says that some banks "have seen a reduction in the volume at their call centers because [consumers] can go online 24/7 and look up what they need online...especially the online banking population."

With all those paths to profits and savings, the melding of online with offline channels means that "customers who bank online don't necessarily stop using other banking channels, like ATMs, call centers or even branches," reports *BTN*. "And as online functions—especially basic ones like account access, funds transfer and bill payment—have become an offering that consumers expect, it's difficult to gauge how much these services are truly retaining or attracting customers."

As 2001's Industry Tape Measure from *InformationWeek* magazine shows, when it comes to widely deployed e-commerce applications, banking is fully committed at 100%. The range of those applications, however, varies widely by criteria such as bank size, customer demographics and executive commitment to the internet.

Percent of US Companies with Widely Deployed E-Commerce Applications, 2001



Source: InformationWeek, September 2001

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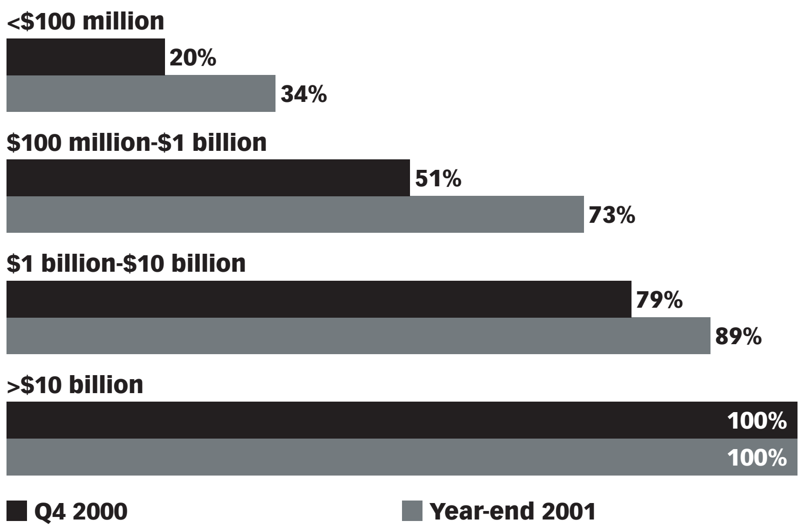
Size is a big part of the internet banking equation. According to the Office of the Comptroller of the Currency (OCC)—the US Treasury Department unit that charters, regulates and supervises national banks—by year-end 2001, 100% of large banks offered transactional internet banking. In the mid-tier of banking, those institutions with $1 billion to $10 billion in assets, 89% have online divisions. Even 73% of smaller banks let their customers bank online.

National Banks Offering Transactional Internet Banking Services, Q4 2000- year-end 2001



Source: Office of Comptroller of the Currency, 2001

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There's no question that online banking is here to stay. But where it fits into the world of banking, both for bankers and their customers, continues to evolve.

A. Cross-Channel Currents

Today's US banking market crosses channels, converges channels and mixes channels.

Crosses channels? Whether consumers bank online, at the ATM, via the automated call center or are so retro as to visit the brick-and-mortar branch, they want choices. For banks, that means finding ways to deliver the same goods in the same fashion to multiple customer sets across a diversity of channels.

Converges channels? Like most of the financial services industry, banks have responded to the green light given by 1999's Financial Services Modernization Act to develop markets beyond banking. The law (better known as Gramm-Leach-Bliley, or GLB) became effective in July 2001. Since then, GLB formalized the diversification trend in financial services by allowing the creation of holding companies that offer banking, securities and insurance products under a single corporate entity, i.e., one-stop shopping. Competing means convergence.

Mixes channels? Even the services banks offer mix diverse purposes. Take account aggregation, which gathers information about a customer's various, unrelated accounts and displays them on a single website. Is aggregation's purpose to attract new customers? Is aggregation for retaining well-to-do customers? Is aggregation a tool for customer service? Is aggregation a means for cross-selling additional products and services? All of the above, so that channel mixes purposes for both bank and customer.

"Cross-channel behavior is not a transitional phase. It is going to be the future…"
– Jed Kolko, senior analyst, Forrester Research

It's hard to talk about online banking, the core focus of this report, without referring to all the other touchpoints, products and services a 21st century bank must offer. Still, the continued growth of online banking is a trend most banks favor, expecting that internet customers will be cheaper to service than those who visit the branch. That may be true, but online banking customers continue to use the more-costly branch as well.

Research from TowerGroup shows that a member of 92% of the households surveyed "had walked into a branch to do some of their banking business within the past month," according to *BTN*. "Moreover, 85% of those who said they had conducted some banking business online also had used a branch."

Branch and Internet Use by Banking Customers within the Last Month in the US, April 2001

Note: Based on 3,033 financial services consumers
Source: TowerGroup, 2001; Bank Technology News, 2001

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"The whole branch area has been neglected over the past 5 to 10 years, partly because many bankers believed the branch would become less important at a time when the internet was seen as up and coming. They recognize now that that's not going to happen."

– Octavio Marenzi, managing director, Celent Communications

Another Tower study of over 3,000 US households points to the cross-channel challenge for banks, where 44% use three or four channels, while 30% use just one.

Number of Bank Delivery Channels Used by US Households, 2001

Source: TowerGroup, 2001

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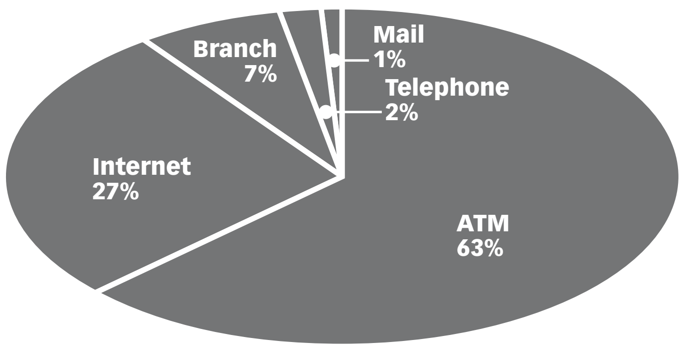
While the branch will never die (at least in our lifetimes), it appears far less popular among US consumers than the two prime electronic channels: ATMs and the internet. Research from Celent Communications says that 63% of consumers prefer ATMs, while 27% favor the internet. "The survey participants generally said they prefer to use the internet for account transfers but still like to visit a branch for mortgage loan applications and other more complex transactions," according to *American Banker.*

US Consumers' Preferred Channels for Banking, 2002



Source: Celent Communications, July 2002

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Data from Meridien Research backs up ATM popularity as a banking channel. It shows that by 2003, ATM contacts between banks and their customers worldwide will reach 37.9 billion. While that figure represents 48.5% of the 2003 total of 78.2 billion contacts, the ATM growth rate is flat—at 10.2%, it's less than half of the total 23.7% increase.

Instead, contacts through what Meridien calls "electronic channels" (meaning mostly the internet) are expected to explode, with a four-year growth rate of 662.5%.

Number of Contacts between Financial Institutions and Their Customers Worldwide, by Channel, 1999 & 2003 (in billions and as a % increase/decrease)

	1999	2003	Growth
Branch	15.8	14.5	-8.2%
ATMs	34.4	37.9	10.2%
Telephone/audiotext	2.8	5.5	96.4%
Call center	9.4	14.2	51.1%
Electronic channel	0.8	6.1	662.5%
Total	**63.2**	**78.2**	**23.7%**

Source: Meridien Research, 2002

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"Even if the banks are ready, but the consumers are not, it's [a particular channel that's] not going to be used. Consumers drive the direction that financial institutions are moving in."

– Christine Barry, analyst, Celent Communications

However, a study last year from the American Bankers Association—a Washington, DC-based trade group—paints a different picture. When bank customers were asked which channel they use most often, a 51% majority cited the traditional branch. Next-most popular were ATMs, at 29%, while only 5% of respondents said they used online banking most often.

One distinction between research from Celent and the ABA are the organizations' focus: technology for the former, traditional banking for the later.

US Bank Customers' Favorite Banking Channels, 2001 (as a % of respondents*)

	Ever use**	Use most often
Traditional branch	90%	51%
ATM	64%	29%
Telephone with live attendant	49%	4%
Automated telephone service	47%	6%
Online banking	22%	5%
Non-traditional branch	26%	4%

*Note: n=1,000; adults age 20+ who have an account or financial dealings with a bank; *only asked of those with most of their money with a bank; **multiple responses allowed*
Source: American Bankers Association/Mathew Greenwald & Associates, September 2001

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"It's just very clear that the branch continues to be the dominant delivery channel that banks can provide to their customers."

– Jerry Silva, analyst, TowerGroup

Even as branch use continues unabated, transactions per channel will shift as consumers embrace new cross-channel strategies for banking. According to Cap Gemini Ernst & Young, while the number of branch transactions worldwide will drop from 46% of the total in 2001 to 34% in 2004, internet banking transactions will increase from 9% to 21% in that same span.

Note, too, how Cap Gemini predicts use of three other electronic channels—ATMs, point of sale (such as debit cards) and call centers—to remain steady over the five-year span shown, all in the 15% to 18% range.

Transactions per Channel among Financial Institutions Worldwide, 2000-2004

	2000	2001	2002	2003	2004
Branches/ agency	48%	46%	41%	37%	34%
ATMs	18%	18%	17%	17%	16%
POS*	17%	17%	15%	15%	17%
Internet	6%	9%	13%	18%	21%
Call centers	18%	16%	17%	17%	16%
Digital Web TV	–	–	–	1%	1%
Mobile telephones	–	–	1%	2%	2%

*Note: *POS (point of sale) refers to an ACH transaction at the time of purchase - for example, using a debit card at the supermarket checkout; based on surveys of more than 120 financial institutions in 13 countries; totals do not equal 100% due to rounding*
Source: Cap Gemini Ernst & Young, October 2001

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"Today your websites don't measure up, and when that happens, customers go back to branches and call centers."
– Catherine Graeber, analyst, Forrester Research

Recent research from IDC for the US alone shows differing percentages than Cap Gemini but similar patterns—the decrease of branch use for transactions and the increase of the internet. The volume of transactions conducted online, according to IDC's recent "US Online Banking Forecast and Analysis," will increase from 6.3% of the total in 2001 to 13.9% by 2006.

Note, though, that transactions via ATMs—the other main electronic channel—should remain steady over the six years shown, and overtake the traditional branch by next year. And call centers—another electronic channel when interactive voice response (IVR) is used—will handle about the same amount of transactions as branches by 2006, and twice as many as the internet.

US Bank Transaction Volume, by Channel, 2001-2006 (as a % of total transactions and in millions)

	2001	2002	2003	2004	2005	2006
Branch	34.5%	33.1%	31.6%	30.0%	28.4%	26.7%
ATM	32.7%	32.6%	32.5%	32.2%	31.7%	31.1%
Call center*	21.8%	22.9%	23.8%	24.8%	25.6%	26.3%
Internet	6.3%	7.4%	8.8%	10.3%	12.0%	13.9%
Other**	4.8%	4.0%	3.3%	2.8%	2.3%	1.9%
Total	**36,531**	**38,303**	**40,341**	**42,681**	**45,371**	**48,468**

*Note: *call center includes live agent and interactive voice response (IVR); **other includes back office*
Source: International Data Corporation (IDC), May 2002; eMarketer calculations, September 2002

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When you view the same IDC transaction volume projections as growth rates, however, the internet appears as the channel with the largest upside over the next five years. While the increase for the entire 2001 to 2006 period for all transactions equals 32.7%, the jump in online transactions will hit 194.4%. The call center (at 60.3%) is the only other channel to beat the total growth rate.

US Bank Transaction Volume, by Channel, 2002-2006 (as a % increase/decrease vs. prior year)

	2002	2003	2004	2005	2006	2001-2006 growth rate
Branch	0.5%	0.6%	0.5%	0.5%	0.6%	2.8%
ATM	4.8%	4.8%	4.8%	4.8%	4.8%	26.4%
Call center*	9.9%	9.9%	9.9%	9.9%	9.9%	60.3%
Internet	24.1%	24.1%	24.1%	24.1%	24.1%	194.4%
Other**	-12.1%	-12.0%	-12.1%	-12.1%	-12.1%	-47.5%
Total	**4.9%**	**5.3%**	**5.8%**	**6.3%**	**6.8%**	**32.7%**

*Note: *call center includes live agent and interactive voice response (IVR); **other includes back office*
Source: International Data Corporation (IDC), May 2002; eMarketer calculations, September 2002

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So even as cross-channel use becomes established, the balance shifts from in-person (branch) to internet, ATM, and call center—at least for transactions.

The branch, then, is still highly used by customers, but how they use it is shifting from simple transactions to more complex dealings. TowerGroup states that "Banks are coming to understand that building profitable relationships with customers often means actually spending more time with the right kind of customers and not less time. New branch configurations will be geared specifically for the demographic area it intends to serve, using technology to increase the effectiveness of the branch."

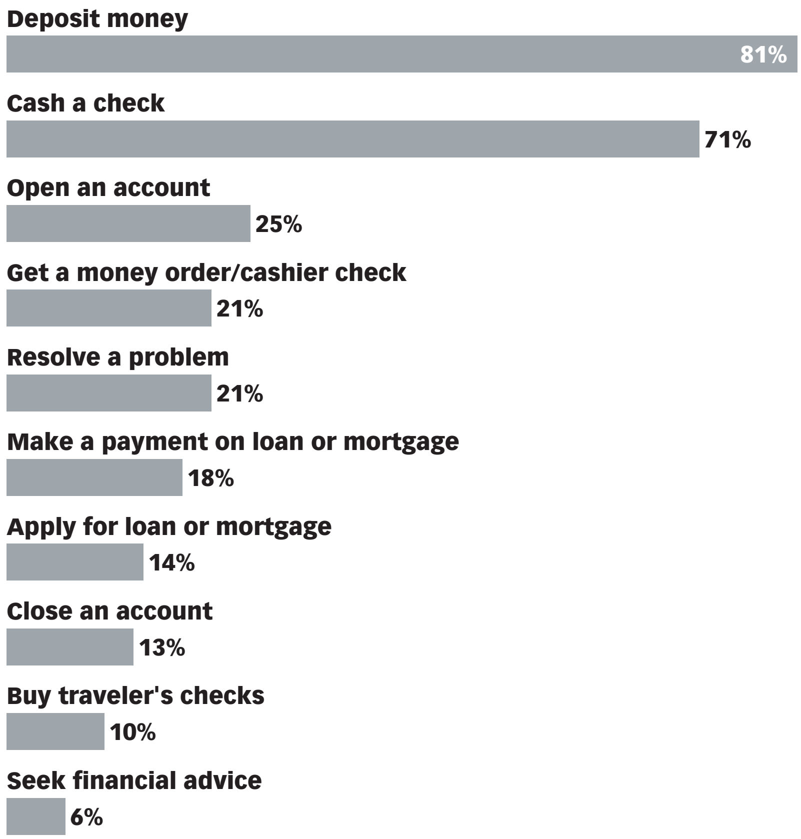
And in further cross-channel moves, banks are using branches to increase the effectiveness of technology. According to Neal G. Wolfson, director of interactive banking at FleetBoston, "Every time customers interact with the bank, we talk about the online service and encourage them to try it." As reported in *Banking Strategies*, "Many FleetBoston branches already are equipped to demonstrate how the online offering works, and most others are being wired for such purposes. Branch staff and call center operators will also talk up online services when customers make routine inquiries, such as whether a check has cleared. Even ATM screens display information about online banking during transactions."

"I think consumers now expect multi-channels, including an internet channel. That's almost become the norm now, so if you're not offering it, you're really at a disadvantage. By the end of last year [2001], it was more of a surprise if you didn't have it as an option than if you did."

– Raj Dhinsa, financial services analyst, Jupiter Media Matrix

Branches remain a keystone for various consumer needs, according to recent research from Gartner. Two significant reasons for using a branch office are depositing money and cashing a check, two tasks virtually impossible to accomplish electronically—at least online or via the IVR call center.

US Bank Customers' Reasons for Using Branch Office During the Past Year, 2002 (as a % of respondents)



Source: Gartner, 2002; American Banker, August 2002

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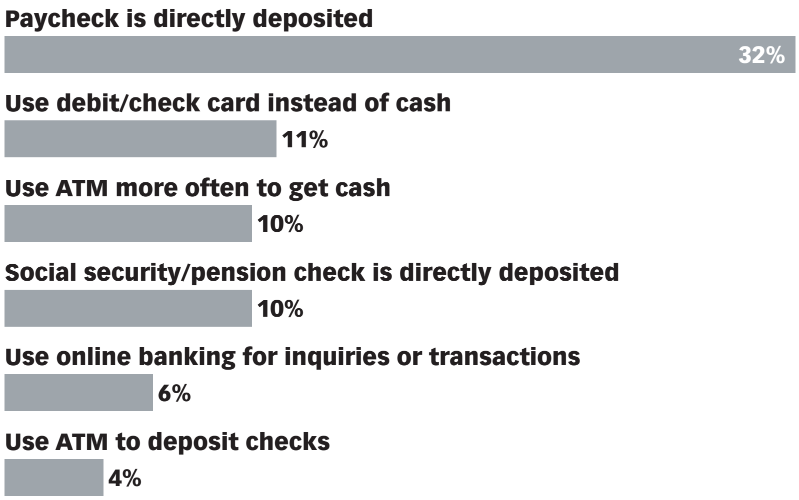
Correspondingly, various electronic channels are reducing branch usage in the US, according to TowerGroup. For example, 32% of respondents cited direct deposit of paychecks, and 11% mentioned using debit cards instead of cash, while 10% said they use ATMs to get cash.

Note, though, that only 6% of households claimed that using online banking for inquiries or transactions has been their reason for reducing branch visits.

Reasons for Reduced Bank Branch Usage among US Households, 2001



Note: Based on spring 2001 survey of 3,033 individuals, weighted by age and income.
Source: TowerGroup, 2001

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As the cross-channel nature of financial services establishes itself further among both institutions and their customers, all the elements come into play. Aggregation touches on privacy issues. Customer service touches on profitability. One bank's products touches on another bank's services.

Let's bring those three additional touchpoints to life, along with their counterpoints.

1) Using aggregation, banks have the opportunity to "become portfolio managers for their customers," according to Cap Gemini Ernst & Young. *However, many consumers feel that using data gathered from various sources, the core of aggregation, to cross-sell is an invasion of privacy.*

2) By delivering seamless access to the bank from whatever channel the consumer chooses, a financial institution services its customers most effectively. According to Cap Gemini, "From an experiential perspective, the customers' touchpoints...are their windows into the world of the organization and its operations. Consequently, the quality of touchpoint experiences is a major influence upon customer satisfaction." Simply put, happy customers equal profitable customers. *However, creating seamless*

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access among multiple touchpoints might be one of the largest technological hurdles for any financial service enterprise. The so-called "silos" within a banking organization too often create inconsistencies for its customers.

3) The merging of various channels extends even to selling other company's products—what Cap Gemini calls the "open finance approach, [where] customer demand for greater choice and better products compels financial services organizations to include other firms' products in their portfolios. Partners and alliances will be critical to success in delivering open finance to the customer. This type of strategy helps create an experience that increases customer loyalty." *However, many banks fear that selling best-of-breed products derived from another institution will cannibalize their customers; therefore they sell products from non-threatening partners and undercut the whole purpose of open finance.*

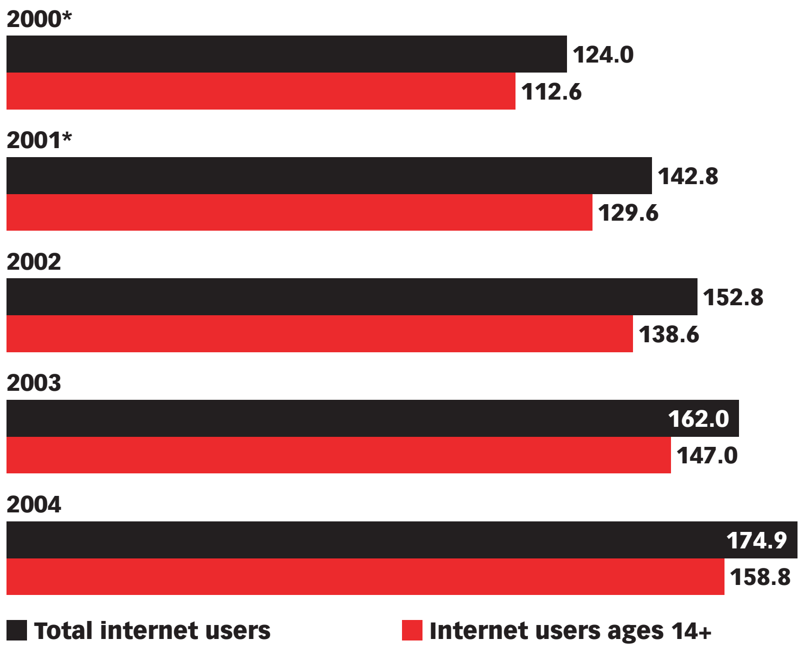
Crossing, converging, and mixing channels consistently and successfully is an enormous task, but doing so is critical for banks to remain competitive.

Be aware, too, that banks fail when they attempt to force-feed a channel to their customers. As Christine Barry, a Celent Communications analyst, told *American Banker*, "Even if the banks are ready, but the consumers are not, it [a channel] is not going to be used. Consumers drive the direction that financial institutions are moving in."

B. Internet Growth Curve

Underpinning the internet banking channel's growth is the growth among internet users. In 2002, the slice of 152.8 million US internet users represents 54.5% of the total population (based on the US Census Bureau's International Data Base). By 2004, the 174.9 million figure will nudge internet users up to 61.3% of the entire population.

Total US Internet Users and Internet Users Ages 14+, 2000-2004 (in millions)



*Note: *eMarketer's year 2000 and 2001 baselines are from the International Telecommunication Union's estimate of internet users aged 2 years and older, who have accessed the internet within the previous 30 days; the age 14+ group represents roughly 90.75% of all US users according to the August 2000 US Department of Commerce survey*
Source: eMarketer, May 2002

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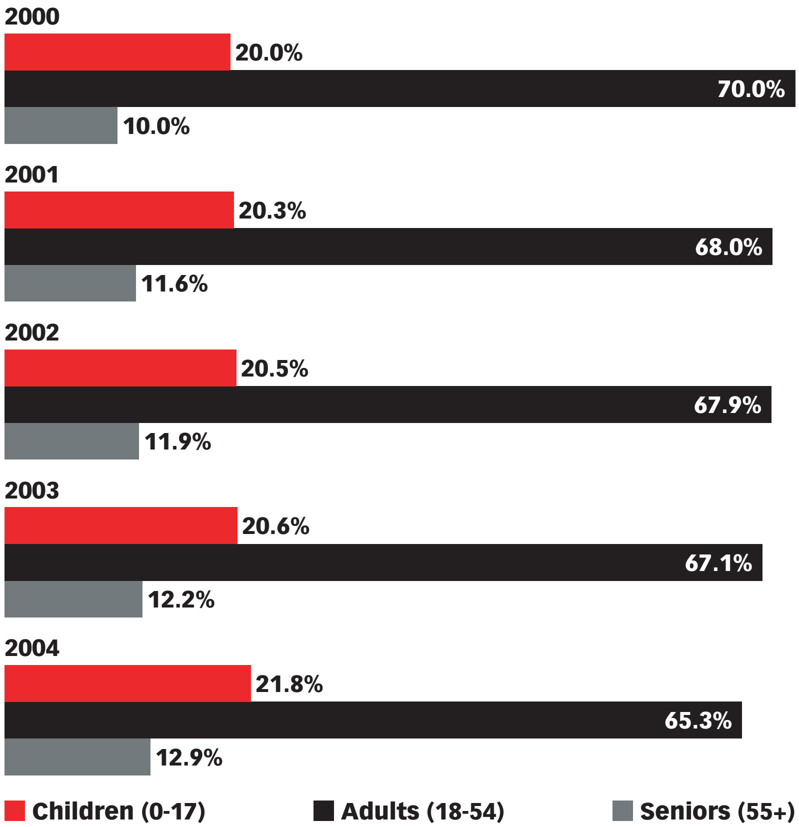
Among US adults between 18 and 54, the prime age demographic for online banking, the penetration rate jumps even further. Again, looking at 2002 and 2004, adults make up 67.9% and 65.3% of total internet users.

US Internet Users, by Age Category, 2000-2004 (as a % of total internet users)



Note: figures may not add up to 100% due to rounding
Source: eMarketer, 2002

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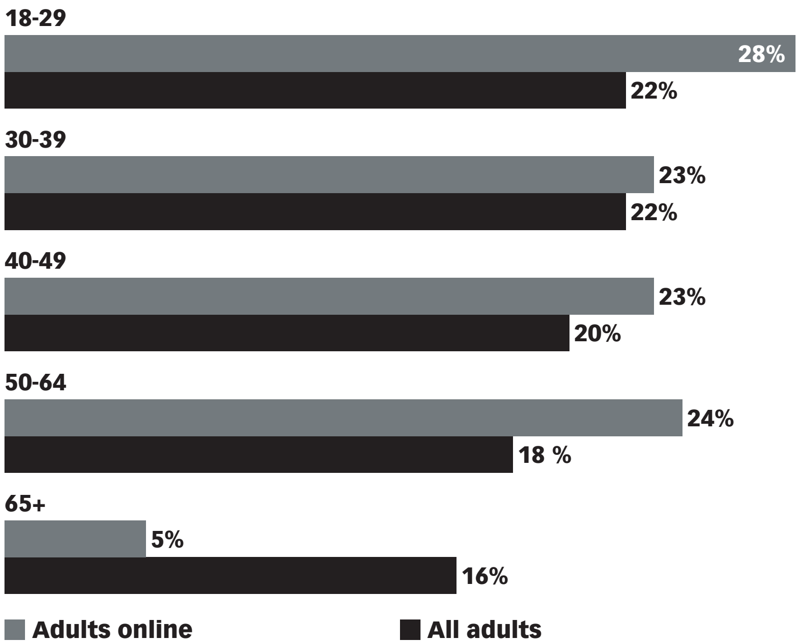
"This growth is not simply due to an increase in online households, but is truly an increase in the popularity of online banking among internet users."

–Aaron McPherson, research manager, IDC

The potential base for online banking is strong demographically, with prime segments such as the 18-to-29 year olds making up 28% of internet users (while they're only 22% of the US adult population). This age group tends to be technologically savvy and enthusiastic. Another strong segment, one with greater wealth than the population as a whole, are 50-to-64 year olds, who are also better represented online than in the general population, at 24% to 18%, respectively.

Distribution of US Adult Internet Users vs. US Adults, by Age, February-March 2002



Note: Base=all adults
Source: Harris Interactive, April 2002

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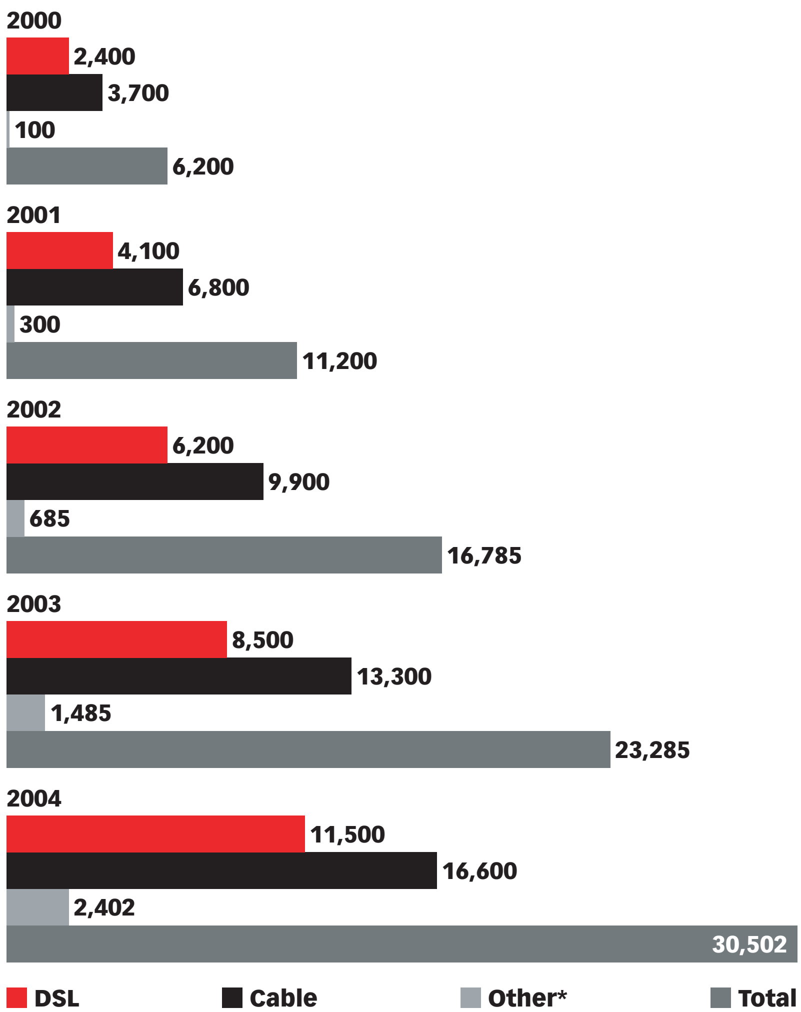
C. Broadband Makes More Active Customers

Of all the trends among internet users, the move toward greater adoption of broadband access is one that surely benefits financial-service firms. First off, note the sharp broadband uptake in the US. Projections from eMarketer indicate an upsurge from 11.2 million households in 2001 to 30.5 million by 2004—a growth rate of 172%.

Broadband Households in the US, by Access Technology, 2000-2004 (in thousands)



*Note: eMarketer's year 2000 baseline is from the Organization for Economic Cooperation and Development (OECD); *Other includes, fixed wireless, satellite, fiber, Ethernet and powerline technology*
Source: eMarketer, June 2002

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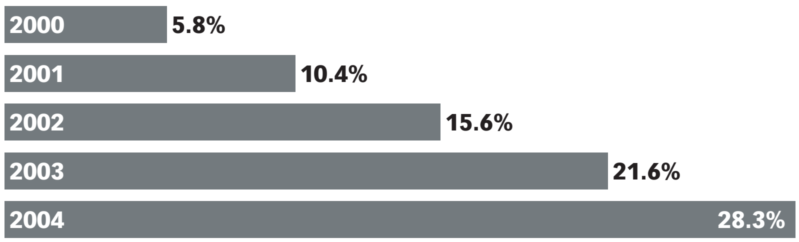
That quick progress of broadband translates to a rise from a 10.4% penetration rate in 2001 to 28.3% by 2004. And because broadband costs more and appears to be more technologically complex than dial-up access, its users tend to have higher incomes and to be more comfortable with internet services such as interactive banking.

Broadband Penetration in the US, 2000-2004 (as a % of total households)



Note: Based on 107.8 million households at the end of 2001
Source: eMarketer, June 2002

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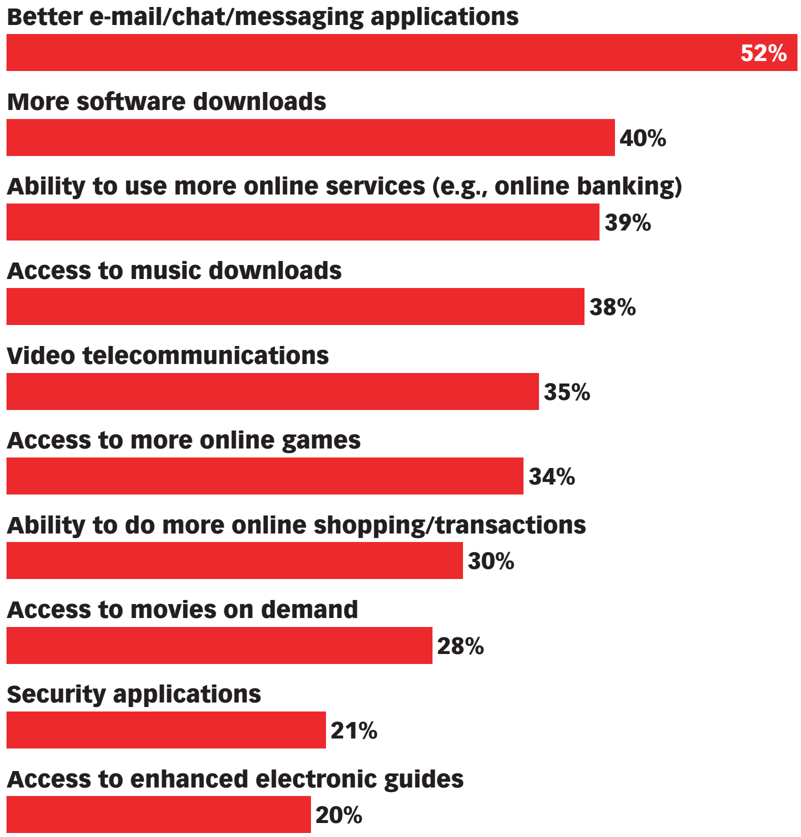
Further studies back up what seems to be obvious: the faster the online connection, the more a user does online. In the April 2002 Knowledge Systems & Research survey "Online User Panel Report on High Speed Internet Access," 39% of US internet users said that one advantage of broadband is the ability to use more online services, specifically mentioning online banking as one example.

Advantages of High-Speed Internet Access According to US Internet Users, 2002 (as a % of respondents)



Source: Knowledge Systems & Research, April 2002

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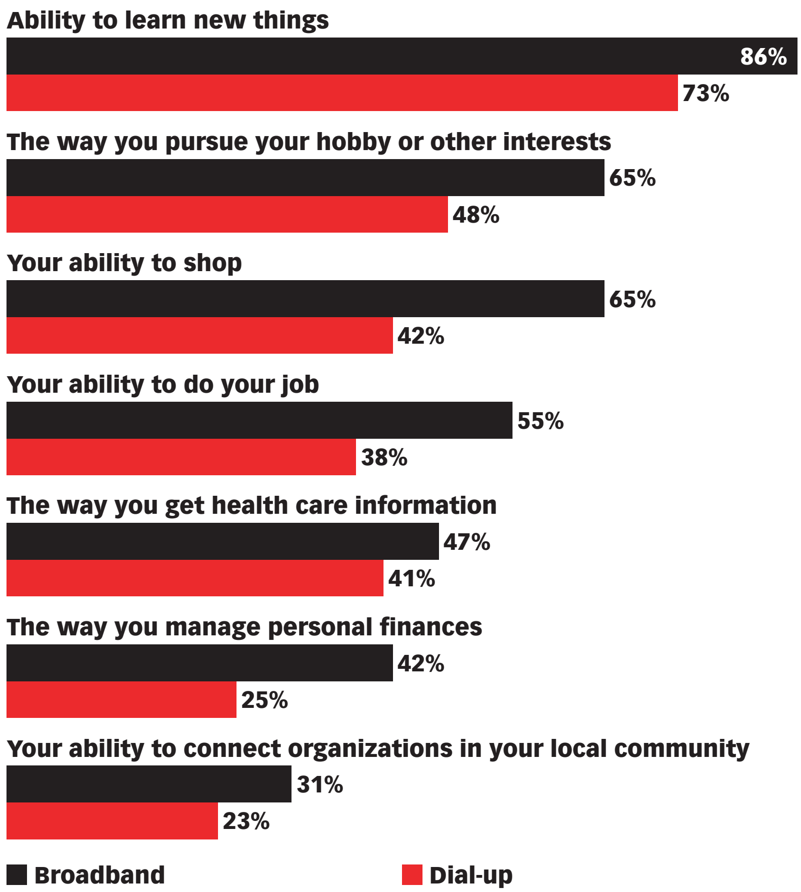
And research from Pew Internet & American Life Project shows convergence with that Knowledge Systems data, since 42% of Pew respondents cite "the way you manage personal finances" as a lifestyle improvement of broadband connections.

Lifestyle Improvements Cited by US Home Broadband and Dial-Up Internet Users, 2002 (as a % of respondents answering "a lot" or "somewhat")



Note: Home Broadband Users: February 2002 Survey, n=507, margin of error is ±4%. Dial-Up Users: August-September 2001 Survey, n=1391; margin of error is ±3%
Source: Pew Internet & American Life Project, June 2002

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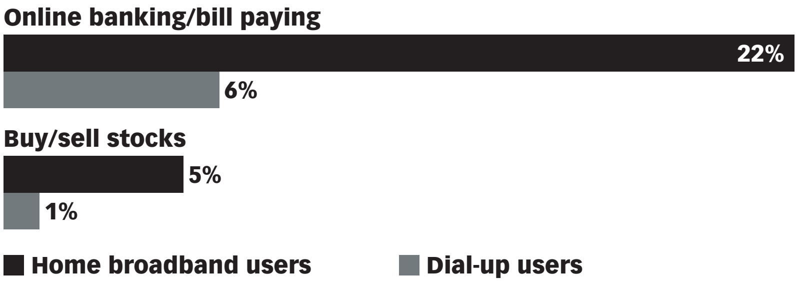
Those assumptions about greater income and high-tech comfort among broadband users bear fruit when you examine further research from Pew. For one, while only 6% of US dial-up users bank or pay bills online—based on a "typical day online"—22% of home broadband users do daily.

Financial Services Activities of US Home Broadband Users vs. Dial-Up Users, 2002 (as a % of respondents)



Note: n=507 (broadband users), n=1,391 (dial-up users); based on "typical day online"
Source: Pew Internet & American Life Project, June 2002

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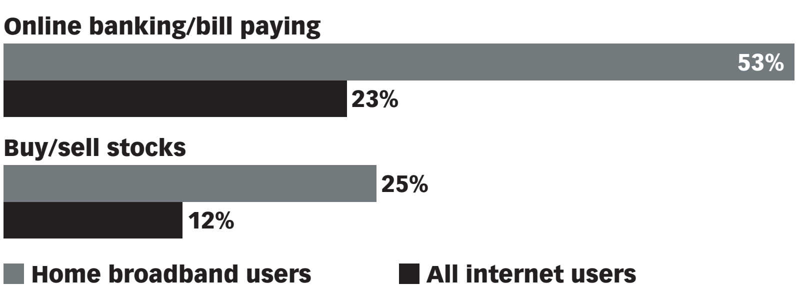
And looking at the same two financial services tasks among internet users who have ever done them, broadband users top all internet users 53% to 23%, respectively.

Financial Services Activities of US Home Broadband Users vs. All Internet Users, 2002 (as a % of respondents)



Source: Pew Internet & American Life Project, June 2002

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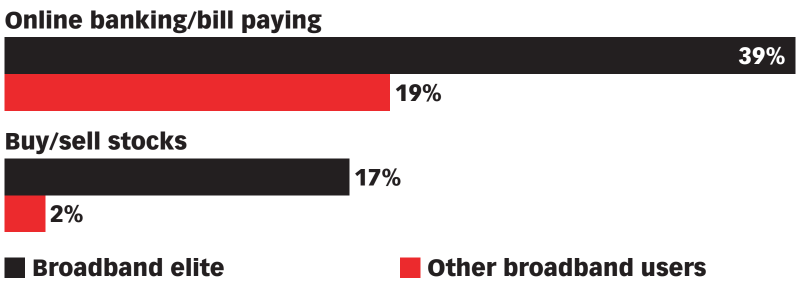
A third Pew chart compares what it calls the broadband elite with other broadband users. The elite is defined as those who, on average, do 10 or more online activities on a typical day; other broadband users do about five online activities daily. The data indicates that more a broadband user takes advantage of high-speed connections, the more likely they are to bank or pay bills online, at 39% versus 19% for other broadband users.

Financial Services Activities of US Home Broadband Elite* vs. Other Broadband Users, 2002 (as a % of respondents)



*Note: n=507; *broadband elite defined as those who, on average, do 10 or more online activities on a typical day; other broadband users do about 5 online activities daily*
Source: Pew Internet & American Life Project, June 2002

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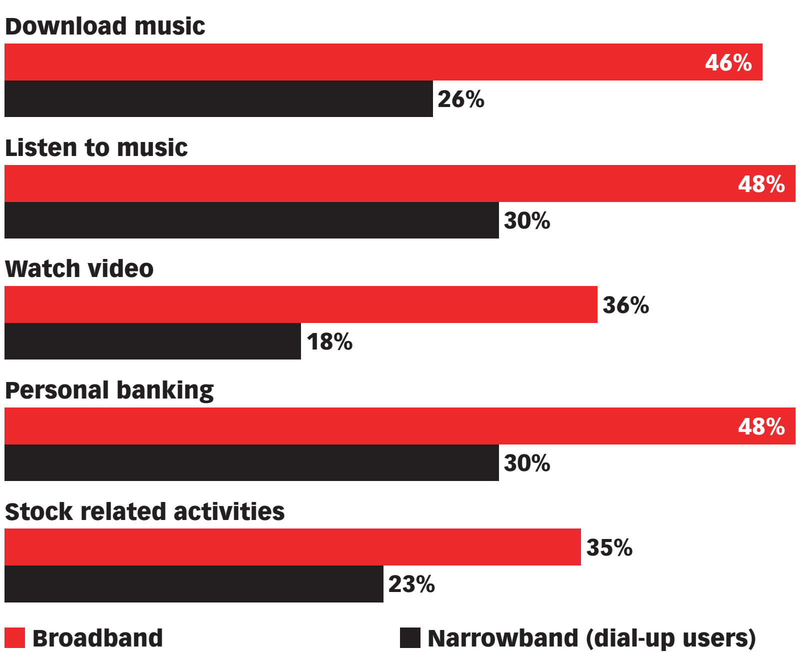
And earlier data from Jupiter Research also shows broadband increasing online banking use, from 30% among dial-up users to 48% of broadband users, according to a 2001 study.

Broadband vs. Dial-Up Usage in the US, 2001



Source: Jupiter Research, 2001

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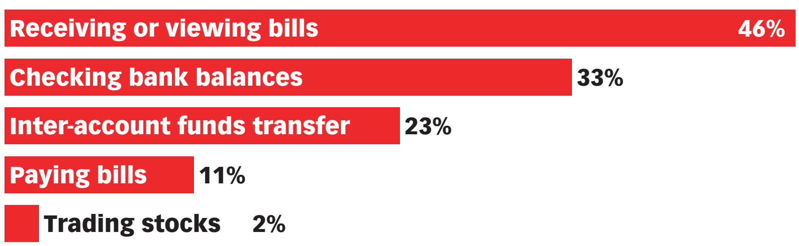
"The impact of 'always-on' internet is changing the way consumers use the online channel. Broadband drives customers to richer information. It makes the online channel the right channel for customers, even if it wasn't before or wouldn't be with dial-up."

– Jed Kolko, senior analyst, Forrester Research

Analysis from Forrester Research tends to support both the Pew and Jupiter data. When looking at consumers who switched from dial-up to broadband access, sizeable increases in online financial activity take place. For example, broadband users are 46% more likely to receive or view bills online, 33% more likely to check bank balances and 23% more likely to transfer funds between accounts.

How Broadband Changes US Consumer Online Financial Activity, 2002 (as a % increase over dial-up users)



Source: Forrester Research, 2002; American Banker, June 2002

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Furthermore, the same research from Forrester has 79% of consumers using "multiple channels for financial services," according to *American Banker*. "The highest percentage of customers using one channel for the vast majority of their transactions—12%—said they use the internet, compared with 6% who use a pager and 1% who use branches and automated teller machines. None said they use the telephone or wireless devices for their transactions."

Further broadband benefits for banks, according to Forrester, include how households with high-speed access are twice as likely to leave their computers on as those using dial-up connections, and are therefore more likely to use the internet for various financial activities.

For more information on broadband, see eMarketer's latest report, Broadband & Dial-Up Access: http://www.emarketer.com/products/report.php?broad_dialup

D. Online Banking: Size, Costs, Savings & Metrics

As banking channels cross boundaries, with customers expecting the same service no matter where they go, banks are beginning to discover that the internet—much like other channels—is not a profit center per se. Products are the source of profits. Services are the source of profits. That may appear obvious, but the onset of online banking led many in financial services to believe that the internet could become a source of profits for and by itself.

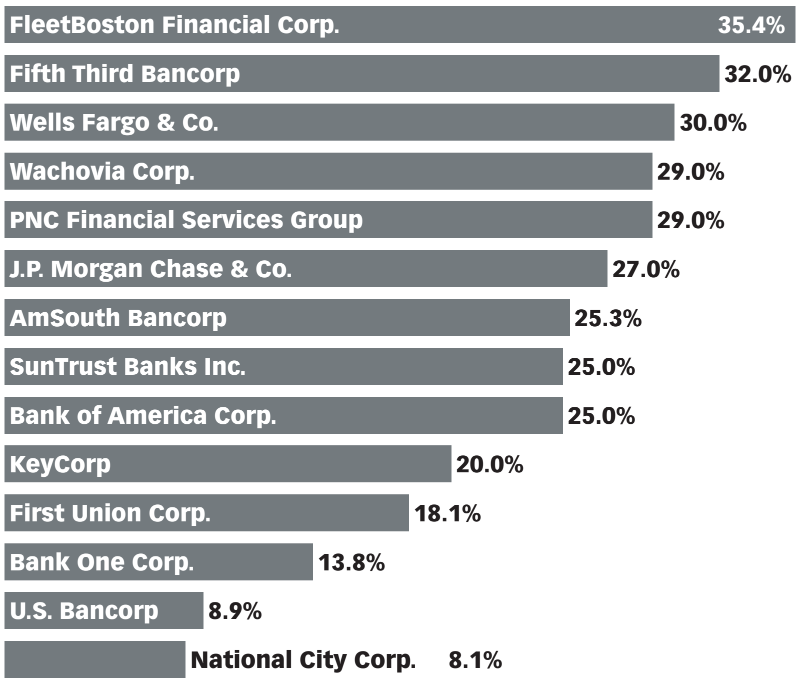
Banks also found out that even if online banking costs them less than the traditional brick-and-mortar version, the internet channel still costs money. Therefore, the more customers that come online, the greater the costs. As reported in *Banking Strategies*: “It was very hard for bankers to justify spending a lot of money just to grow the business,” says Tony Hayes, director of financial services for Dove Consulting in Boston. “The more you grew it, the more money you lost.”

Still, the hope remains among many in financial services that online banking will draw in new customers and turn wealthier customers into more profitable ones. With that hope in mind, growing a bank’s online unit is a key concern.

Among the largest US banks, the 2001 penetration rate for online banking ran from a mere 8.1% at National City to 35.4% at FleetBoston, according to Credit Suisse First Boston (CSFB). With the large bank median penetration rate at 25% of the customer base, that means nine banks are at or above average.

And, as expected, more customers bank online now than when CSFB gathered this data. For example, in September 2002, FleetBoston told *American Banker* that "about 59%" of its customers bank online, while Wells Fargo reported that about half of its customers do the same, projecting "that up to 80% would be [banking online] in the near future."

Top US Banks Ranked by Percentage of Customers That Use Online Banking, 2001



Note: as of 30 June 2001; large bank median penetration rate of 25%
Source: Credit Suisse First Boston, June 2001; Banking Strategies, November 2001

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To put bank size in perspective, the chart below ranks US banks by assets, the traditional way to evaluate size in the industry. Comparing the information below with the data above, some prominent banks with low online banking penetration rates are Citigroup, Washington Mutual (the nation's largest thrift), Bank of New York, Fifth Third Bancorp, and BB&T.

Top US Banking Companies, by Assets, 2001 (in millions)

Bank, headquarters and world ranking	2001 Assets	2000 Assets	% change
2. Citigroup (New York)	$1,051,450	$902,209	16.54%
10. J.P. Morgan Chase (New York)	$693,575	$715,347	-3.14%
13. Bank of America (Charlotte, NC)	$621,764	$642,190	-3.29%
28. Wachovia (Charlotte, NC)	$330,452	$254,169	30.01%
33. Wells Fargo (San Francisco)	$307,569	$272,425	12.90%
36. Bank One (Chicago)	$268,954	$269,299	-0.13%
37. Washington Mutual (Seattle)	$242,506	$194,715	24.54%
42. FleetBoston Financial (Boston)	$203,638	$179,518	13.44%
51. US Bancorp (Minneapolis)	$171,390	$87,335	96.24%
55. American Express (New York)	$151,100	$154,323	-2.20%
69. National City (Cleveland)	$105,817	$88,534	19.52%
70. SunTrust Bank (Atlanta)	$104,741	$103,495	1.20%
76. Household International (Prospect Heights, IL)	$89,416	$76,705	16.57%
81. Bank of New York (New York)	$81,028	$77,113	5.08%
82. KeyCorp (Cleveland)	$80,938	$87,269	-7.82%
86. Fifth Third Bancorp (Cincinnati)	$71,026	$45,856	54.89%
87. BB&T (Winston-Salem, NC)	$70,870	$59,339	19.43%
88. State Street (Boston)	$69,896	$69,297	0.86%
89. PNC Financial Services (Pittsburgh)	$69,568	$69,843	-0.40%

Note: assets as of 31 December 2001, or end of latest fiscal year; world ranking based on rates at end of fiscal years used in currency conversion
Source: Worldscope Thomson Analytics and company reports, July 2002

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When it comes to revealing how many customers have signed up for online banking at these top banks, many are evasive about publishing data. Some list an approximate figure in their annual reports, and some fail to mention the number at all. However, those banks doing well with internet banking, such as Bank of America and Wells Fargo, boast about how many of their customers bank online. For example, while BofA's annual report figure listed 2.9 million online customers as of 31 December 2001, recent press releases talked about 3.3 million (May 2002) and 3.8 million (August 2002).

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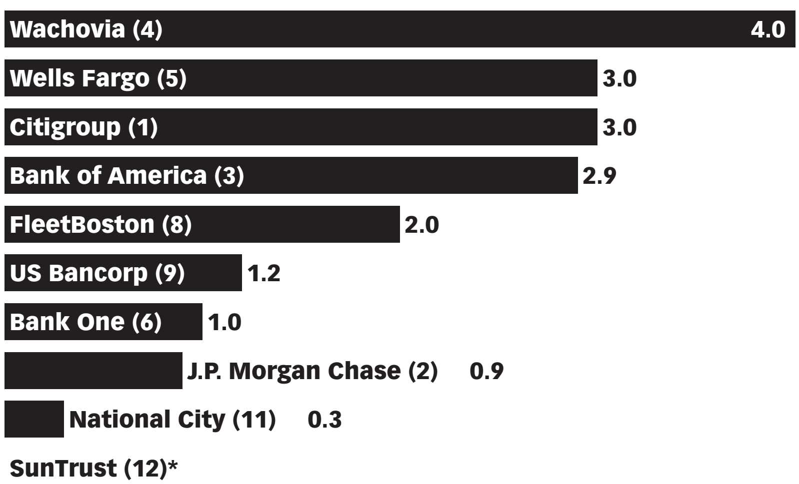
"If you don't have the internet banks, you don't have the same level of competition in banking. More people are preferring to use the internet all the time…the trend is our friend."

– Courtney McCashland, executive vice president, VirtualBank (an online bank)

With those caveats in mind, look at the chart below. Strikingly, Citigroup is in the top three, instead of being off the charts as in the CSFB penetration rate chart above. Size matters. The other major disconnect between bank size and online customer base is J.P. Morgan Chase. The nation's second largest bank is a mere online stripling in contrast to smaller institutions such as Wachovia (the former First Union) and Wells Fargo.

Together, the available totals at the top 10 US banks reached 18.3 million as of last year.

Number of Online Banking Customers at Top 10 US Banks, 2001 (in millions)



*Note: figures are from 2001 annual reports (where available), except for Bank One (from June 2002 press release); each bank's US ranking by assets for 2001 listed next to bank name; does not include thrifts (Washington Mutual) and non-bank financial service firms (American Express); *data not available*
Source: eMarketer September 2002; company reports, 2002

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Not only are the figures in the chart above approximations, they are volatile numbers as well. Two reasons for that are:

One, new customers are coming on board all the time. FleetBoston, for instance, says in its 2001 annual report: "[We] are currently enrolling 70,000 to 80,000 internet banking customers per month." Or Cap Gemini Ernst & Young writes that BofA is "adding 130,000 each month."

Two, existing customers are leaving all the time. According to *Banking Strategies*, "Attrition rates are high among online banking customers, who may be persuaded to try out the service but then lose interest and drop it."

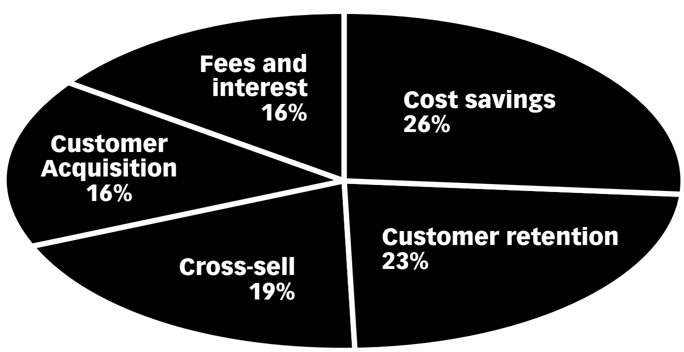
In addition to the numbers' volatility, they're also suspect—some customers sign up for online banking but then don't bank online, or use the channel rarely. Are they counted by the bank or not? According to IDC's May 2002 report, "US Online Banking Forecast and Analysis," some large banks "claim over 50% inactive online accounts."

Between the desire to attract new customers and retain the old, banks offer up a mix of follow-up campaigns, new services and products, and reduced costs on existing services. For example, while most banks charge for electronic bill presentment and payment (EBPP) to cover the cost of their bill payment vendors, in May 2002 the Bank of America began to offer the service free to new customers and waive the fee to existing customers (an estimated 1.1 million). The idea? "BofA found that EBPP is one of the best ways to lock in customers—its EBPP customers have an astonishing 80% lower attrition rate than their offline counterparts do," according to Forrester Research.

In fact, customer retention was the benefit 23% of bankers cited next-most often in a survey last fall by Celent Communications. The still-hoped-for cost savings is listed as the key benefit, according to 26% of respondents.

Note, though, that all five benefits of online banking mentioned below are within a narrow range of each other, with the other three reasons named by 16% to 19% of bankers. This balanced response signifies the still-unclear nature of online banking's benefits.

US Banks' Allocation of Benefits from Online Banking, 2001



*Note: *services include online payments, EBPP, account aggregation and online lending; total cash-flow benefits of $190.9 million activated when all four services are offered*
Source: Celent Communications, October 2001

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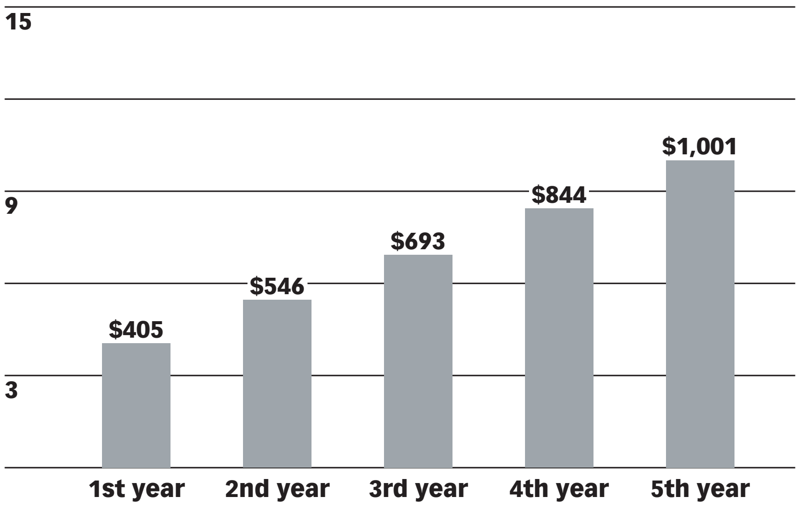
Nevertheless, banks that offer online services beyond basic banking—such as online payments, EBPP, account aggregation, and online lending—see clear cash-flow benefits from doing so.

Looking further at Bank of America's elimination of fees for online bill payment, the Charlotte, NC-based institution studied "the profitability of online compared with offline customers," reported *American Banker*. "Nine months after it eliminated fees for online bill payment, internet users were judged to be 5% less profitable than nonusers. After 19 months, though, the online customers were 14% more profitable, and at the end of the 31-month study they were 21% more profitable than their offline peers."

Just as turning bills from paper to electronic is one path to profits, banks also see savings in turning paper statements into online ones. According to Celent, the cost savings for an average-size US bank in sending online statements would be $405,000 during the first year. By the fifth year, however, those savings would more than double to over $1 million.

US Banks' Annual Cost Savings from Online Statements, 2001 (in thousands)



Source: Celent Communications, October 2001; Bank Technology News, March 2002

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Cost savings appear for consumers too, according to research from Bankrate.com. As of March 2002, the average monthly service fee and minimum balance to avoid fees is lower for internet banks than traditional ones, while the average interest rates paid are higher. Note, though, that this undoubtedly refers to the few pure-play internet banks left, such as NetBank and First Internet Bank of Indiana. Customers going online at traditional banks tend to pay the same fees as offline, since it's just an alternative channel.

Cost* of Internet Banking vs. Traditional Banking in the US, March 2001 & March 2002

	Internet bank	Traditional bank
Average monthly service fee		
March 2001	$5.25	$10.77
March 2002	$7.36	$10.67
Average minimum balance to avoid fees		
March 2001	$831.25	$2,337.70
March 2002	$1,239.10	$2,330.60
Average minimum to open and earn interest		
March 2001	$640.69	$684.24
March 2002	$784.69	$718.40
Average yield		
March 2001	3.78%	1.17%
March 2002	1.84%	0.61%

*Note: *for interest-bearing checking accounts*
Source: Bankrate.com, 2002

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Whether it's cost savings, customer retention, or some other benchmark, how bankers measure internet banking's profitability appears to vary depending on how long they've been actively offering online services. An article last December in *American Banker* looked at three large banks and their varying metrics.

- "Wells Fargo, which has offered the service the longest—since 1995—said that [it] has shifted from measuring internet profitability by return on investment, or ROI metrics, in favor of using the same profit-and-loss principles that apply to any other business line.... Like automated teller machines before it, the internet has become a standard part of retail banking, [the head of internet services] said. These days, 'no one asks about the ROI of ATM banking.'"
- "Citigroup, which began a major web push last year, said [it] is sticking for the moment to ROI standards."
- "Bank of America said that [it] has created its own measurement called relationship net income, or RNI, to determine the profitability of its consumer internet operations."

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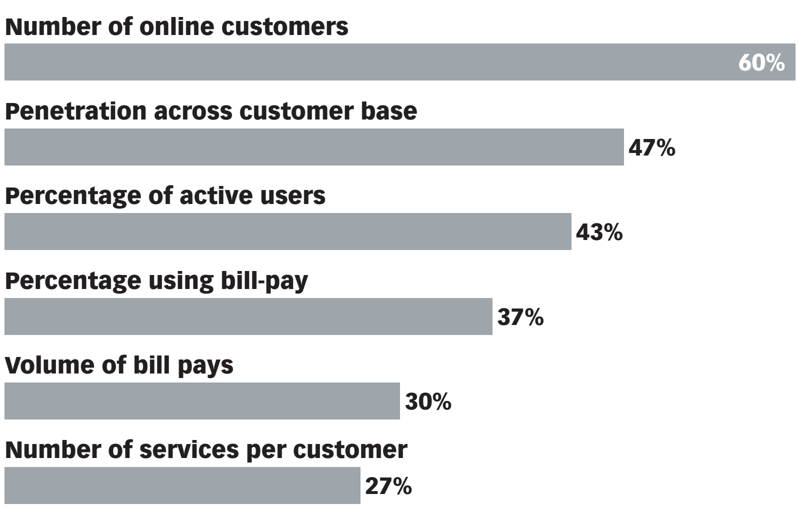
The industry's daily newspaper analyzed the methods as follows: "Applying profit-and-loss standards to internet operations puts more of an onus on a bank to meet quarterly earnings targets. In contrast, a return-on-investment outlook indicates that a bank is making outlays that do not necessarily need to return a short-term profit."

> **"Banks are terrible at measuring return on investment because they don't have a handle on what their real costs are. It's very complex to measure the value of a customer's loyalty over a lifetime."**
>
> *– Jeanne Capachin, research director, Meridien Research*

Another take on how US banks measure success comes from a recent Forrester Research survey. The number one metric, calculated by 60% of respondents, is sheer size—the number of online customers. Two related standards were next-most mentioned: the penetration rate across the customer base (47%) and the percentage of active users (43%).

In contrast, the number of services that each customer uses online was cited least often, by 27% of bankers. That points to the important of breadth (number of customers) over depth (how much they use online), at least in banking's current perspective on the online channel.

How US Banks Measure the Success of Their Online Services, 2002 (as a % of respondents)



Note: multiple responses allowed
Source: Forrester Research, May 2002

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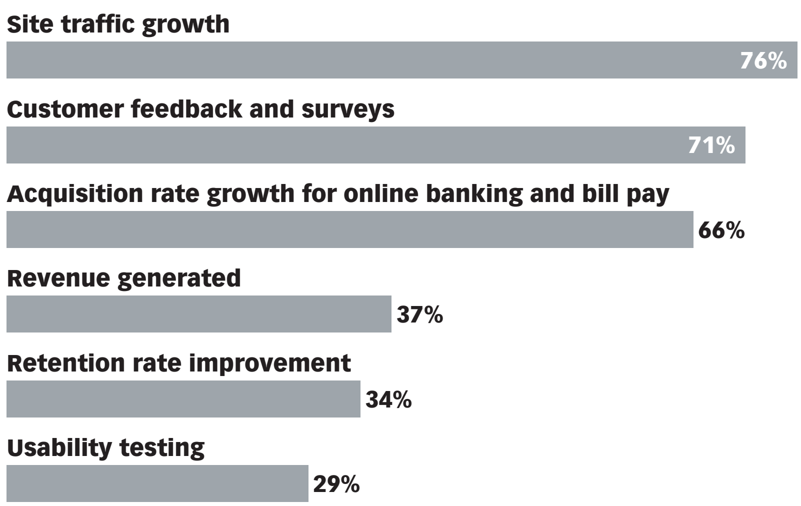
"People are getting a lot more disciplined around getting a return from their technologies. They want to know how quickly that return is going to impact their bottom lines."

– Kurt Woetzel, CIO, Bank of New York

A similar Forrester survey of 165 banking executives done a month earlier, this one in conjunction with the Bank Administration Institute (BAI), points again to sheer numbers as a measure of online banking success. With 76% of respondents citing site traffic growth as their main metric, the chart below offers results in synch with the one above. However, this survey found 66% of respondents calling acquisition rate growth for online banking and bill pay an important success metric; contrast that figure with the 43% and 37% above citing percentage of active users and bill-pay users, respectively.

How US Banks Measure Website Success, 2002 (as a % of respondents)



Note: n=165 banking executives; multiple responses allowed
Source: Forrester Research/Bank Administration Institute (BAI), April 2002

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It's appropriate then, looking at the second-most cited website success measuring tool above—customer feedback and surveys—that those same 165 executives told the Forrester/BAI poll that the top challenge they face in online banking is understanding customer needs.

Top Challenges Faced By US Banking Websites, 2002 (on a scale of 1-5*)

*Note: n=165 banking executives; *1=very little challenge and 5=significant challenge*
Source: Forrester Research/Bank Administration Institute (BAI), April 2002

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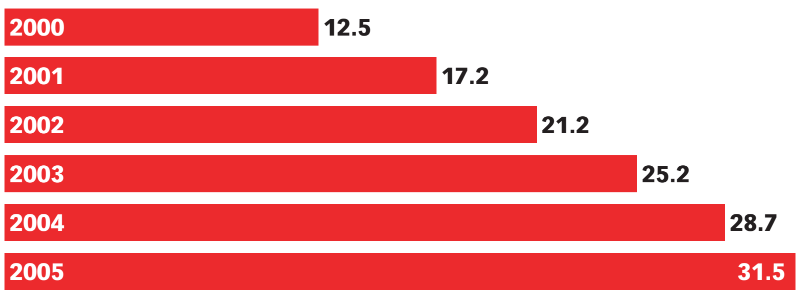
E. Counting Online Banking Users

If banks see the number of customers as the prime gauge of online success, then victory on the internet can be declared—or at least hinted at. Of course, even though the news is good, it's not that simple.

US households banking online will rise from 17.2 million in 2001 to 31.5 million by 2005, according to eMarketer projections. The steady gain may be attributed to numerous factors—ranging from the increase of internet users in general and the uptake of broadband adoption among consumers to bankers finally getting it and making the online channel just as much a part of their mainstream offerings as are the ATM and the telephone.

US Online Banking Households, 2000-2005 (in millions)



Source: eMarketer, September 2002

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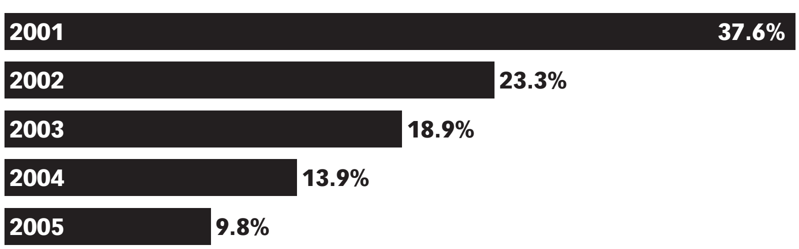
Even as the absolute numbers rise, however, the growth rate will drop, moving from a 37.6% increase in 2001 to a 9.8% gain by 2005. Even with the latter figure, eMarketer still sees healthy growth for online banking.

US Online Banking Households, 2001-2005 (as a % increase vs. prior year)



Source: eMarketer, September 2002

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When the universe of US households banking online is viewed as a percentage of total US households, the establishment of the internet channel appears obvious. With nearly one in five households banking online in 2002, eMarketer expects that to increase to 28.3% by 2005.

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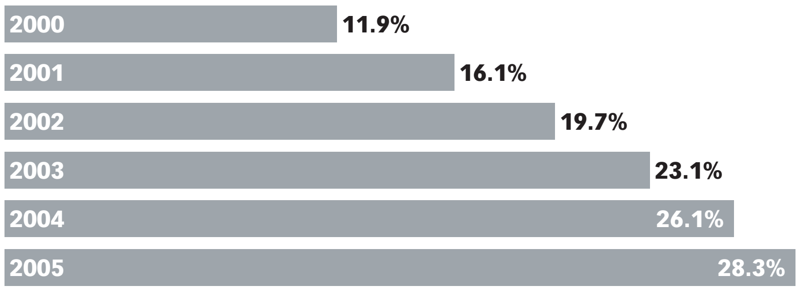
To put that 28.3% penetration rate figure for online banking into further context, eMarketer projections indicate that 70.3% of all US households will be going online by 2004.

US Online Banking Households, 2000-2005 (as a % of total US households)



Note: total US households based on US Census Bureau's 2000 figure of 105,480,101, with growth rates from US Census Bureau's 1996 projections
Source: eMarketer, September 2002

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Besides the relatively straightforward spread of online banking customers, "the pool of web banking adopters is likely to increase as well," according to *Bank Systems & Technology* magazine. "Gomez research indicates that another 16.3 million people who are not currently power users share the same demographic profile as active web [banking customers] and are likely to become active in the future. Some of these consumers will be driven to the web channel by innovations, [Gomez] said."

These innovations will include more detailed and interactive account aggregation services, for example, which will allow both financial planning as well as tracking across a range of channels and accounts.

"The choice to bank online, for many folks, represents only a choice to receive information in that medium."

– Kenneth Clemmer, analyst, Forrester Research

Comparative estimates of online banking customers for 2002 vary from IDC's low of 17.8 million to Cyber Dialogue's somewhat-dated projection of 36.5 million. However, six of the nine estimates for this year are in the 20 million to 25 million range. One common cause for the variance in estimates comes from the basic supposition: Is the researcher asking if the customer ever banked online or if the customer banks online regularly?

Moving along to 2004, the comparisons from eight firms show a 22.1 million spread from IDC again at the low end to Cyber Dialogue at the high end. But the majority of projections—six out of eight—remain in a relatively narrow range, from 29.5 million to 33.0 million.

Comparative Estimates: US Households and Consumers Banking Online, 2000-2006 (in millions)

	2000	2001	2002	2003	2004	2005	2006
Celent Communications, September 2001*	14.0	19.0	24.0	27.0	30.0	–	–
Cyber Dialogue, December 2000*	27.6	32.0	36.5	41.4	46.1	52.3	58.4
Dove Consulting, February 2001**	13.4	17.2	20.6	23.7	–	–	–
eMarketer, September 2002	**12.5**	**17.2**	**21.2.**	**25.2**	**28.7**	**31.5**	**–**
Financial Insite, October 2001	15.5	22.0	27.0	30.0	33.0	36.0	–
Forrester Research, May 2002	–	14.9	19.8	24.7	29.5	33.8	37.5
International Data Corporation (IDC),May 2002	–	14.7	17.8	21.0	24.0	26.5	29.3
Jupiter Media Metrix, October 2001	12.0	15.5	21.0	27.7	32.2	37.7	43.1
TowerGroup, December 2000	18.4	23.2	25.0	27.9	29.6	33.0	–

*Note: *measures consumers; **measures number of accounts*
Source: eMarketer, September 2002; various, as noted, 2000-2002

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Comparative growth rates from the same nine research firms are nearly unanimous in one fact: eight companies showed a drop-off of a still-positive growth rate from 2001 onward; only TowerGroup projects up-and-down trends in the growth rate.

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For example, while Jupiter Media Metrix projects a 35.5% increase among online banking customers in 2002, its expectations for 2005 diminish to a 17.1% increase—an 18.4-point variation. Similarly, IDC forecasts a 21.1% increase in 2002 and a 10.4% increase in 2005—a 10.7-point difference.

Comparative Estimates: US Households and Consumers Banking Online, 2001-2006 (as a % increase vs. prior year)

	2001	2002	2003	2004	2005	2006
Celent Communications, September 2001*	35.7%	26.3%	12.5%	11.1%	–	–
Cyber Dialogue, December 2000*	15.9%	14.1%	13.4%	11.4%	13.4%	11.7%
Dove Consulting, February 2001**	28.4%	19.8%	15.0%	–	–	–
eMarketer, September 2002	**37.6%**	**23.3%**	**18.9%**	**13.9%**	**9.8%**	**–**
Financial Insite, October 2001	41.9%	22.7%	11.1%	10.0%	9.1%	–
Forrester Research, May 2002	–	32.9%	24.7%	19.4%	14.6%	10.9%
International Data Corporation (IDC),May 2002	–	21.1%	18.0%	14.3%	10.4%	10.6%
Jupiter Media Metrix, October 2001	29.2%	35.5%	31.9%	16.2%	17.1%	14.3%
TowerGroup, December 2000	26.1%	7.8%	11.6%	6.1%	11.5%	–

*Note: *measures consumers; **measures number of accounts*
Source: eMarketer, September 2002; various as noted, 2000-2002

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In pulling together the two charts above with comparative estimates for online banking customers, eMarketer conflated figures for households, consumers and even (in one case) number of accounts. While this may appear to be a proverbial apples-and-oranges mix, the definitions research firms use are not so far apart. That is, in many cases there is one account per household, and even if two consumers are signed up for the online account (as with a couple), it is counted by financial institutions as a single account.

Nevertheless, in eMarketer's comparative estimate chart below for the share of US households banking online as a percentage of total households, the firms have been restricted to just those measuring households. And by 2005, projections for online banking's penetration rate stretch from IDC's 23.8% to Jupiter Media Metrix's 33.9%—healthy rates by most anyone's standards.

Comparative Estimates: US Households Banking Online, 2000-2006 (as a % of total US households)

	2000	2001	2002	2003	2004	2005	2006
eMarketer, September 2002	**11.9%**	**16.1%**	**19.7%**	**23.1%**	**26.1%**	**28.3%**	**–**
Financial Insite, October 2001	14.7%	20.6%	25.1%	27.6%	30.0%	32.4%	–
Forrester Research, May 2002	–	14.0%	18.4%	22.7%	26.8%	30.4%	33.4%
International Data Corporation (IDC), May 2002	–	13.8%	16.5%	19.3%	21.8%	23.8%	26.1%
Jupiter Media Metrix, October 2001	11.4%	14.5%	19.5%	25.4%	29.3%	33.9%	38.3%
TowerGroup, December 2000	17.4%	21.8%	23.2%	25.6%	26.9%	29.7%	–

Note: total US households based on US Census Bureau's 2000 figure of 105,480,101, with growth rates from US Census Bureau's 1996 projections
Source: eMarketer, September 2002; various, as noted, 2000-2002

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With all the growth figures in hand, it's well to keep in mind the very specific nature of the internet as a banking channel, suiting some customers and some needs better than others. According to Victor Nichols, CIO for Wells Fargo Services, "We will see stronger usage of the internet for some client segments or some product and service offerings." As reported in *Bank Technology News*, Nichols says that "it is tough to see [the internet] moving past other very ubiquitous platforms that enable people to serve people, like the telephone or the stores [what Wells Fargo calls its branches]."

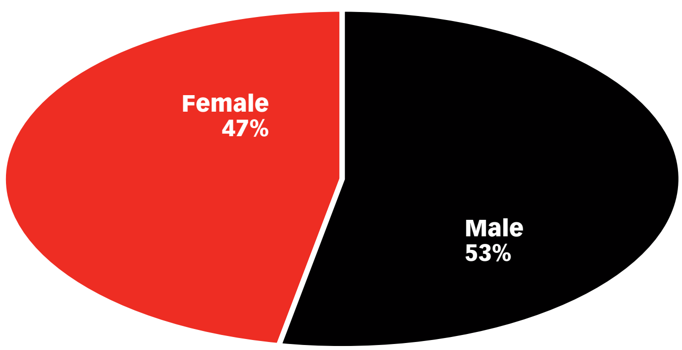
Behind the expansion in online banking are the customers, which bankers like to call their primary focus. As the "2001 Special Report on the Financial Services Industry" from Cap Gemini Ernst & Young put it, "The strategic emphasis has shifted 180 degrees from how the firm chooses to touch the customer to how the customer chooses to touch the firm."

That's why this section will examine not only the basic demographic details of online banking customers such as gender and age, but how US residents spend their time online, what bank customers do and what they want, and how to reach the most-desired customers—the affluent and the small-business market.

A. Demographics & Dollars

According to Nielsen//NetRatings, users of financial websites lean more toward males than females, 53% to 47%, respectively, as of February 2002. (In contrast, US Census Bureau figures show the male/female percentages for all internet users as 49% to 51%, respectively.)

US Users* of Financial Websites, by Gender, January 2002



*Note: 51.6 million total; *at-work and at-home*
Source: Nielsen//NetRatings, February 2002

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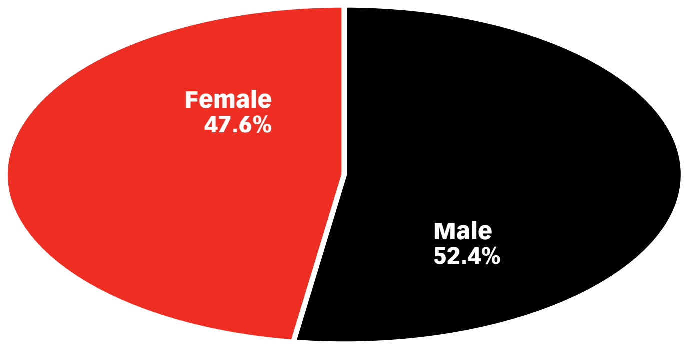
Later Nielsen//NetRatings figures (from July) show basically the same male/female division for financial service website visitors.

US At-Home Users of Top 10 Financial Services Sites, by Gender, Week Ending 30 June 2002



Source: Nielsen//NetRatings, July 2002; Center for Media Research, July 2002

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As the focus narrows from finances in general to online banking in particular, the gender spread widens. According to Ipsos-Reid's "The Little Internet Fact Book," 36% of male internet users in the US have banked online, while only 25% of females have.

US Online Adults Who Have Banked Online, by Gender, May 2001 (as a % of respondents)

Source: Ipsos-Reid, 2001

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Correspondingly, the same Ipsos-Reid study shows that more females than males do not know how to bank online, 31% to 21%. It behooves banks, then, to find ways to attract female customers by explaining online banking in ways that might appeal to that target audience.

US Online Adults Who Don't Know How to Bank Online, by Gender, May 2001 (as a % of respondents)

Source: Ipsos-Reid, 2001

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Research from the US Department of Commerce's report "A Nation Online" indicates distinctly lower percentages banking online than the Ipsos-Reid data. According to the DOC, 19.3% of male internet users and 16.5% of females bank online.

Percent of US Internet Users Trading and Banking Online, by Gender, 2001

	Trading online	Banking online
Male	12.6%	19.3%
Female	5.3%	16.5%

Source: US Department of Commerce, February 2002

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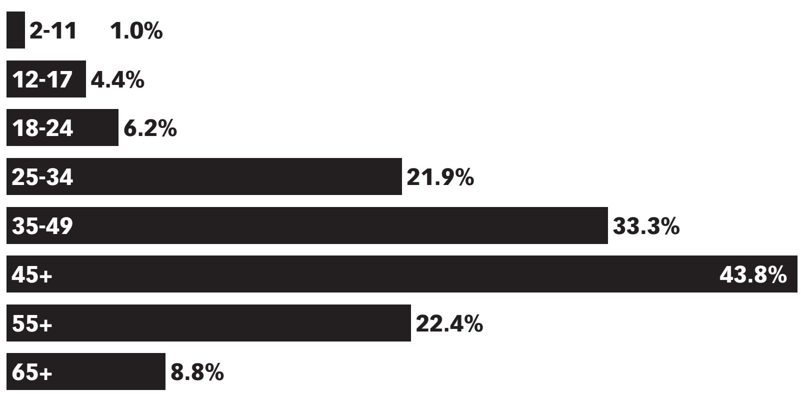
Turning from gender to age, the Nielsen//NetRatings survey of financial website visitors displays a classic bell curve, with the largest single slice in the middle, those age 35 to 49, at 33.3% in June 2002.

US At-Home Users of Top 10 Financial Services Sites, by Age, Week Ending 30 June 2002



Source: Nielsen//NetRatings, July 2002; Center for Media Research, July 2002

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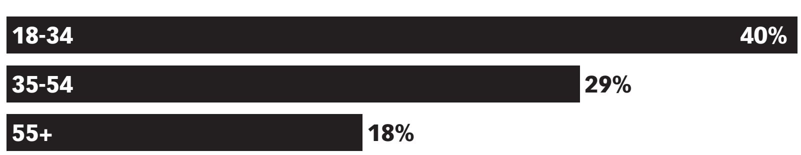
Returning to the Ipsos-Reid study, you can see that among US online adults, the younger they are, the more likely they are to bank online. This is as expected, since the 18-to-34 segment is typically more comfortable with the internet than older US residents.

US Online Adults Who Have Banked Online, by Age, May 2001 (as a % of respondents)



Source: Ipsos-Reid, 2001

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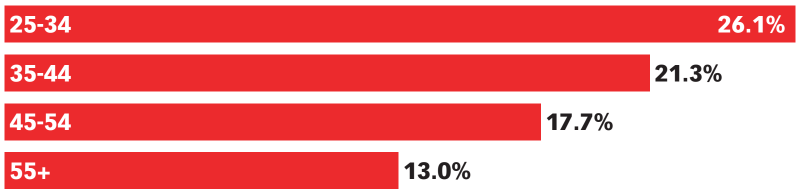
More recent data, this from the DOC, indicates a greater penetration rate in the 35-to-54 segment than Ipsos-Reid's 29% figure above. According to the federal agency, 39.0% of internet users of that age group bank online.

Users of Online Banking, by Age, 2001 (as a % of internet users age 25 or older)



Source: US Department of Commerce, February 2002

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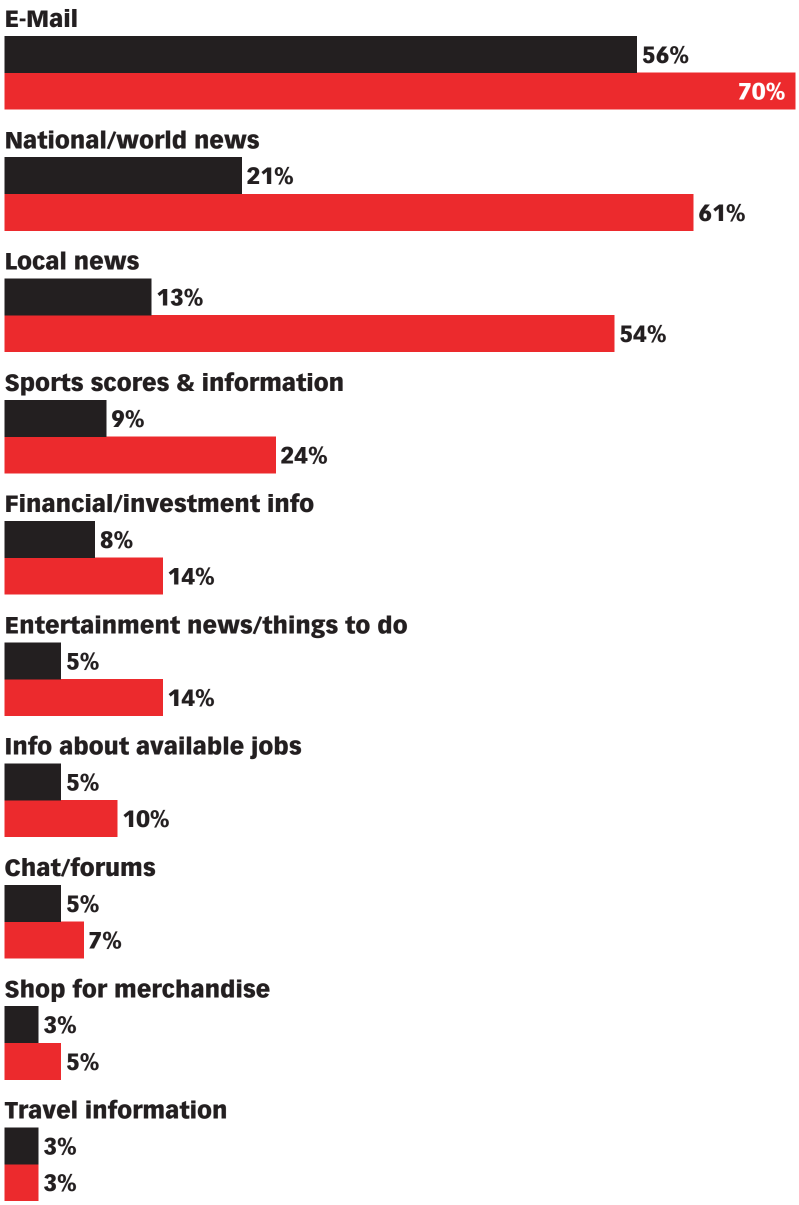
B. Online Activities

In the realm of the internet, people find many activities more fun than finances. That's undoubtedly why respondents mentioned daily pursuits such as reading e-mail, the news or sports scores more often than looking for financial and investment information, cited by 14% in the Newspaper Association of America's online poll.

Daily Online Activities of US Internet Users, 2002 (as a % of respondents)



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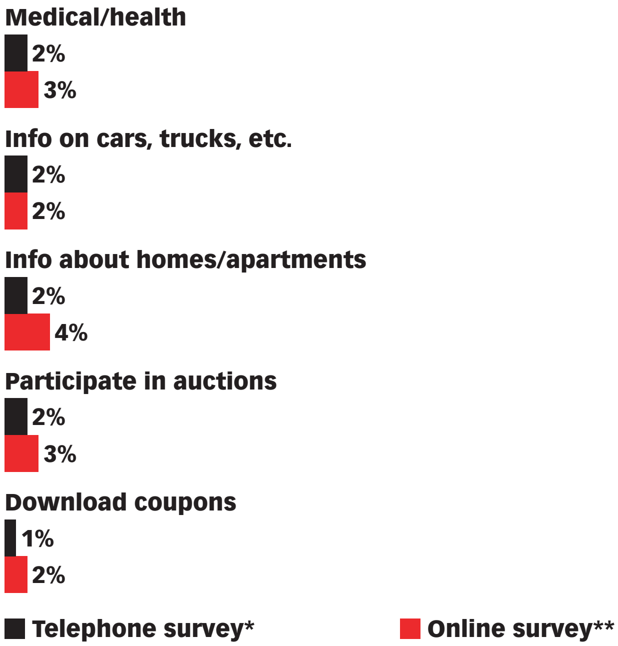

*Note: *n=2,000; **n=12,249*
Source: MORI Research commissioned by the Newspaper Association of America, May 2002

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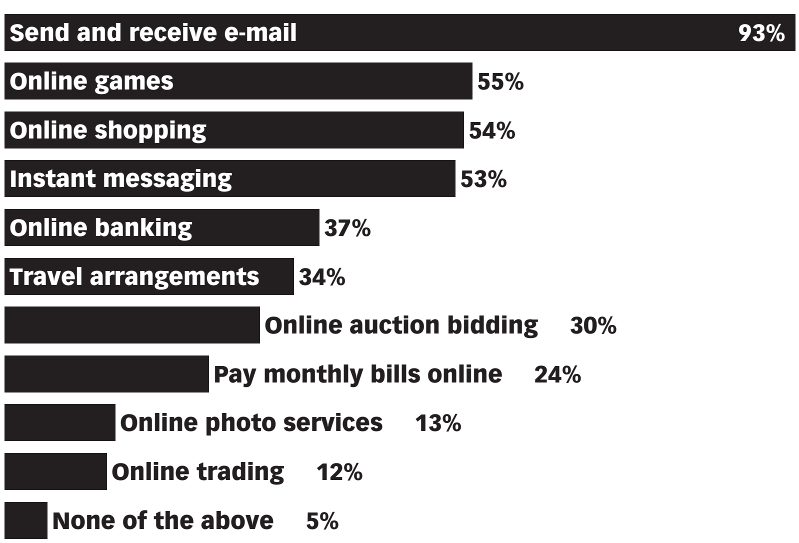
When the activity scope is widened from daily to weekly, online banking and bill paying are seen more frequently, according to Yankee Group research. While 37% of internet users at home bank online, 24% pay bills electronically.

Weekly Online Activities of US Home Internet Users, 2001 (as a % of respondents)



Source: Yankee Group, October 2001

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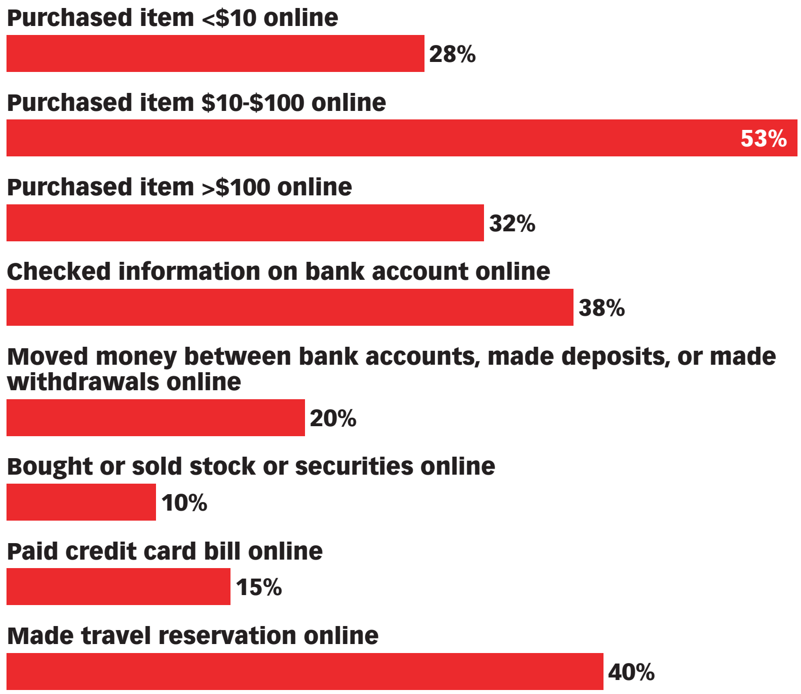
In support of the Yankee Group data, research from the University of Maryland business school indicates that 38% of US online adults checked bank account information online. The b-school data throws a wider net of the 12 months prior to November 2001, not just weekly, and yet converges with the Yankee Group perspective.

US Online Adults' Use of E-Commerce in the Past 12 Months, November 2001 (as a % of respondents)



Note: Base: Online Adults: 418
Source: Center for e-Service at the Robert H. Smith School of Business, University of Maryland; Rockbridge Associates, Inc., November 2001

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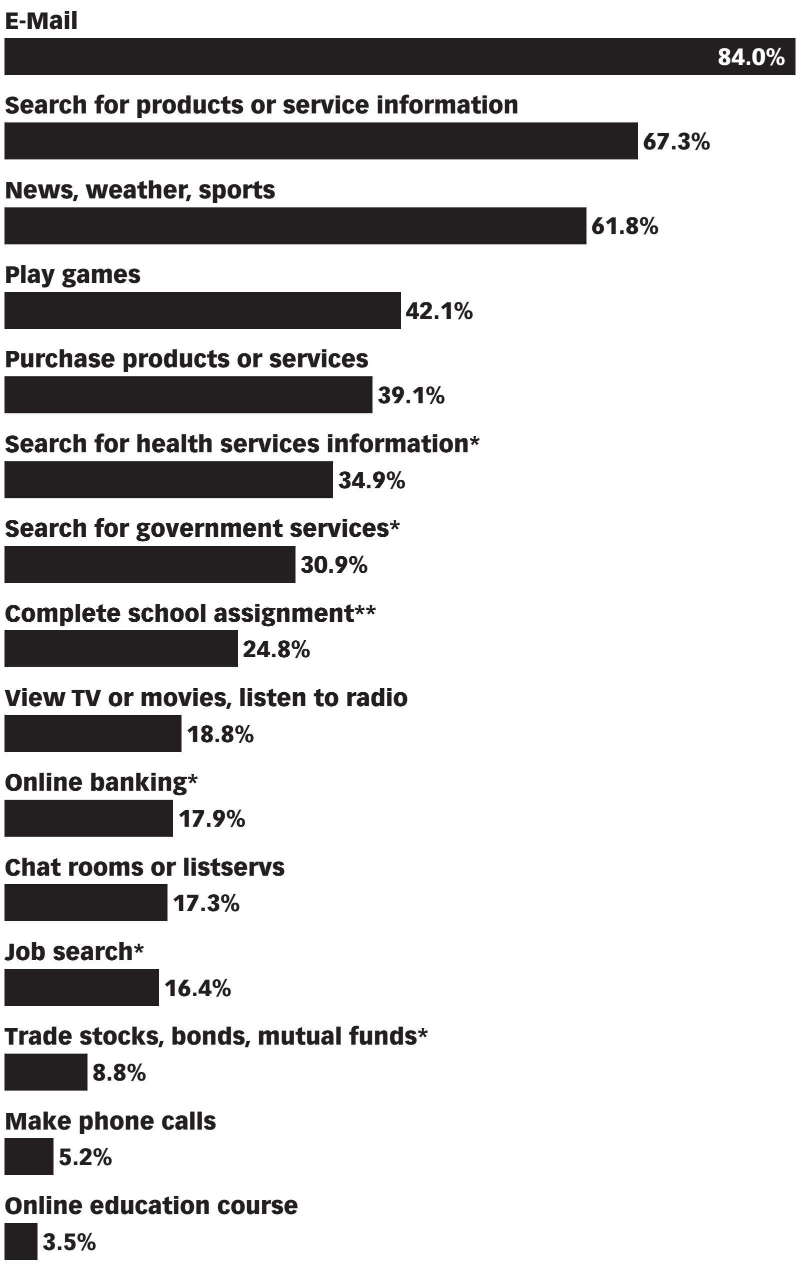
Finally, US Department of Commerce research shows that 17.9% of internet users (age 15 and older) bank online, about the same as those who search for jobs on the web.

Online Activities of US Internet Users Ages 3+, 2001 (as a % of internet users)



*Note: *applies only to internet users ages 15+; **asked of all users, but if response was restricted to just those in school, the percentage would increase to 77.5%*
Source: US Department of Commerce, February 2002

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Among online activities, banking is increasing in use more than most other serious tasks. At least that's how the Pew Internet & American Life Project study "Getting Serious Online" pictures it, with a 79% increase for online banking from 2000 to 2001 among US internet users who have ever purchased a product or service online.

US Internet Users Who Have Ever Purchased Products or Services Online, 2000 & 2001 (as % increase)

	% increase
Purchase product	45%
Buy travel service	59%
Online banking	79%
Online auction	83%
Buy/sell stocks	30%

Source: Pew Internet & American Life Project, March 2002

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In absolute numbers, the same Pew survey indicates that 25 million of these active internet users banked online as of March 2001, up from 14 million the year before. Contrast that 2001 figure with the 22 million who have participated in an online auction (despite all the hoopla an eBay gets).

Number of US Internet Users Who Have Ever Purchased Products or Services Online, by Transaction Type, 2000 & 2001 (in millions)

	March 2000	March 2001
Purchase product	40	58
Buy travel service	29	46
Online banking	14	25
Online auction	12	22
Buy/sell stocks	10	13

Source: Pew Internet & American Life Project, March 2002

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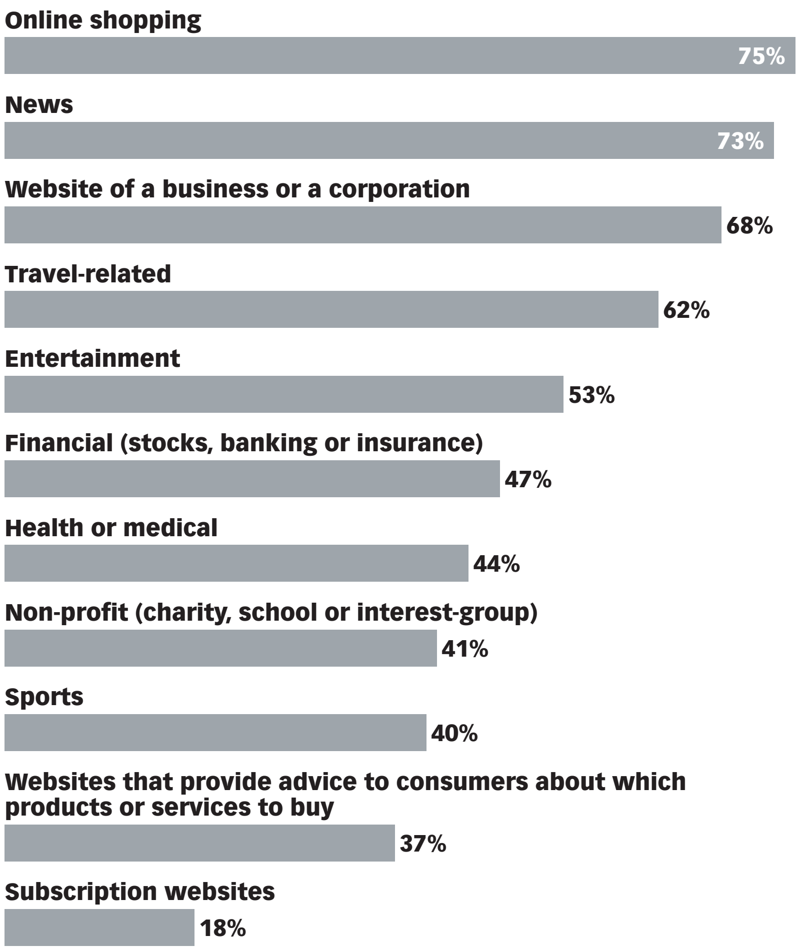
Website Popularity

In parallel with research on internet activity use is research on website visitors. For example, according to Consumer WebWatch, 47% of US internet users visit financial websites—more than sports or health-related sites, but less than shopping, news, travel and entertainment.

Types of Websites Visited by US Internet Users, January 2002 (as a % of respondents)



Source: Princeton Survey Research Associates for Consumer WebWatch, January 2002

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Reflecting the trend among US workers to take care of part of their personal lives at the office, Online Publishers Association research shows that while 34% of internet users visit financial service websites when not at work, that group increases to 44% for at-work users.

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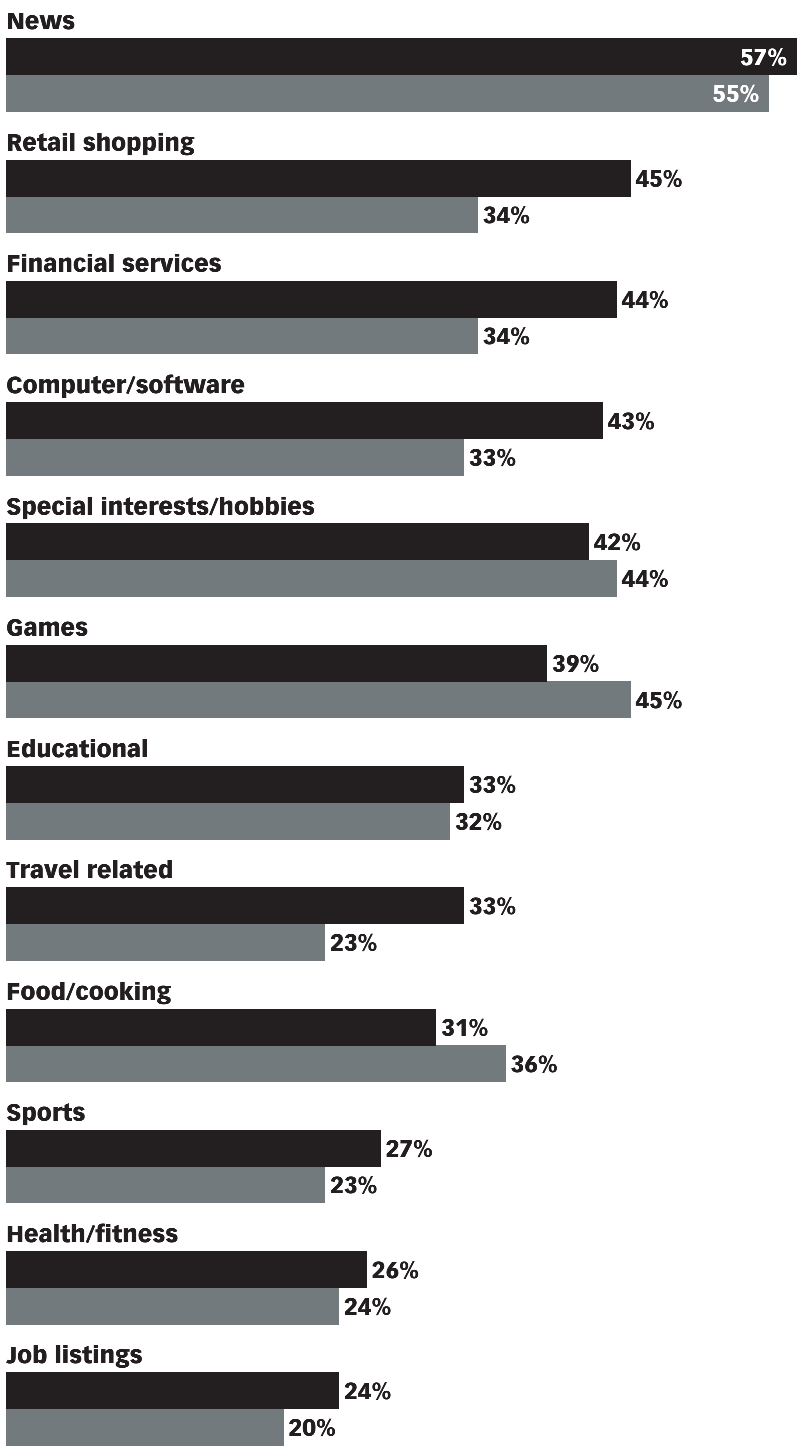
In either locale, financial services appear as the third most visited type of website according to this data.

Popular Websites for US At-Work vs. US Non-Work Internet Users, 2001 (as a % of respondents)



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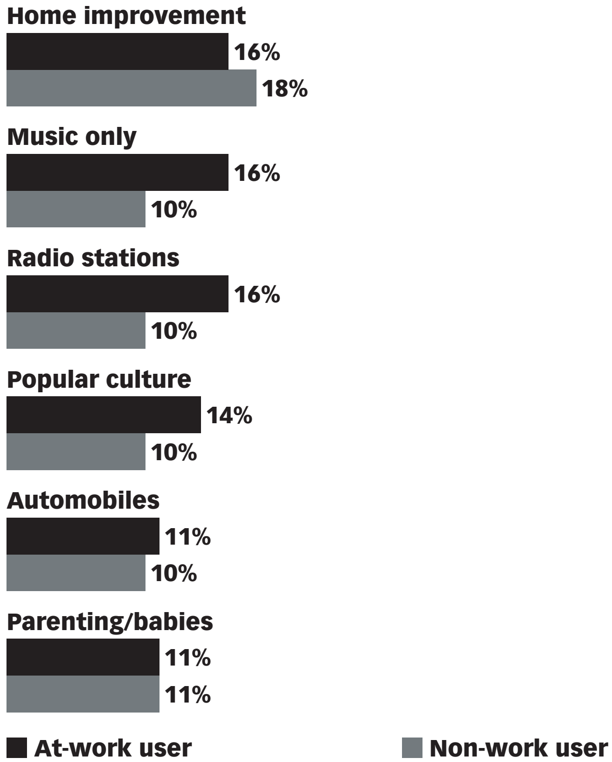

Note: n=755 at-work users and 272 non-work users
Source: Millward Brown IntelliQuest, Online Publishers Association (OPA), November 2001

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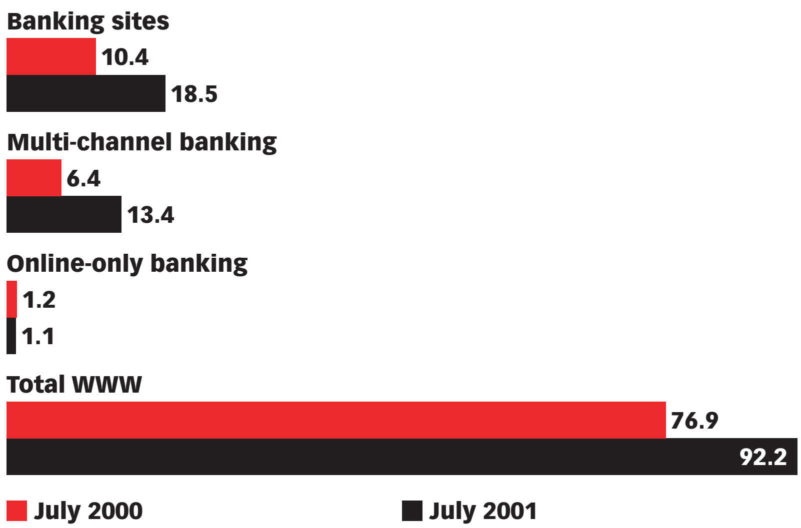
With all the distractions found on the internet, the development of online banking remains robust. Jupiter Media Metrix measured unique visitors to banking sites in July 2000 and July 2001, and found a jump from 10.4 million in 2000 to 18.5 million in 2001, a 78% gain. To put that growth in perspective, the total visitors to all websites in those two July months rose from 76.9 million to 92.2 million, or a 20% growth rate.

Unique Visitors* to US Online Banking Sites, July 2000 & July 2001 (in millions)



*Note: *From home and work combined*
Source: Jupiter Media Metrix, August 2001

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Moving from general financial website use to specific sites, US consumers visited Chase the most in July 2001, at 3.6 million. Not far behind that month are the three banks with large segments of online customers: Wells, Citibank and BofA.

Unique Site Visitors* to Leading Multi-Channel and Online-Only US Banks, July 2000 & July 2001 (in millions)

	July 2000	July 2001
Chase	0.9	3.6
Wells Fargo	2.0	3.5
Citibank	1.7	3.5
Bank of America	1.5	3.3
Bank One	0.5	1.1
Fleet	0.5	0.9
Netbank	0.7	0.5
Juniper	–	0.4
eTrade Bank	0.4	0.2
Wingspan Bank	0.3	–

*Note: *From home and work combined*
Source: Jupiter Media Metrix, August 2001

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Moving from July 2001 to June 2002 (and from Jupiter Media Metrix data to Nielsen//NetRatings'), the most visited banking website is Bank of America, with an audience of over 1.5 million. Wells Fargo is the second bank listed, at 1.3 million.

Note, though, the high traffic at the PayPal site, which has implications for banking that will be covered later in this report in the P2P section.

Top 10 Financial Services Websites among US At-Home Users, Week Ending 30 June 2002 (in thousands and % reach)

	Unique audience	% active reach
Yahoo! Finance	1,885	2.43%
Paypal	1,737	2.23%
Bank of America	1,524	1.96%
MSN Money	1,506	1.94%
Capital One	1,309	1.68%
Wells Fargo	1,305	1.68%
Citibank	1,022	1.31%
CNNMoney	984	1.27%
Marketwatch.com	953	1.23%
American Express	888	1.14%

Source: Nielsen//NetRatings, July 2002; Center for Media Research, July 2002

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Translating traffic to time (and June to January), it appears that online brokerages were stickier than banks. Only three banks are listed (Washington Mutual, NetBank, Wachovia), only two have a significant brick-and-mortar presence (Wamu and Wachovia), and one other site—E*Trade—also has a banking component.

The branch's physical presence is significant to why online banks tend to be less sticky than brokerages. As you've seen, customers tend to divide banking tasks among various channels.

Stickiest Financial Websites for US Internet Users*, January 2002

	Time per person (h:mm:sec)	Unique audience* (in thousands)	Active reach**
Charles Schwab	1:48:18	1,166	0.99%
Datek	1:37:27	797	0.68%
E*Trade	1:22:09	1,873	1.60%
Ameritrade	1:19:37	1,614	1.38%
CSFBdirect	1:16:14	406	0.35%
Washington Mutual	1:09:17	798	0.68%
TD Waterhouse	1:09:06	904	0.77%
NetBank	1:09:02	429	0.37%
Nasdaq	1:01:57	781	0.67%
Wachovia Bank	0:59:01	416	0.35%

*Note: *Unique audience (in thousands) defined as "different vistors to site during week"; **active reach defined as "unique audience as percentage of active web population"; rankings do not include traffic to the unique sites of the Yahoo.com domain*
Source: Nielsen//NetRatings, February 2002

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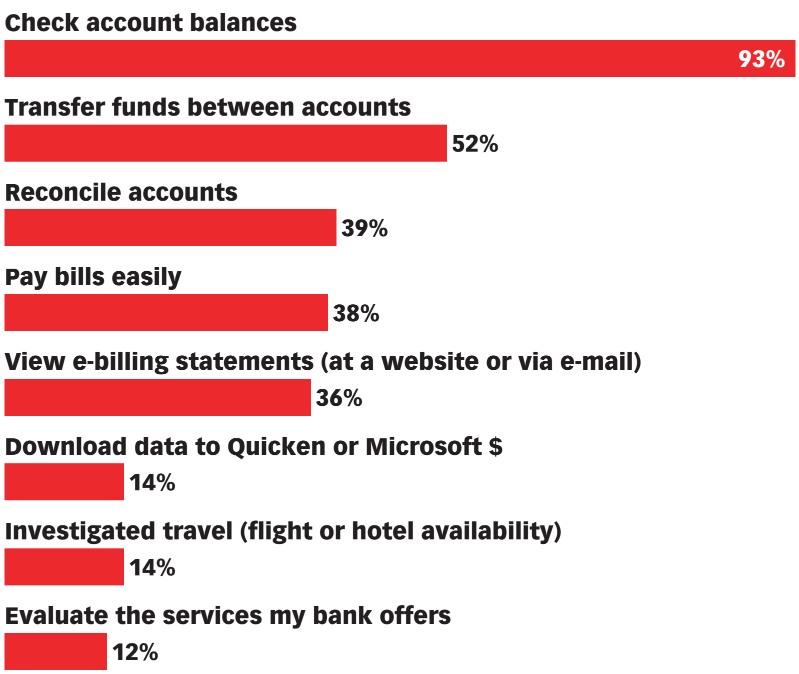
C. What Online Customers Do

How a bank's customers take advantage of the institution's online service means more for the bottom line than whether or not they even sign up for internet banking. According to Forrester Research (as reported in *Banking Strategies*), "The bank doesn't really benefit if customers use the online channel only to check balances or maybe determine whether a check has cleared. Such dabblers aren't likely to stay with a bank any longer, open more accounts or maintain greater balances than customers who don't use the online offering at all."

Yet how can you be surprised that viewing balances is the most-common online banking activity? The Jupiter Media Metrix survey from last year found that getting information in various ways—such as reconciling accounts or viewing e-billing statements—is more a part of online banking than such active tasks as paying bills.

However, bill paying appears to be establishing a sound niche, with 38% of respondents including that activity as part of their online banking.

How US Consumers Use Online Banking, August 2001 (as a % of respondents)



Source: Jupiter Media Metrix, Inc., September 2001

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And perhaps all those tasks taken together draw a picture of a most wanted customer. According to Wells Fargo (as reported in *American Banker*), "Online customers carry 20% to 30% higher balances than offline customers and have a 30% lower attrition rate."

"This [online banking] is very important to them. Some of our customers are such active users that this is probably the most important access channel to them."

– Clyde Ostler, executive vice president internet services, Wells Fargo

Still, active customers online mean greater profits. "Bill payment customers are even more valuable; they are 50% to 60% less likely to leave the bank."

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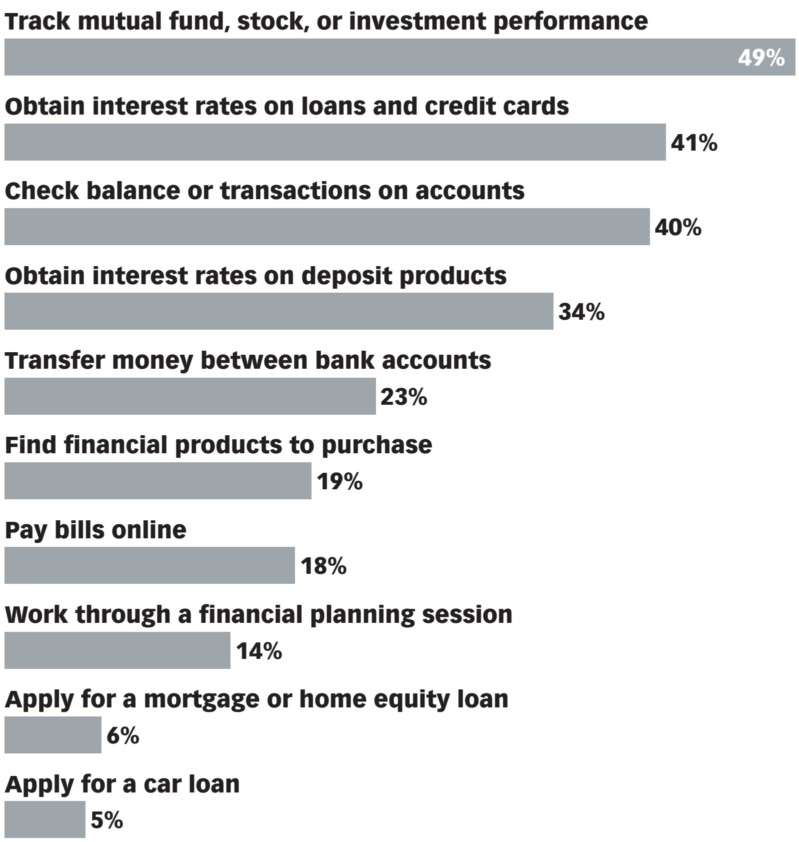
However, in light of last year's survey from the American Bankers Association, paying bills online is something only 18% of respondents said they do. Shopping for interest rates on loans (at 41%) and deposit accounts (at 34%) is a regular financial use of the internet for many. And, while checking balances is high on the list, the ABA figures are less than half of Jupiter's data above.

US Consumers' Online Financial Activities, 2001 (as a % of respondents*)



*Note: n=1,000; adults age 20+ who have an account or financial dealings with a bank; *only asked of those with internet access*
Source: American Bankers Association/Mathew Greenwald & Associates, September 2001

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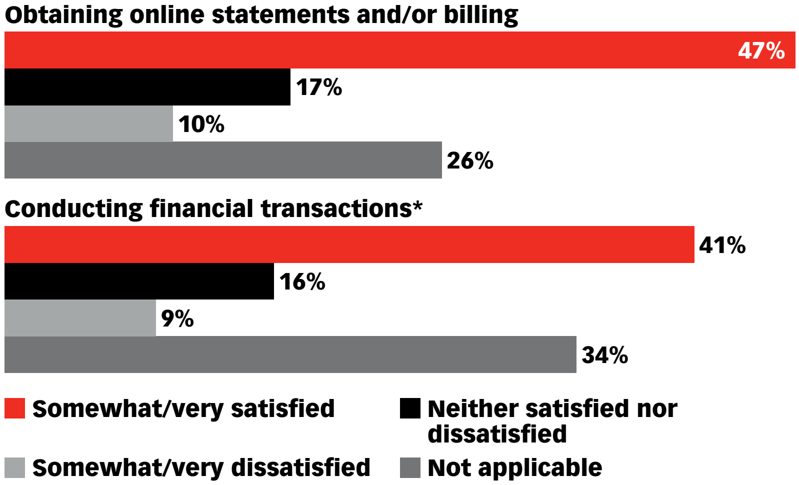
Keep in mind that among the online banking activities listed are those customers signed up for the internet channel but who don't use it. Wells Fargo reports that about 10% of its online customers are "inactive," according to *American Banker*, meaning they haven't used its internet services in more than three months, while close to 60% of customers are considered "very active," meaning they use the services more than eight times a month.

Having a low level of inactivity is due to customer satisfaction with online banking, or so it appears from a survey last year by Knowledge Systems & Research. When it comes to conducting financial transactions online, 41% of respondents said they were somewhat or very satisfied. At 47%, an even greater share of customers felt an equal level of satisfaction with obtaining online statements and billings.

Customer Service Satisfaction with Online Financial Transactions, 2001



*Note: *Higher income level repondents more likely to be satisfied with online financial transactions (55%)*
Source: Knowledge Systems & Research Inc., March 2001

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D. What Bank Customers Want

What bank customers do online and what they want don't always converge. The US consumer wish list ranges from advice to insurance but stays within financial bounds.

Last year's ABA poll points to the popularity of advice. Three types of advice—financial planning, investment and retirement planning—are among the products and services listed highly as "likely to purchase" from US banks by consumers. Buying investments received the most responses, at 51%, but this survey took place before today's extreme market meltdown.

Products and Services US Consumers Have Purchased or Are Likely to Purchase from US Banks, 2002 (as a % of respondents*)

	Already purchased	Likely to purchase
Financial planning advice	22%	47%
Investments	21%	51%
Investment advice	20%	47%
Retirement planning advice	14%	44%
Life insurance	12%	22%
Real estate brokerage	9%	26%
Homeowners' insurance	8%	30%
Annuities	5%	36%
Auto insurance	2%	21%

*Note: n=1,000; adults age 20+ who have an account or financial dealings with a bank; *only asked of those with most of their money with a bank*
Source: American Bankers Association/Mathew Greenwald & Associates, September 2001

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Advice and planning fit well into a bank's online services, especially when a bank tries to reach a mass affluent audience. The costs for person-to-person advice make sense if the institution is dealing with high net-worth individuals. But for individuals with between $100,000 and $1 million to invest, automation is the key.

And in this turbulent economy, customers are seeking help. Research from Gomez shows that several online financial-planning tools are used frequently by customers, bringing them back to a bank's website repeatedly. Of the five tools listed in the chart below, all but college planning were used two to five times during the last six months by more than 50% of the respondents (and even college planning, a more age-segregated task, hit the 45% mark).

Frequency of Use of Online Financial-Planning Tools by US Financial-Services Customers during the Last Six Months, 2002 (as a % of respondents)

	Once	2-3	4-5	5-6	6+	Never
Retirement planning	15.7%	38.7%	17.3%	7.4%	17.4%	3.4%
College planning	21.4%	30.2%	15.3%	9.8%	21.5%	1.7%
Asset allocation	13.9%	40.6%	15.2%	10.5%	16.4%	3.4%
Social Security planning	29.7%	45.9%	11.3%	5.0%	6.6%	1.5%
Debt consolidation planning	26.5%	32.5%	19.8%	8.9%	10.5%	1.8%

Source: Gomez, Inc., 2002; American Banker, July 2002

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The same ABA poll cited above, when focusing on interest in online finances, found most consumers "very interested" in all nine activities listed below. Several are information-gathering pursuits, such as obtaining interest rates and checking balances, but the active tasks were even more attractive. Above 60% of the respondents were very interested in transferring money between accounts and applying for mortgages or other loans.

And active activities tend to keep customers around more than passive, information-gathering ones.

US Consumers' Interest in Conducting Financial Activities Online, 2001 (as a % of respondents)

	Very interested	Somewhat interested	Not too interested	Not at all interested
Track mutual fund, stock or investment performance	55%	12%	23%	8%
Obtain interest rates on loans and credit cards	55%	13%	23%	7%
Check balance or transactions on accounts	56%	10%	22%	10%
Obtain interest rates on deposit products	48%	13%	30%	8%
Transfer money between bank accounts	68%	12%	13%	5%
Find financial products to purchase	56%	16%	21%	6%
Work through a financial planning session	55%	15%	24%	5%
Apply for a mortgage or home equity loan	63%	13%	19%	8%
Apply for a car loan	64%	12%	19%	4%

Note: n=1,000; adults age 20+ who have an account or financial dealings with a bank
Source: American Bankers Association/Mathew Greenwald & Associates, September 2001

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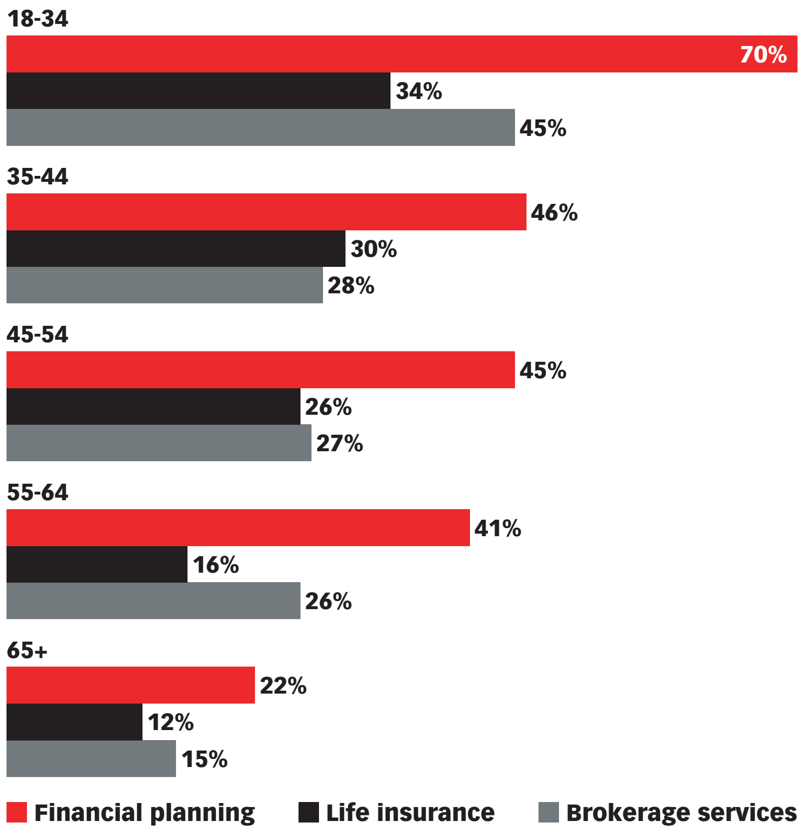
Age creates a variance in the non-banking financial products US consumers want from banks. According to the 2002 "*American Banker*/Gallup Consumer Survey," the older the customer, the less likely he or she wants to buy financial planning, life insurance or brokerage services from their bank. But in the key 35-to-54 group, about 45% of respondents look to a bank for financial planning. And when it comes to buying life insurance from a bank, the youngest 18-to-34 segment is most prominent, at 34%.

Non-Traditional Bank Products US Consumers Want from Their Banks, by Age, 2002 (as a % of respondents)



Note: n=1,000
Source: American Banker/Gallup Organization, July 2002

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This concept of one-stop shopping (also called convergence or consolidation) appears to be a bit more a bank dream than a customer desire. For the bank, the more products and services a customer buys, the more likely that customer will be loyal. "Financial organizations have been aspiring to it for years as a way to build trusting long-term customer relationships instead of focusing on transactions," according to Cap Gemini Ernst & Young.

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However, a 2002 survey from Synergistics Research points to consumer reluctance to place all their financial eggs in one basket. While 60% of respondents feel they'd be better off by shopping around, 55% are simply concerned about having all their financial services tied to a single institution. Distaste for too much cross-selling is another consumer attitude at cross-purposes to convergence, cited by 46%.

US Consumers' Attitudes toward One-Stop Shopping for Financial Services, 2002 (as a % of respondents)

Note: n=1,000
Source: Synergistics Research Corp., 2002; Insurance Networking, June 2002

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A countervailing take on consolidation concerns among US consumers from Jupiter Media Metrix says that 45% have no major worries about consolidating their accounts—with the implication, of course, that 55% do have concerns.

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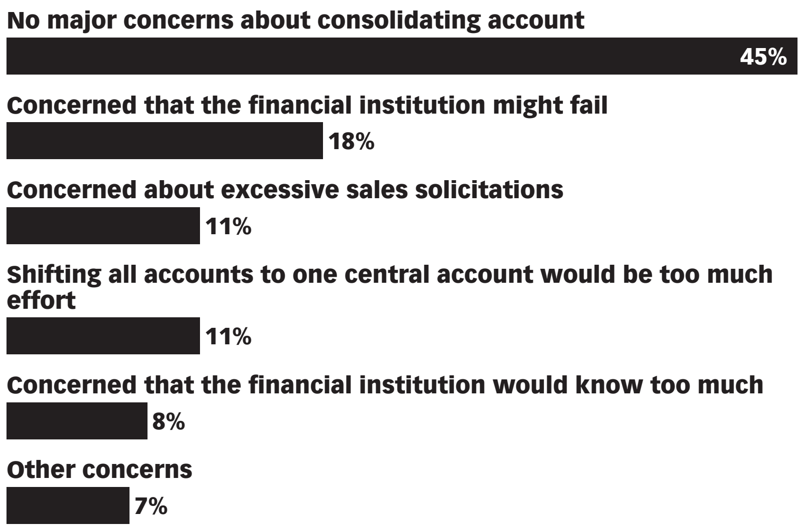
Among those hesitancies are fears that the financial institution might fail (at 18%) and excessive sales solicitations (at 11%, which is far below the 46% figure in the Synergistics chart above).

Financial Account Consolidation Concerns among US Consumers, 2001 (as a % of respondents)



Source: Jupiter Media Metrix, Inc., October 2001

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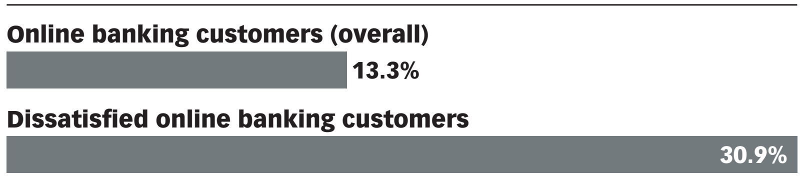
In addition, the banking industry's fear of losing customers—and therefore its need to institute one-stop shopping—may be more emotional than logical, especially when it comes to online banking. A Gomez survey from last year shows that only 13.3% of online customers have considering switching primary banks based on the performance of their institution's website. Even 69.1% of dissatisfied online banking customers have not considered switching primary banks.

This data points to the key importance of capturing the customer to start off, since loyalty appears to be strong, no matter what the reason or provocation.

US Online Banking Customers Who Have Considered Switching Primary Banks Based on the Performance of Their Bank's Website, 2001



Source: Gomez, Inc., 2001

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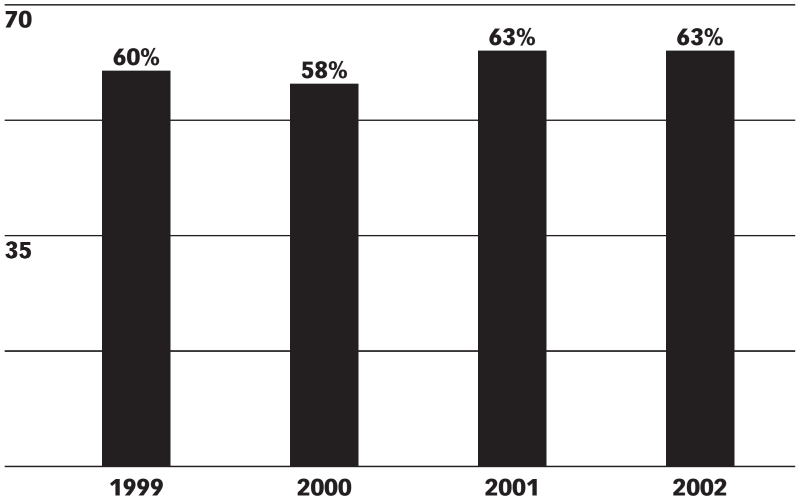
Attitudes & Expectations

Just as dissatisfaction may not be enough to knock off an online banking customer, the level of satisfaction remains high. According to the *American Banker*/Gallup survey, 63% of US consumers in 2002 are very satisfied with their primary financial institution.

US Consumers Who Are Very Satisfied With Their Primary Financial Institution, 1999-2002 (as a % of respondents)



Note: n=1,000
Source: American Banker/Gallup Organization, July 2002

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In parallel with that strong satisfaction is the ongoing US consumer confidence in the banking system. That it's healthy is something 82% of respondents said in 2002. Note, though, the 8-point drop from 2001's figure; the current economic turmoil probably contributed to that decrease.

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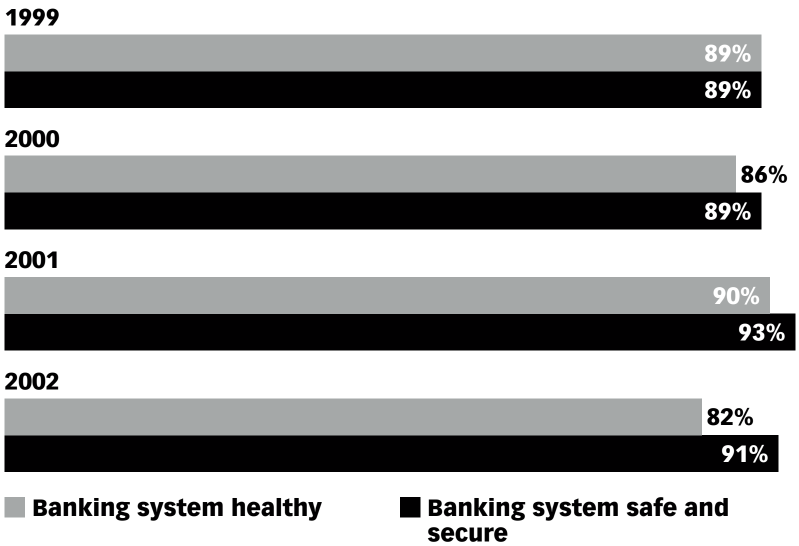
Still, even more than healthy, 91% of US consumers in 2002 feel the banking system is safe and secure. (Without any figures in front of you, contrast those high numbers for banking with how US consumers probably feel about the rest of corporate America in light of accounting frauds and other fiscal shenanigans; this points to banking's unique place among large corporations.)

US Consumer Confidence in the Banking System, 1999-2002 (as a % of respondents)



Note: n=1,000
Source: American Banker/Gallup Organization, July 2002

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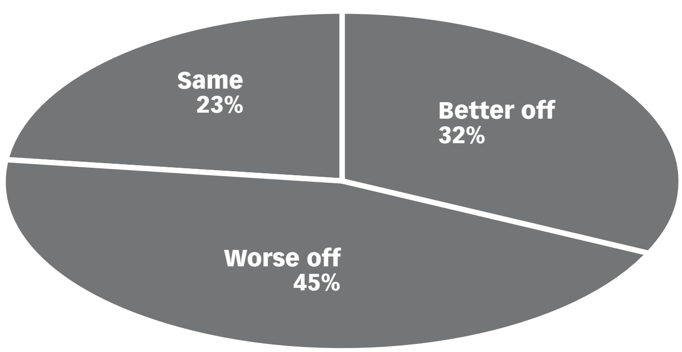
The continued sense of security in the banking system must be juxtaposed to the American consumer's sense of insecurity in the economy. A Gallup Poll in July 2002 backs up what the media reports anecdotally, that a large slice of the public (45%) feels worse off about their finances.

How US Consumers Feel about Their Finances Now vs. One Year Ago, July 2002 (as a % of respondents)



Note: n=1,005
Source: Gallup Poll, July 2002

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Therefore, bankers would be wise to keep in mind what US consumers value most in banks. More than low costs (at 81%) or high interest rates (at 77%) or convenience (at 75%), trust is a bank's most important product.

What US Consumers Value Most In Banks, 2001 (as a % of respondents)

	Very important	Somewhat important	Not too important	Don't know/ refused
Trust	83%	–	12%	–
Reasonable fees	81%	–	15%	–
Competitive interest rates	77%	–	17%	4%
Convenience	75%	–	23%	–
Financial strength	73%	–	21%	3%
Reputation	70%	–	24%	4%
Personal attention	67%	–	27%	4%
Up-to-date technology	59%	–	33%	5%
Investment expertise	44%	10%	31%	14%
Wide range of products and services	40%	5%	43%	12%

Note: n=1,000; adults age 20+ who have an account or financial dealings with a bank
Source: American Bankers Association/Mathew Greenwald & Associates, September 2001

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Banks would do well to leverage that trust in these uncertain times. As of August 2002, the main financial plan for the next three months among all US consumers is decreasing spending, according to BIGresearch. But trailing that—at 31.4% of respondents—is increasing savings, which is typically a banking product.

US Consumers' Financial Plans for Next 3 Months, by Investments Owned, August 2002 (as a % of respondents)

	Stocks	Bonds	Mutual funds	401K	All
Refinance home	7.7%	5.6%	7.5%	9.7%	5.9%
Increase savings	34.0%	37.3%	31.0%	38.4%	31.4%
Decrease overall spending	37.7%	39.1%	38.1%	39.7%	34.6%
Buy stocks	24.1%	16.2%	18.3%	14.5%	9.9%
Sell stocks	10.2%	7.8%	7.5%	5.1%	3.6%

Note: n=12,099
Source: BIGresearch, August 2002

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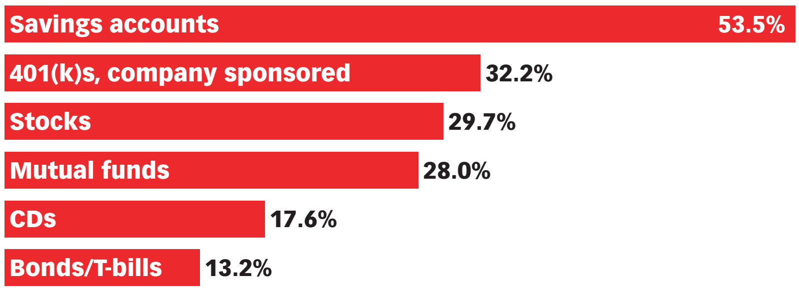
The same survey from BIGresearch points to savings accounts as the top investment for US consumers, with 53.5% of respondents.

Top Investments for US Consumers, 2001 (as a % of respondents)



Source: BIGresearch, August 2002

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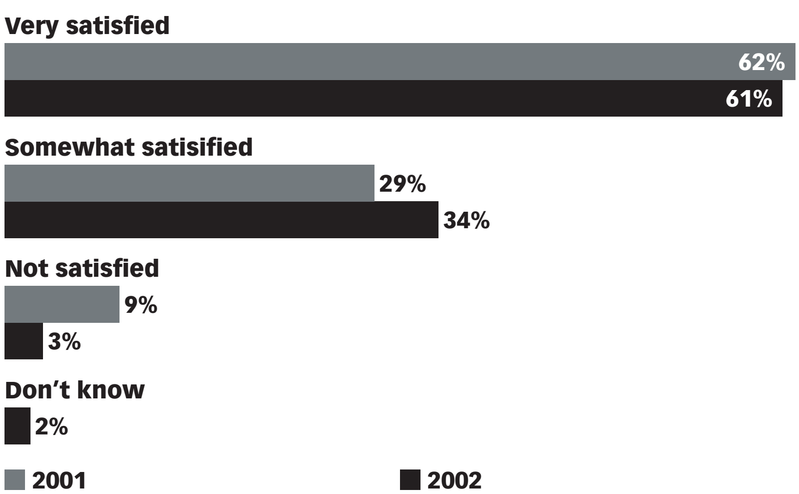
Banks can use this current opportunity away from risky investing in the markets toward banking products like savings accounts to promote online banking as a more-viable-than-ever channel. That 61% of US consumers in 2002 are very satisfied with online banking, according to the *American Banker*/Gallup survey, is good news. That a mere 3% are not satisfied in 2002, down from 9% in 2001, is potentially great news.

US Consumer Attitudes toward Online Banking, 2001 & 2002 (as a % of respondents)



Note: n=1,000
Source: American Banker/Gallup Organization, July 2002

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A convergent look at US consumers who view online banking positively comes from Barry Leeds & Associates, a New York-based market research firm. In 2001, it found that 56% of consumers give online banking a favorable rating, meaning either excellent or very good.

Percent of US Consumers Who Give Online Banking a Favorable Rating, 2000 & 2001 (as a % of respondents)

Note: Favorable rating means consumers view online banking as "excellent" or "very good"
Source: Barry Leeds & Associates, 2001

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And even more consumers that give online banking a favorable rating believe its transactions are secure, with an increase in 2002 to 66% from 2000's 48% figure, according to the Barry Leeds survey.

Percent of US Consumers Who Believe Online Banking Transactions Are Secure, 2000 & 2001 (as a % of respondents)

Source: Barry Leeds & Associates, 2001

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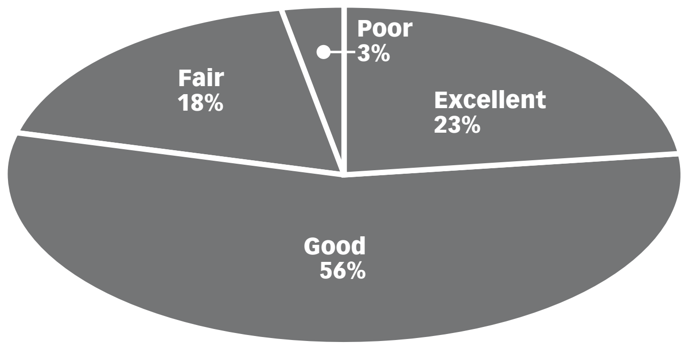
In fact, whether it's the internet, the ATM, the automated call center or another touchpoint, consumers generally appreciate how banks use technology for efficient service. While 56% of respondents to the ABA survey last year responded with a "good" vote, nearly one in four (23%) polled banking technology as "excellent."

US Consumer Attitudes toward Banks' Use of Technology for Efficient Service, 2001 (as a % of respondents)



Note: n=1,000; adults age 20+ who have an account or financial dealings with a bank
Source: American Bankers Association/Mathew Greenwald & Associates, September 2001

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E. Affluent Profits: Make More From the Wealthy

Weaving together the various channels is not only a sophisticated and smart thing for a financial institution, it's becoming essential to keeping customers—especially the wealthy and mass affluent segments most desired by firms. "For many institutions, the arena of wealth management presents the greatest opportunities for banks and financial institutions today," according to *Bank Technology News*.

Cap Gemini Ernst & Young notes that "most financial institutions probably have in the range of 8% to 15% of a client's total assets." reports *BTN*. "The rest of the assets are in insurance annuities, mutual funds, bonds and other assets. Financial institutions could triple the customers' assets under their control if they extended their business to financial planning."

"With today's uncertain economy, the average person on the street who doesn't have a high-end financial adviser is starting to get a little skittish about handling their wealth themselves. Financial institutions clearly have a significant opportunity to respond with a solution for the mass affluent, or emerging affluent."

– James Scurlock, analyst, Cap Gemini Ernst & Young

As expected, as income goes up so does internet use. Research from the US Department of Commerce shows that for households with a family income of $75,000 or more there's a 78.9% online penetration rate. That's 11.6 points greater than the preceding income segment.

Internet Users in the US, by Family Income, September 2001 (in millions and penetration)

Less than $15,000	7.8	25.0%
$15,000 - $24,999	8.9	33.4%
$25,000 - $34,999	12.6	44.1%
$35,000 - $49,999	20.6	57.1%
$50,000 - $74,999	30.1	67.3%
$75,000 & above	44.5	78.9%

Source: US Department of Commerce, February 2002

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The same DOC research shows that, as a rule, as income goes up so does use of online banking, reaching 23.0% of the $75,000-plus income segment.

Online B2C Activities of US Internet Users, by Household Family Income, 2001 (as a % of internet users age 3+)

	<$15,000	$15,000 to $24,999	$25,000 to $34,999	$35,000 to $49,999	$50,000 to $74,999	$75,000+
Searching for product/service information	54.9%	58.0%	63.3%	64.2%	68.5%	73.5%
Purchasing products/services	26.1%	26.8%	31.4%	35.0%	39.4%	49.1%
Online banking	12.8%	12.1%	14.4%	15.6%	18.0%	23.0%
Online stock, bond,mutual fund trading	3.2%	2.9%	4.9%	6.3%	8.1%	13.8%

Source: US Department of Commerce, February 2002

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The basic demographics of affluent US consumers who manage their finances online show them slightly younger and with slightly greater incomes than their counterparts who go online (but not for managing finances) and who are only offline. And the online financial types tend to be soloists, according to Forrester Research—that is, the most self-directed of all affluent investors.

Demographics of US Affluent Consumers Who Manage Their Finances Online, 2001

	Online (manage finances online)	Online (don't manage finances online)	Offline
Age	56	58	64
Income	$200,000	$180,000	$180,000
Investable assets	$6 million	$10 million	$10 million
Online tenure (years)	3.8	2.8	–
Soloist*	39%	20%	31%

*Note: *soloists are the most self-directed of all affluent investors; they make and implement their own finance management decisions*
Source: Forrester Research, July 2001

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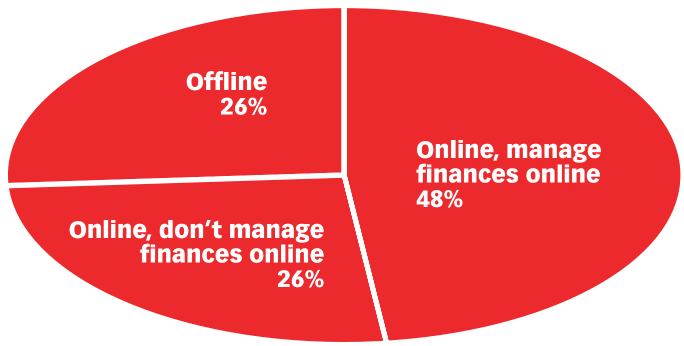
In the same Forrester report, "Half the Affluent Manage Their Money Online," affluent households are defined as those with at least $1 million in investable assets. By that light, 48% of the affluent manage their finances online.

Percent of Affluent Consumers Who Manage Their Finances Online, 2001 (as a % of affluent consumers)



Source: Forrester Research, July 2001

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Besides money itself, two core attributes that make this group attractive to bankers are their willingness to do more business with their bank and their openness to learning what their bank can do for them online. "Active web [banking customers] generally represent wealthy, satisfied customers who are interested in learning more about what their bank can provide in terms of financial products and online functionality," according to *Bank Systems & Technology* magazine.

"[Banks] have been serving wealthy customers for some time, of course, but they've never gone below a certain [income] benchmark. Banks are recognizing that a lot of people who don't get over that line have tremendous potential to create business."

– Michael Touhey, president of the Market Solutions and Products Group, Metavante (a financial services technology company)

As reported in *American Banker*, among the technologies being explored to service the affluent are account aggregation tools, which consolidate a customer's total financial picture on one website, and online financial advice engines, which offer investment recommendations based on a client's risk profile and financial goals.

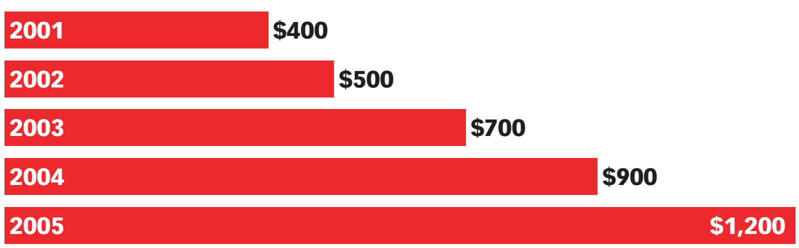
Affluent customers want advice and planning. As discussed in the "What Bank Customers Want" section above, technology underpins the cost-effective ability to provide professional financial advice to consumers with less than $1 million to invest. "Technology is a major reason that targeting this market…has become economically feasible in the first place," according to *American Banker*. "The goal is to provide personalized advice to customers who cannot afford to have it delivered the traditional way—through other human beings."

"Aggregation as a foundation for financial advice is absolutely where it's headed. Advice is the killer app for aggregation."

– Shaw Lively, analyst, IDC

Spending on such technology online help is expected to rise, according to Celent Communications. The Boston-based research firm predicts that worldwide IT spending on what it calls "online wealth management" will grow from $400 million at the end of 2001 to $1.2 billion by 2005.

Wealth Management IT Spending Worldwide, 2001-2005 (in millions)



Source: Celent Communications, 2001; Bank Technology News, February 2002

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"A new audience for technology-supported financial planning is emerging," according to *Bank Technology News*. "Consumers are indeed getting more comfortable with using technology to manage their finances, and at the same time they are seeking sound advice to preserve and grow their portfolios."

Celent points to a growing class of "mass affluent" consumers, with between $100,000 and $1 million to invest, "who are looking for the kinds of personal financial advisory services usually reserved for wealthier investors," reports *BTN*. The company believes that "financial institutions will begin to aim more advanced financial advisory tools—administered by human advisers as well as directly to consumers online—to target this wider, albeit less lucrative segment of mass affluent clients."

"That's where we're making the most headway—in personal delivery with high-tech backup. I like the conversation with my adviser, but I like him to have the coolest tools."

– Barry Murphy, executive vice president, American Express Financial Advisors

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Celent expects that by 2005, there will be close to 50% penetration for online tools for advisers in collaboration with clients.

In concert with the IT spending worldwide, Celent projects that the fee revenues for wealth management by US financial institutions will rise from $205 billion in 2001 to $305 billion by 2005.

Wealth Management Fee Revenues by US Financial Institutions, 2000-2005 (in billions and as a % increase vs. prior year)

Note: $ figures interpreted by eMarketer and % increase calculated by eMarketer
Source: Celent Communications, November 2001; eMarketer, April 2002

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Regarding account aggregation, you'll find more in the section below on the topic. Its application for affluent customers is best when combined with the human touch. "American Express has found that technology works best as an aid to its more than 10,000 financial advisers," reports *American Banker*. "For instance, during their visits with clients, Amex advisers can call upon software that analyzes equities held in mutual funds and whether any concentrations pose risks."

In that mixed use, advice becomes a cross-channel endeavor.

"Some people are very comfortable beginning, continuing and completing an online advice session. Some are not. It's not online versus call center; it's a combination of access."

– Ray Martin, president, CitiStreet Advisors

"Banks are finding that online financial planning tools enable advisers to provide consistent, reliable advice to more customers. When used in retirement plan administration, these tools can also enable advisers to run through what-if scenarios demonstrating the value of increasing savings rates or altering portfolio risk while the customer is still on the phone," according to *American Banker*.

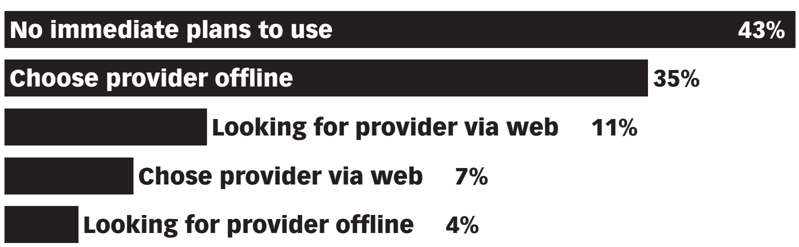
"CitiStreet said that since it started offering both online and call-center advice, investors have increased their retirement-plan contributions from an average of 2.7% to 6.8% of income. When participants spoke with an adviser using the company's Financial Engines platform, 70% made changes to their investment plan. And about 10% to 25% of plan participants use the internet to access account data at least once a year."

Leveraging aggregation as a tool for affluent customers is still up in the air. The Chicago-based Spectrem Group, a consulting firm that specializes in the affluent and retirement markets, found that only 10% of high-net-worth online households use aggregation. That figure falls to 5% among individuals with between $100,000 to $500,000 to invest. "To be sure," reports *American Banker*, "the very newness of aggregation has a lot to do with its low penetration rates.

How much affluent US residents are open to online financial planning services is open to debate. When the group surveyed is professionals from the so-called Gen-X demographic (25-to-34 year olds), 43% have no immediate plans to do financial planning and 35% would choose a provider offline. So much for the younger generation's familiarity with the internet.

Those younger professionals looking to use the web for financial planning were only 11% of respondents, and those who would choose a provider via the web an even-more paltry 7%.

US Affluent Gen-X* Professionals' Adoption of Financial Planning Services, 2002



Note: 25-34 year-olds
Source: Celent Communications, April 2002

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It's clear that banks need to elucidate what the payback of online and interactive financial planning might be, and who those benefits would most benefit.

Looking further at financial planning and high-income professionals, Columbus, OH-based Nationwide Financial Services surveyed 500 people with annual household incomes greater than $150,000. This time respondents were not limited to a single generation, but were younger than age 60 and were either engaged in financial planning or intending to be involved in it in the near future.

The main financial planning these professionals do is researching specific investments, true for 81% of respondents in 2002, up from 2001's 74% figure. General research on financial, retirement and estate planning—a focus for banks—is an activity among 51% of the group surveyed.

Online Financial Planning Activities Done by US High-Income* Professionals, 2001 & 2002 (as a % of respondents)

	2001	2002
Researching specific investments	74%	81%
Tracking your investment portfolio	55%	54%
Doing general research on financial planning, retirement and estate planning	53%	51%
Performing stock or other investment trades	45%	46%
Opening investment or brokerage account	34%	38%
Using a financial planning site to estimate your financial planning needs	23%	28%
Communicating with your financial advisor	20%	24%
Purchasing an insurance product	6%	9%

*Note: *household incomes greater than $150,000/year*
Source: Nationwide Financial Services, Inc., 2002; CyberAtlas, July 2002

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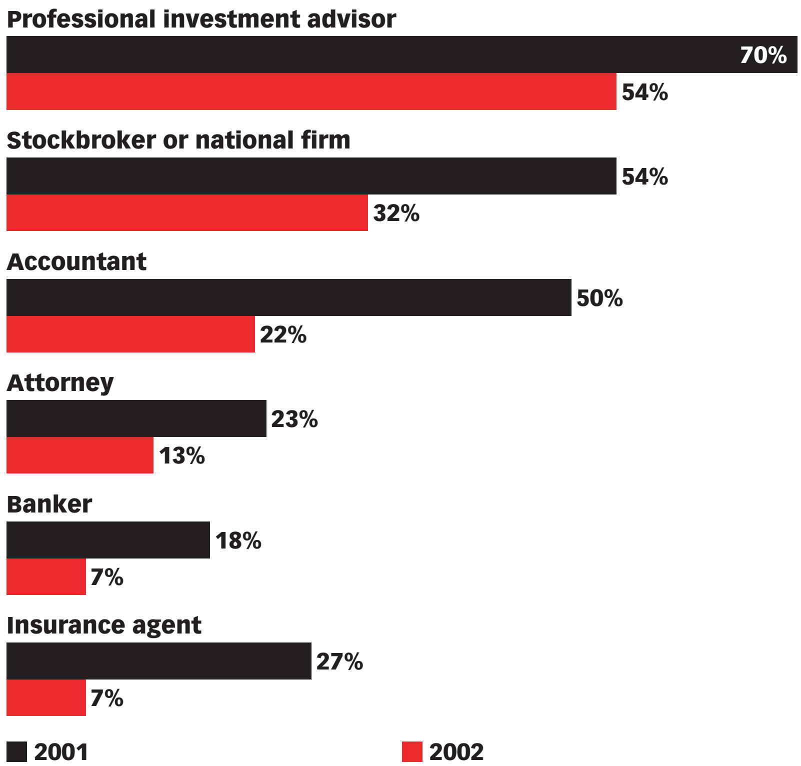
When these well-to-do professionals seek financial planning help, their first thought is not a banker (at only 7% in 2002) but an investment advisor (at 54%). This indicates that banks should consider approaching the affluent not as bankers, per se, but through other divisions within the institution that are devoted to professional financial planning.

Sources of Financial Planning Help Used by US High-Income* Professionals, 2001 & 2002 (as a % of respondents)



*Note: *household incomes greater than $150,000/year*
Source: Nationwide Financial Services, Inc., 2002; CyberAtlas, July 2002

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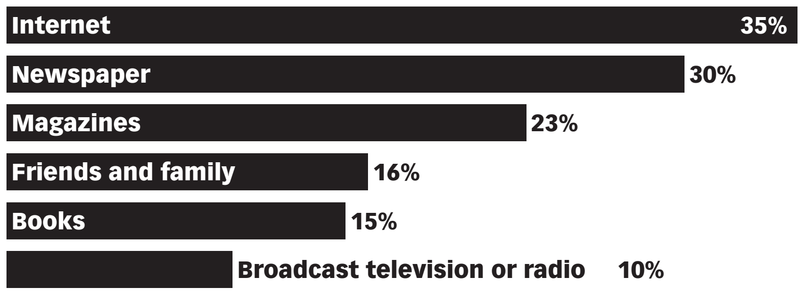
Those other divisions within a banking organization could readily deal with the affluent through the internet, because more than any other source, that's where this group goes for independent financial research.

Sources Used for Independent Financial Research among US High-Income* Professionals, 2002 (as a % of respondents)



*Note: *household incomes greater than $150,000/year*
Source: Nationwide Financial Services, Inc., 2002; CyberAtlas, July 2002

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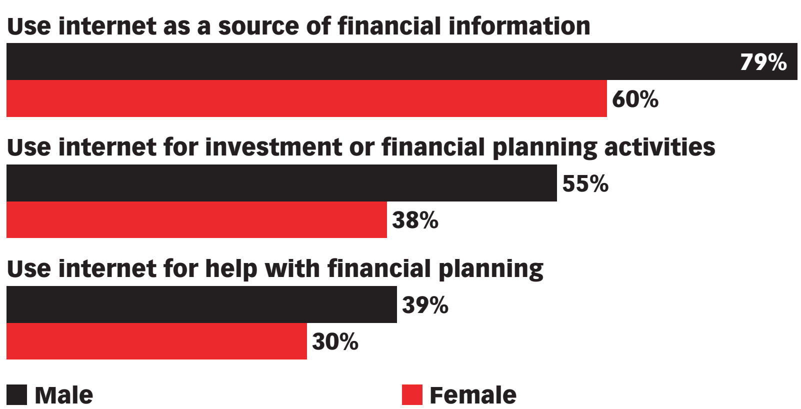
And, just as a backup to earlier demographic data—which shows more males than females going online—the Nationwide survey points to the predominance of males using the internet for various financial planning activities.

Online Financial Planning among US High-Income* Professionals, by Gender, 2002 (as a % of respondents)



*Note: *household incomes greater than $150,000/year*
Source: Nationwide Financial Services, Inc., 2002; CyberAtlas, July 2002

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F. Small-Business Market

Up until recently, the small-business market found itself betwixt and between when it came to online banking. Banks targeted most online services either for consumers (too basic for most business needs) or for corporations (whose treasury management needs are generally too complicated, cumbersome, and costly for most small businesses). Yet in the offline channel, the small-business market tends to be a prime and generally highly profitable customer segment.

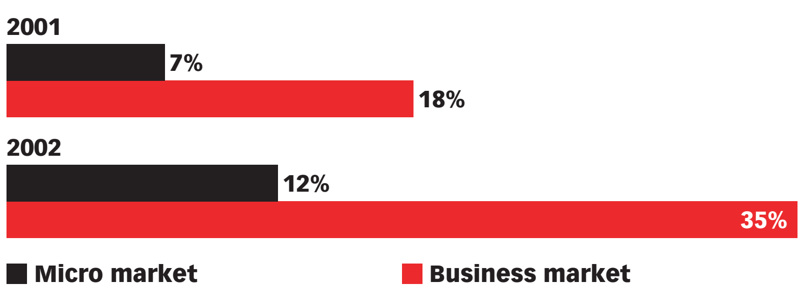
Let's start, then, with the Small Business Administration's most common maximum "size standards" that define a small business for most government agencies:

- 100 employees for all wholesale trade industries
- 500 employees for most manufacturing and mining industries
- $0.75 million average annual revenues for most agricultural industries
- $6 million annual average revenues for most retail and service industries
- $12 million annual average revenues for all special trade contractors
- $28.5 million annual average revenues for most general & heavy construction industries

The SBA term "size standard" describes the numerical definition of a small business. In other words, a business is considered "small" if it meets or is below an established "size standard." By the SBA designation, then, most of the micro-market firms listed in the Informa Research Services chart below are within the revenue limit, while only some of the business-market companies would be considered small businesses.

In either case, these are targets for many banks. And the more lucrative business market tends to use online banking, jumping from 18% in 2001 to 35% of the responding companies in 2002.

US Micro Market and Business Market Companies' Usage of Online Banking, 2001 & 2002 (as a % of respondents)



Note: Micro market companies are defined as businesses with annual revenue between $50,000 and $999,999, while business market companies are those with annual revenue between $1,000,000 and $19,999,999
Source: Informa Research Services, May 2002

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That research tends to corroborate what *American Banker* wrote in June 2002: "Adoption of internet banking by small businesses trails adoption by consumers and larger corporate customers, in part because some sole proprietorships and home-office workers have relied on personal accounts rather than business accounts, and in part because of a lag in computer reliance in some segments of the market. But new research findings and a spot check of several institutions seem to indicate that growth is starting to improve."

"Usage is up significantly. We're not making anyone do it. They are seeking it out and liking what they find."

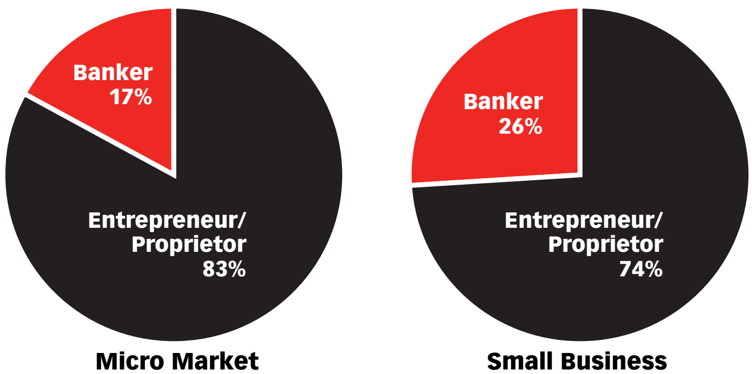
–Thomas J. Nist, senior vice president, PNC Financial's business bank

In fact, though, that reliance on personal accounts by small-business operators can lead them to their bank's business services. "Often, entrepreneurs who have had good experiences with internet banking for their personal accounts will decide to do more of their business banking electronically," according to *American Banker*. Wachovia, for example, estimates that 70% of its small-business customers are in the SOHO (small office or home office) and "emerging business" segments (less than $2 million in sales).

If growth is up, that might not be entirely due to banking's efforts. A study last year from Informa for the Consumer Bankers Association, a retail banking lobbying group, shows that when new products are purchased, it's the small business that initiates the contact nearly 3 out of 4 times. For the micro-business market, that 26% banker-initiated figure drops even further to only 17% institution-initiated.

Why banks make these potentially profitable customers come and get it, rather than approach them, is sometimes baffling. A recent mystery-shopper style article in *American Banker*, where the writer approached several banks as a small-business operator looking to open an account and was too often given minimal help, concurs with this data.

Entity Initiating Sales Contact When Micro Market and Small Businesses Purchase Additional Bank Products, 2001



Source: Informa Research Services/Consumer Bankers Association, 2001

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Some small-business customers eschew internet banking because they require certain services that, until recently, were not available online (except, perhaps, to corporate customers). For instance, the ability to look up a check image online is one typical business task that banks are making available to their small-business customers.

The main online services banks in North and South America offer to small businesses are EBPP (at 55%), payroll processing (at 42%) and insurance products (at 40%), according to Speer & Associates, an Atlanta-based financial-services consulting firm.

Services Offered via North and South American Banks' Small Business Portals, 2001

Source: Speer & Associates, 2001

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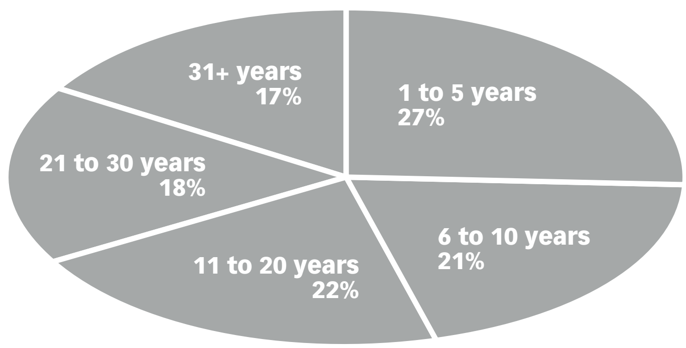
With electronic bill paying the most common service, a look at the chart below from Barlow Research Associates—which shows how likely a small business is to take advantage of such a service based on the age of the company—points to a demographic parallel: just as younger adults are more likely to go online than older ones, so are younger small businesses more likely to use online banking services (such as e-billing) than older ones.

For example, while 27% of US small businesses that have been around for five years or less pay bills electronically, that's true for only 18% that are between 21 and 30 years old.

US Small Businesses that Pay Bills Electronically, by Age of Company, 2002 (as a % of respondents)



Note: electronic bill paying includes by computer, telephone, wire, EDI and ACH
Source: Barlow Research Associates, 2002; American Banker, May 2002

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According to the *ABA Banking Journal*, it appears that community banks might be in the lead over their larger competition in offering online services to small businesses. Such essential services include cash management at 81.8% of respondents, wire transfers at 73.0% and check images at 39.6%. (Read more on small businesses and small banks in the "Community Banks" chapter below.)

Special Online Services Offered to Small-Business Customers by US Community Banks, 2001 (as a % of respondents)

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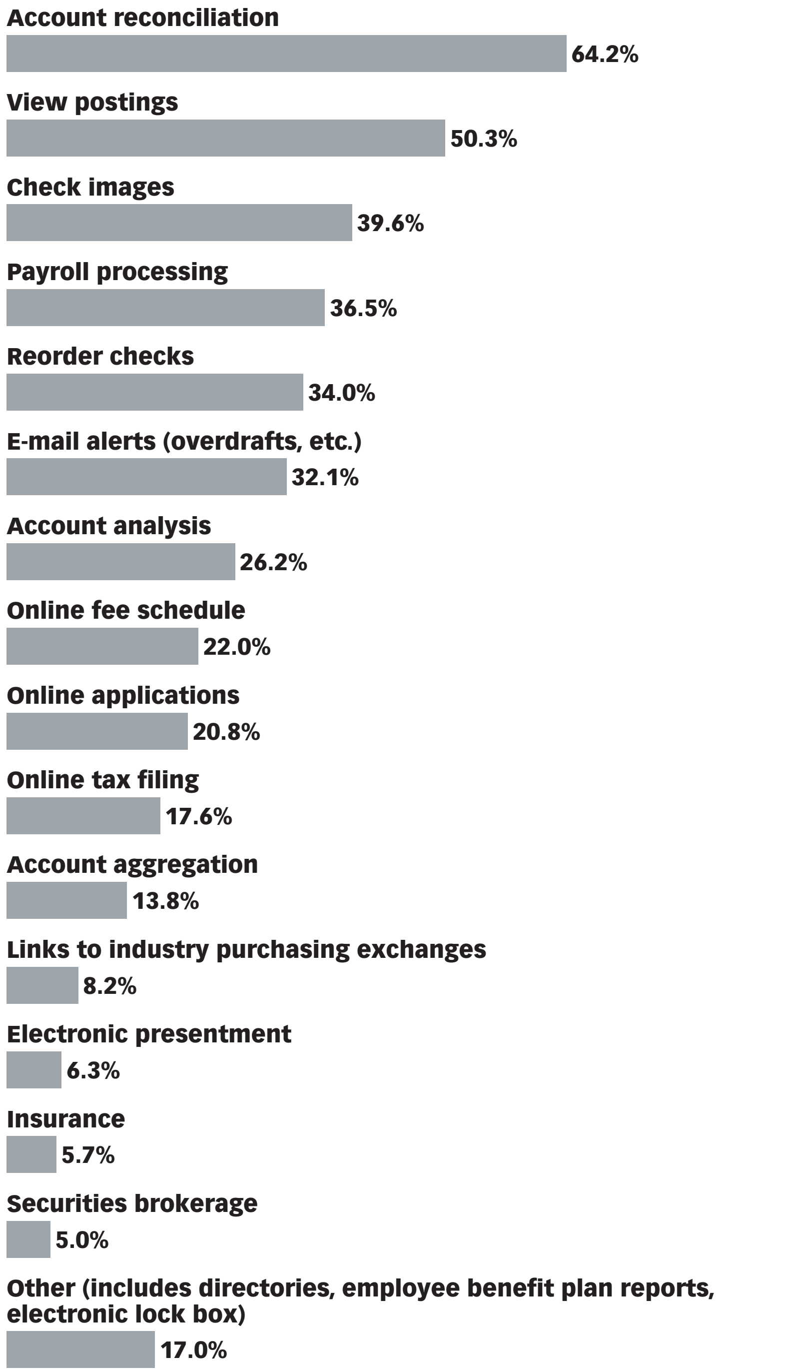

Source: ABA Banking Journal, March 2002

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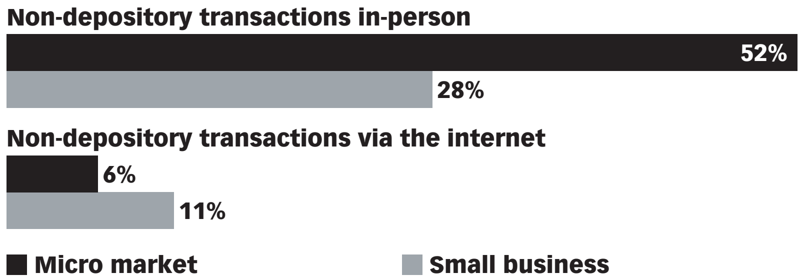
It's just these kinds of non-depository tasks that banks would like to gravitate to the internet. But as of last year, only 11% of small businesses made these kinds of transactions online.

Use of Online Banking for Non-Depository Transactions among US Micro Market and Small Businesses, 2001



Note: Micro market=<$1M annual sales. Small businesses= up to $10M annual sales.
Source: Informa Research Services/Consumer Bankers Association, 2001

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One institution that appears to understand the small-business market is Wells Fargo. As of September 2001, the San Francisco-based bank's online penetration rate among small-business customers hit 17%, with about 3,000 to 4,000 customers signing up weekly. "Between the first and second quarter of [2001], Wells' small-business customer base for web banking grew 168%," according to *American Banker*, "helping it to far exceed the projections it made when it launched its Business Internet Services unit last year."

Then, in August 2002, Wells "launched a service that lets [small-business customers] manage accounts for different business entities in one online session," reported *American Banker*. By allowing access to up to 10 accounts per business by any number of employees with different access levels, a small business that operates several units in a franchise, for example, could handle various procedures. "Such functions, common in corporate cash management systems, are only now becoming available to small businesses." In fact, Speer & Associates ranked the small-business services from Wells number one among those of 107 banks in the United States, Canada and Latin America.

The snowballing of multiple services across multiple channels to multiple customer bases is forcing the banking industry to alter its long-standing customs of "viewing the world through the prism of geographies and products," as Cap Gemini Ernst & Young put it in "Paths to Differentiation: 2001 Special Report on the Financial Services Industry." Instead, banks need to focus primarily on their customer's experiences.

"This point of view applies no matter which path a company chooses to take—whether it chooses the role of a relationship manager and orchestrator of customer experiences, or that of a producer of a product or service, or both," according to Cap Gemini, creating what the firm calls "a revolutionary mind shift."

To make that shift is far from easy, especially in an occasionally hidebound (call it traditional) industry like banking. From alternative electronic channels such as ATMs and automated phone systems to online services such as account aggregation and EBPP, the banking mantra—in the best of all possible worlds—would sound like the old Simon & Garfunkel song: "Keep the Customer Satisfied."

And across those multiple channels, one secret to satisfied customers is seamless service. "Customers expect that if they have made a payment through the ATM, the transaction will immediately be acknowledged by the call center or the website," writes Cap Gemini.

A. Keep the Customer Satisfied: CRM and Beyond

Whether defined as customer service or customer relationship management (CRM), whether the customer is the true focus or the bank's needs come first, the industry is challenged by the need to cross channels and merge the experience for their customers.

However, according to Forrester Research, 63% of financial firms identified deficient channel synchronization as their main obstacle to successful CRM.

That lack of channel harmony typically leaves customers with a disjointed experience. Say about an hour ago you went online to transfer money from your savings to your checking account. Now you contact your bank's call center about a related matter. You would expect them to know about the internet-initiated transfer—but they might not.

Forrester's numbers back up that frustration. Are branch employees aware of product offers being made to customers online? Not according to 68% of financial services companies. Can call center representatives help customers pay a bill or make a trade over the internet? Not according to 76% of companies.

The problem lies in how more than 60% of the institutions Forrester surveyed have more than five customer channels, but fewer than 10% of the firms synchronized those channels. According to *Bank Technology*

News, "While cross-selling is another area where banks have long stood to make a potential profit from online delivery, many banks still don't have their CRM and back-end systems tied in effectively with their online channel."

Is this any way to run either customer service or a CRM campaign? The results, as you might imagine, are not pretty: more transactions, fewer satisfied customers, higher support costs, lower successful cross-marketing, overspending on disparate in-house projects and lost opportunities.

"Banks need to do a great deal to drive down the cost of each interaction with a customer. Personal interactions are very high-cost interactions. Many of the calls that come into a call center are address changes, product information and balance inquiries."

– John Weisel, financial services manager, Accenture

And make no mistake about it—bank spending on CRM is greater than by any other industry. In a recent report, "CRM for Financial Services," Celent Communications predicts that the top 100 banks worldwide will spend approximately $2.2 billion on CRM technology by the end of 2002, increasing to $3.5 billion by 2005, translating to a 59% growth rate.

From the perspective of last September, Jupiter Media Metrix expected even higher CRM spending in financial services, ranging from $3.6 billion in 2002 to $5.4 billion by 2006, and this in the US alone. More so than the absolute dollars, note how financial services outspends the other four specific industries listed in any of the years shown.

CRM Spending in the US, by Sector, 2001-2006 (in billions)

	2001	2002	2003	2004	2005	2006
Financial services	$3.1	$3.6	$4.1	$4.5	$4.9	$5.4
Health	$1.0	$1.2	$1.4	$1.5	$1.7	$1.9
High tech	$1.5	$1.6	$1.8	$1.9	$2.0	$2.1
Retail	$1.7	$2.0	$2.3	$2.6	$2.9	$3.2
Telecommunications	$1.9	$2.1	$2.4	$2.5	$2.7	$2.9
Other	$0.7	$0.8	$0.9	$0.9	$1.0	$1.1
Total	**$9.9**	**$11.3**	**$12.9**	**$13.9**	**$15.2**	**$16.6**

Note: Figures for spending by firms with 500+ employees
Source: Jupiter Media Metrix, Inc., September 2001

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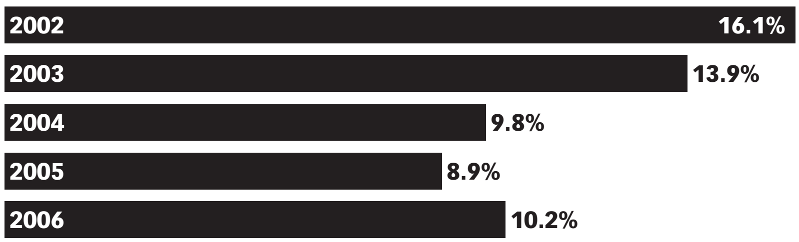
While Jupiter's spending figures are higher than Celent's (since it also includes brokerage firms and insurance companies), its growth rate is lower. The chart below indicates those annual increases. And if you compare 2002 to 2005 growth, as in Celent's 59% figure above, the same time span from Jupiter translates to a 36% growth rate.

CRM Spending by US Financial-Service Firms, 2002-2006 (as a % increase vs. prior year)



Note: Figures for spending by firms with 500+ employees
Source: Jupiter Media Metrix, Inc., September 2001

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Another area for customer-oriented spending is web self-service—forcing customers to search for online FAQs and other help instead of them ringing up call centers or strolling to the neighborhood branch. According to Meridien Research, the 500 largest financial services firms will basically triple their spending on web self-service applications, rising from $33.9 million in 2001 to $99.8 million in 2004, a 194% gain.

If consumers take advantage of the internet for self-service, banks stand to save large amounts of money. Will consumers do that? What's in it for them? How can banks sweeten the pot?

Spending on Web Self-Service Applications by the 500 Largest Financial Services Institutions Worldwide, 2001 & 2004 (in millions)

Source: Meridien Research, February 2002

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Despite these large sums of money being spent by financial services on CRM, internet self-service and other customer-focused programs, Celent believes that "banks…fail to make good use of customer information to maximize profitability and ensure customer satisfaction." The company's research "indicates that only a handful of financial institutions have an enterprise CRM strategy in place."

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Are the channels talking?

The banking industry has a term for the different divisions within an institution—the retail branch side, the credit-card unit, the online banking division, et cetera. It calls those parts the "silos," which presents an image of tall structures standing separately on the horizon.

Celent writes that "many CRM technology silos do not take into account the various departments at banks.... In addition, there is a lack of integration between front-end systems in direct contact with the consumer and the back end. The result is disconnected CRM implementations, with no uniform view of the customer's holdings and interactions across the institution's business lines."

"The customer wants to have a single view of the bank, just as the bank wants to have a single view of the customer. The customer service rep in the call center should know that I've complained about having to pay a $2 fee for some service in the branch; they should know that's an outstanding issue for me."

– Jerry Silva, analyst, TowerGroup

Bankers are awakening to how they must reposition CRM endeavors. When Forrester Research and BAI surveyed 165 retail banking executives this past April, the top three priorities cited all connect: retaining existing customers, acquiring new ones and CRM, the tool that can serve as the foundation for the first two items.

US Retail Banking Priorities, 2002 (on a scale of 1-5*)

*Note: n=165 banking executives; *1=low priority and 5=high priority*
Source: Forrester Research/Bank Administration Institute (BAI), April 2002

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When those same priorities are viewed by executive position, possible struggles within an institution come to light. Take CRM, given a 4-plus priority score from all types except for internet executives. They rank expense and cost reduction second, at 4.0, pointing to the pressures of making the web pay off.

US Retail Banking Priorities, by Executive Position, 2001 (on a scale of 1-5*)

	Executive management	Internet executives	Technology executives	Business executives
Existing customer retention	4.6	4.7	4.6	4.6
New customer acquisition	4.2	3.7	3.9	4.3
CRM	4.1	3.9	4.1	4.2
Expense/cost reduction	3.6	4.0	3.8	4.1
Cross-channel integration	3.7	3.5	3.6	3.6
Development of web-based services	3.5	3.7	3.4	3.5
New product development	3.6	3.0	3.3	3.5
Distribution channel development	3.7	3.2	3.4	3.2
Merger-related platform migration	1.8	2.3	2.5	2.2

*Note: n=165 banking executives; *1=low priority and 5=high priority*
Source: Forrester Research/Bank Administration Institute (BAI), April 2002

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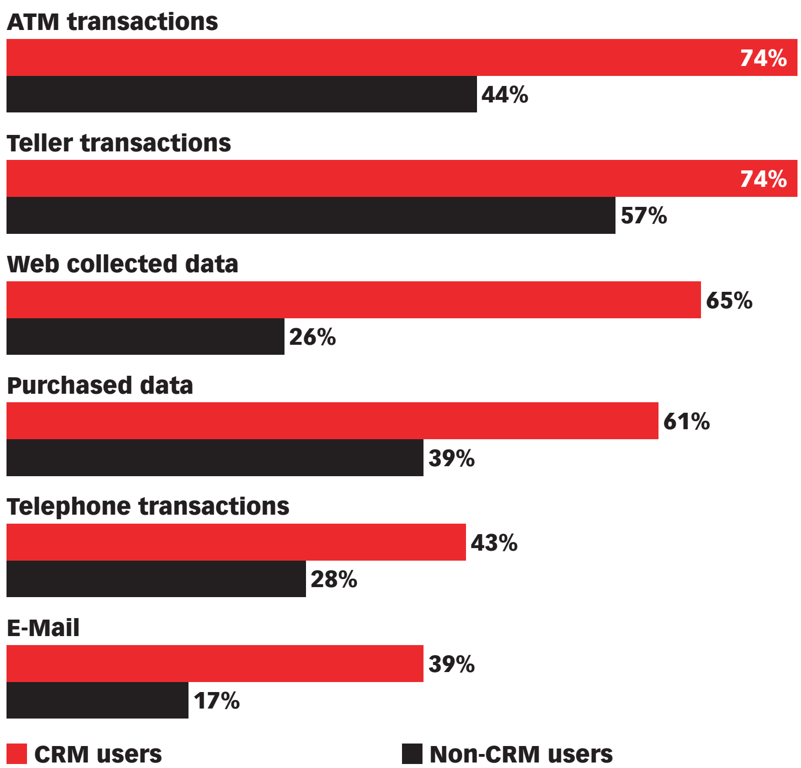
The variety of collection techniques US financial institutions use to gather customer information contributes to the silo situation, according to research from Sedona Corporation, a King of Prussia, PA-based supplier of CRM products. Among small and mid-sized firms that employ CRM applications, 74% say the customer data comes from transactions with both tellers and ATMs, while only 43% derives from telephone transactions. Meanwhile, 65% of respondents collect data off the web. Considering the potential ease of tracking data off a bank's website, that figure seems shortsighted.

Collection Techniques Used by US Financial Institutions to Gather Customer Information, 2002 (as a % of respondents using CRM vs. those not using CRM)



Note: based on survey of 77 small to mid-sized financial institutions
Source: Sedona Corporation, February 2002

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The same Sedona survey shows customer satisfaction as the number one measure of CRM success, according to 100% of respondents. That seems like a soft metric—how can you tell if a customer is satisfied?

Almost as important in measuring CRM success is customer retention (really the ultimate measure of satisfaction) at 92% and customer attrition (or the lack of it, the opposite of retention) at 77%.

Measures Used by US Financial Institutions to Track the Success of Their CRM System, 2002 (as a % of respondents)

Customer satisfaction	100%
Customer retention	92%
Customer attrition	77%
Customer profitability	55%
Lifetime value	53%
ROI by customer segment	47%
Revenue per employee	18%

Note: based on survey of 77 small to mid-sized financial institutions; combined respondents with CRM and non-CRM users
Source: Sedona Corporation, February 2002

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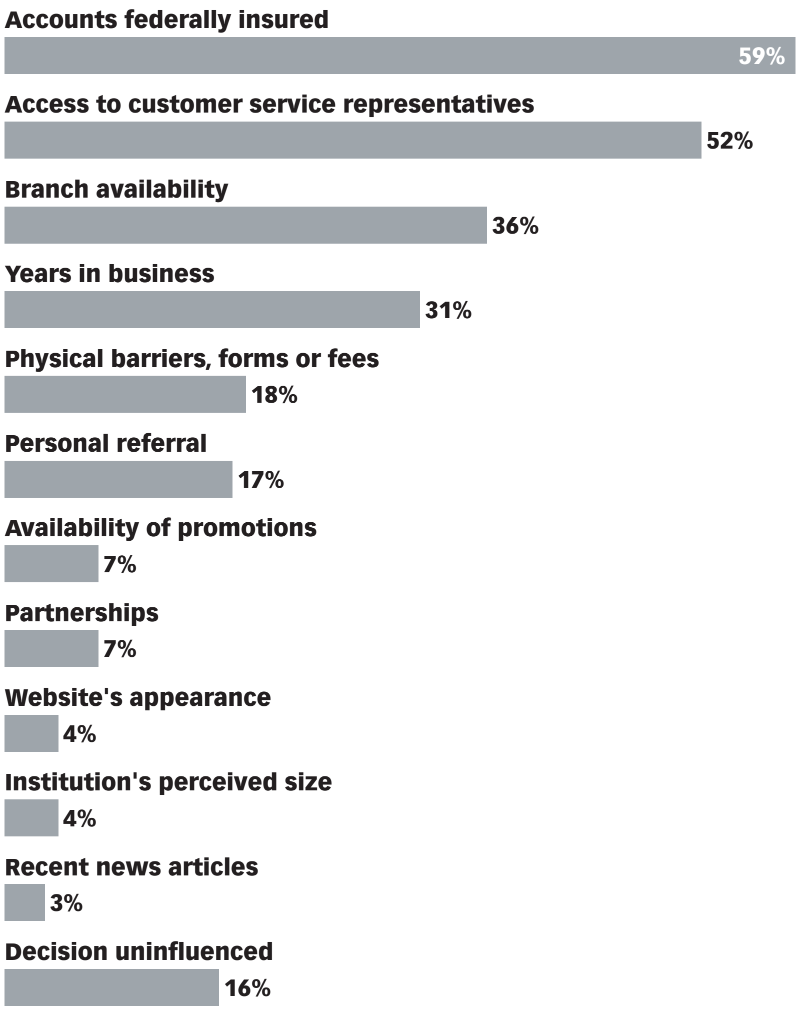
With all that money spent on CRM and related technologies, it's good to keep in mind the criteria US online users apply when selecting a financial service provider. Research from Jupiter Media Metrix lists accounts being federally insured as the most decisive factor, with 59% of respondents. That point to the primacy of bank accounts over brokerage accounts.

But nearly as important, at 52%, is access to customer service representatives. An internet banking website that fails to make such cross-channel backup easily found is even less desirable among online users than branch availability.

US Consumers' Criteria for Selecting a Financial Service Provider, 2001



Source: Jupiter Media Metrix, Inc., April 2001

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Perhaps one reason that access (typically a phone call) to customer service reps is an important criterion for consumers is the low-level of customer service found online. Earlier this year, when Celent Communications staff posed as mystery shoppers to initiate several queries at the websites of the top 100 US banks, brokerages and insurance companies, they found more problems than pleasures.

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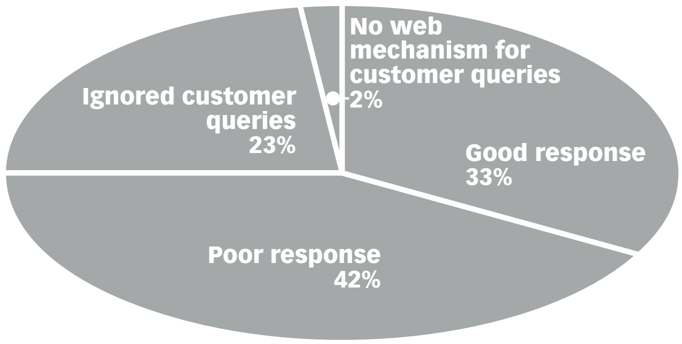
While 33% of the surveyed websites gave good responses, 42% offered poor ones. Perhaps worse than poor customer service, 23% of the financial websites simply ignored the customer queries, and 2% didn't even allow web-based customer inquires.

Is this any way to run an online business?

Online Customer Service among US Financial Institutions, 2002 (as a % of websites surveyed)



Note: Responses were categorized as good if they were informative and engaging; poor responses contained limited information or had technical glitches
Source: Celent Communications, April 2002

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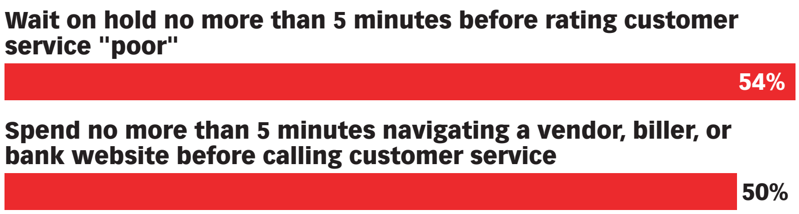
And yet well done website customer service will, in the end, cost less than indifferent service. That's because US consumers are an impatient lot, and 50% of them surveyed last year by Mobius, a New York-based web-management software firm, will spend no more than five minutes navigating a bank website before calling customer service. And call-center help is more costly than the web-based variety.

US Consumer Experience with Customer Service, 2001 (as a % of respondents)



Source: Mobius, January 2002

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Perhaps banks now better understand that the move to online banking is not just for transactions but also for making cross-channel banking work well and less expensively. Part of multi-channel success for the online side is customer service. According to the Forrester/BAI survey, the highest-ranked website development priority for 2002 is enhancing customer service functionality.

US Banking Website Development Priorities, 2002 (on a scale of 1-5*)

Enhance customer service functionality	3.9
Improve site content	3.7
Improve site design and navigation	3.5
Add online product applications	3.5
Develop targeted marketing message capability	3.3
Deliver internal bills and statements online	3.2

*Note: n=165 banking executives; *1=low priority and 5=high priority*
Source: Forrester Research/Bank Administration Institute (BAI), April 2002

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A related chart from Forrester/BAI on existing website priorities links three related concerns as the top-three items mentioned: retaining existing customers, broadening relationships with those customers and improving customer satisfaction. It seems those three items overlap substantially, since a more satisfied customer is likely to be loyal and to buy more services and products.

Which comes first: the happy customer or the increased sales?

US Banking Website Priorities, 2002 (on a scale of 1-5*)

Retain existing customers	4.5
Broaden relationship with existing customers	4.3
Improve customer satisfaction	4.3
Offer an easy-to-use site	4.2
Create a multichannel customer experience	3.8
Grow website traffic	3.7

*Note: n=165 banking executives; *1=low priority and 5=high priority*
Source: Forrester Research/Bank Administration Institute (BAI), April 2002

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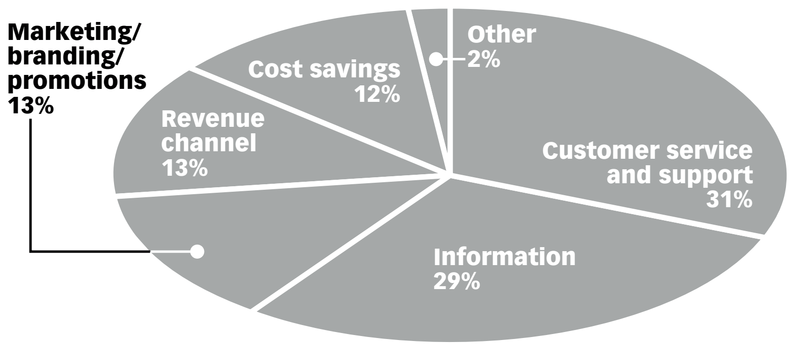
Research this July from the Yankee Group found that 31% of financial-service firms believe that customer service and support is the primary driver for their websites, with information (often its subset) as the next-ranked driver, at 29%.

Primary Drivers for US Financial Services Websites, 2002 (as a % of respondents)



Source: Yankee Group, July 2002

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And make no mistake about it—poor customer service is a great way to lose customers. In a survey by Mobius earlier this year, the two most dropped services when help is poor are both financial related: credit card accounts and bank accounts.

US Consumers Who Have Dropped Selected Services Due to Poor Customer Service, 2001 (as a % of respondents)

Source: Mobius, January 2002

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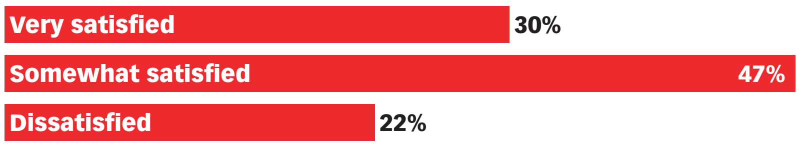
This litany of inferior customer service from financial institutions is a sad tale, made sadder because the internet offers banks an easier way to support their customers. One fast, simple and sometimes-automated customer service technique is e-mail. And from a survey by Synergistics Research done last year, e-mail might be a better interactive tool for customer-service satisfaction than the web.

While 22% of respondents claimed to be dissatisfied with e-mail responses from their financial service providers, 30% were very satisfied.

US Customer Satisfaction with E-Mail Responses from Their Financial Service Providers, 2001



Note: based on respondents who sent at least one e-mail to their bank
Source: Synergistics Research Corp., May 2001; BAI Banking Strategies, July/August 2002

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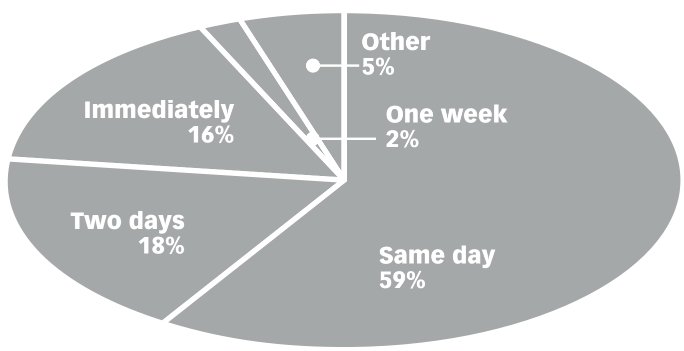
Contributing to customer satisfaction is speed, which—when companies have their e-mail systems set up correctly—is easy enough to achieve. While customer expectations for immediate response, at 16% of those surveyed, may be too much to ask, the 59% who expect same-day replies should be the target for most queries.

US Customer Expectations for E-Mail Response Time from Their Financial Service Providers, 2001 (as a % of respondents)



Note: n=846 PC users
Source: Synergistics Research Corp., May 2001; BAI Banking Strategies, July/August 2002

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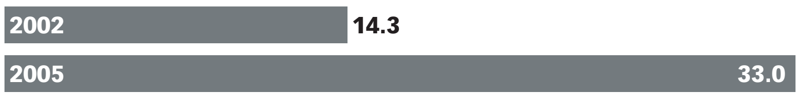
In order to meet those same-day expectations, banks need to deal with a growing flood of e-mails. According to Meridien Research, by 2005 US banks will receive 33.0 million e-mails, substantially more than double 2002's figure.

Volume of E-Mail Received by US Banks, 2002 & 2005 (in millions of messages)



Source: Meridien Research, 2002; BAI Banking Strategies, July/August 2002

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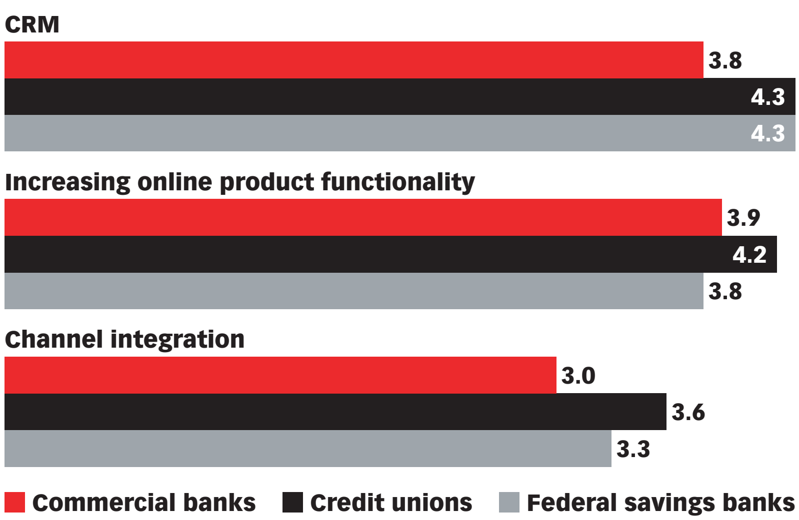
Banks need to position CRM campaigns—as well as garden-variety customer service—not as a cross-selling effort, even if they use it that way.

That smaller financial-service institutions such as credit unions and savings banks—which tend to have better customer relationships than larger firms—rank CRM as a higher priority than do commercial banks perhaps points to an understanding of how to use these technology tools. In the smaller institutions' need to compete with the larger ones, the customer must come first—that's their differentiating factor in many cases.

US Bank Technology Priorities, by Type of Bank, 2002 (on a scale of 1-5*)



*Note: n=165 banking executives; *1=low priority and 5=high priority*
Source: Forrester Research/Bank Administration Institute (BAI), April 2002

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As the "Global Financial Services 2001" report from Cap Gemini Ernst & Young puts it: "It is worth emphasizing that the ultimate objective of all CRM initiatives should be to improve the overall customer experience. In this context, CRM needs to focus on human values as well as commercial values. This means that financial services organizations must not only track customer interactions, but also understand and react to their wants, needs, and behaviors, with an underlying commitment to deliver a superior customer experience.

"From this perspective, CRM is neither a technology nor an application. Rather, it is a strategy that should mobilize an entire organization toward serving customers better."

In the end, in the beginning, and all along the way, this is a question of getting the right data and using it strategically. Research from Cap Gemini and Gartner indicates that while 96% of financial institutions track product or service usage and 88% collect basic demographic data, only 57% track customer value measurements and 51% are aware of customer channel preferences. More so, only 40% of financial-service firms can see a complete view of the customer by pulling activity data across products directly from a central repository.

Why spend all this money on technology if not to serve human purposes?

Call Centers

Today's banking call centers are not just for telephone contacts—at least among banks that combine customer-contact channels. But perhaps the seemingly old-fashioned call center is a channel that's taken for granted, since not much data appears about it.

One key performance indicator for call centers is speed; the term used is "one-and-done," meaning a single phone call to a single service representative should complete whatever the transaction is. In fact, one-and-done pleases both the banks, because it's less costly that way, and the consumer, because no one wants multiple phone calls or to be passed around from rep to rep. As Cap Gemini Ernst & Young rightly observed, "In any channel or combination of channels, repetitive, fragmented, and contradictory encounters leave customers dissatisfied and, indeed, often drive them to the competition."

Or, as participants in a recent Celent Communications survey on preferred banking channels told the research firm, "They were not fond of call centers," according to *American Banker*. "Some cited being put on hold too long or frustration with phone reps who could not answer their questions."

"Anything companies can do to push customers away from the phone is a huge benefit."
–Ted Morgan, vice president, edocs

How banks gauge call center success appears to vary based on the institution's asset size, according to research from the American Bankers Association. For example, the prime metric for large banks (those with assets of $10 billion or more) is meeting or exceeding business goals (at

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80%), closely followed by meeting or exceeding call center statistics, that one-and-done criterion (at 76%).

In contrast, smaller banks (those with assets of less than $1 billion) put achieving or enhancing customer satisfaction first on their call center success list. Even mid-size banks (those with assets of between $1 billion and $10 billion) consider the customer important, more so than the largest institutions.

How US Banks Gauge Call Center Success, by Asset Size*, 2001 (as a % of financial institutions)

	Under $500	$500 to $999	$1,000 to $9,999	$10,000 or more
Meeting or exceeding business goals	33.3%	68.0%	57.1%	80.0%
Achieving or enhancing customer satisfaction	88.9%	84.0%	73.5%	60.0%
Meeting or exceeding call center statistics	51.9%	80.0%	79.6%	76.0%
Other	18.5%	4.0%	6.1%	16.0%

*Note: *asset size in millions; multiple responses allowed*
Source: American Bankers Association, July 2002

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B. ATMs

Automated teller machines are the original interactive electronic cross-channel. Since their introduction in the 1970s, these fast-cash machines have become almost as ubiquitous as fast-food franchises. For now, focus on the bottom line of the chart below, which shows that in 2001, there was one ATM per 1,150 US residents, according to research from Speer & Associates.

ATM Penetration in Selected Countries in Latin America and the US, 2001 (in number of people per ATM)

Source: Speer & Associates, 2001; Bank Technology News, January 2002

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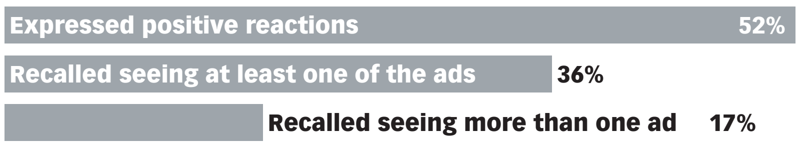
Of course, ATMs are for more than withdrawing cash, although in that role—and for making deposits—they supplement online banking very well. From the consumers' point of view, ATMs are the forerunner to internet banking, having accustomed customers to impersonal, 24/7 service.

And the fuller interactive nature of the internet has, in turn, assumedly made customers want more from the local ATM. For example, FleetBoston and PNC Financial are two banks that "plan to install ATMs that will let people customize internet home pages and do more types of transactions," according to *American Banker*. "Fleet also plans to replace or retrofit many of its ATMs. The web-enabled machines will let customers design their own welcome screens and arrange to make, say, a home equity loan payment.

"Fleet does not harbor any illusions that customers will flock to its new web-enabled ATMs to close mortgages or open deposit accounts, but the machines could one day serve as 'triggers' to make customers aware of various products or special offers." Ah yes, the ATM plays its role in the cross-channel show.

For sure, banks want more from the ATM. One area for potential profits is ads—not static things, but full-motion video. According to Triton Systems, a Long Beach, MS-based ATM manufacturer, 52% of US consumers expressed positive reactions to such advertising, accompanied by strong recall rates as well.

US Consumers Reaponses to Full-Motion Video Ads on ATMs, 2002 (as a % of respondents)



Note: n=788; results similar for men and women, older and younger respondents
Source: Triton Systems, Ogilvy & Mather, August 2001

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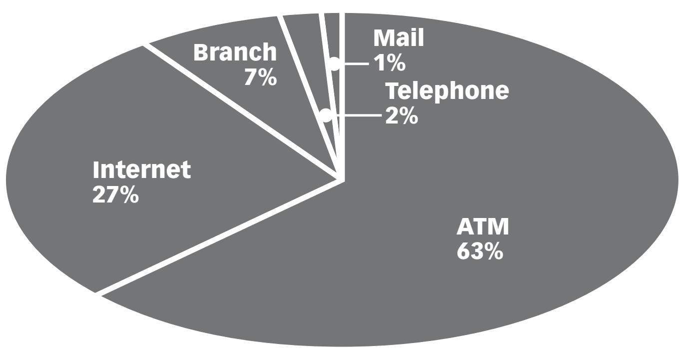
Why banks are looking to soup-up the plain-Jane ATM goes back to the channel's enormous popularity. Let's return to a chart from earlier in the report, one from Celent Communications that shows how the ATM is by far, at 63%, the channel US consumers most prefer.

US Consumers' Preferred Channels for Banking, 2002



Source: Celent Communications, July 2002

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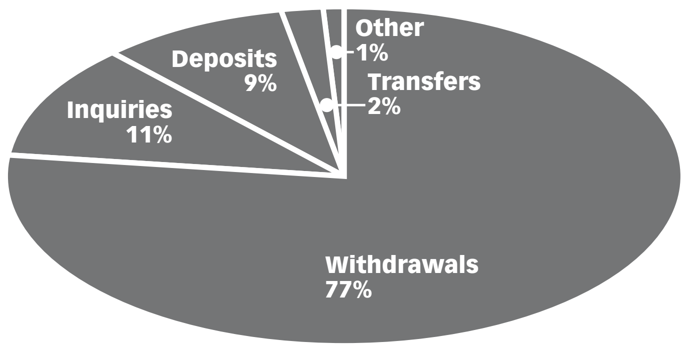
To what extent customers want the ATM to be more than a cash machine is another question. The "2002 ATM Deployer Study" by Dove Consulting showed that of all ATM transactions in 2001, cash withdrawals made up 77% of the total. And almost all of the other transactions are for the basics: balance inquiries, transfers and deposits.

Types of Transactions Taking Place at US Financial Institutions' ATMs, 2001



Source: Dove Consulting, March *2002*

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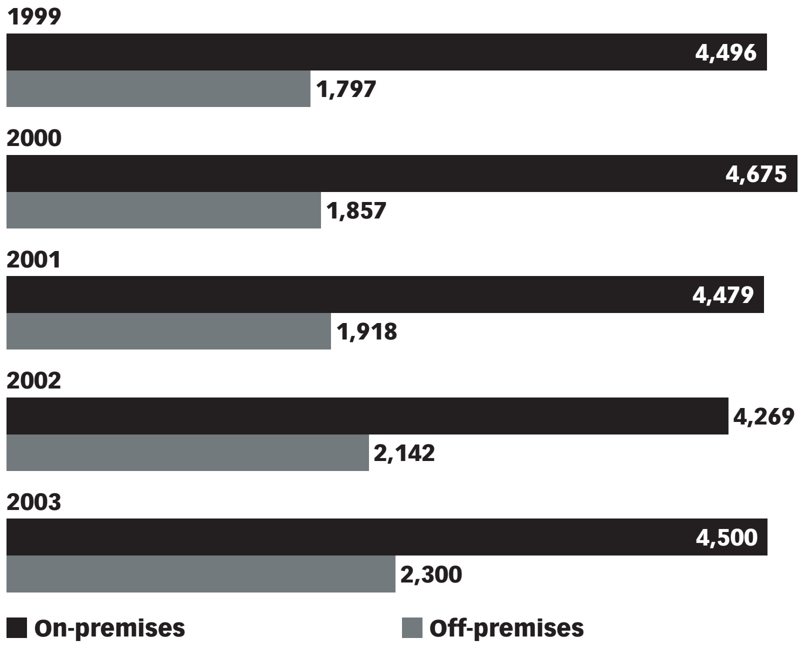
The same Dove study—whose respondents included 22 of the top 50 bank deployers, 8 of the top 10 credit union deployers and 6 of the top 10 independent sales organization (ISO) deployers—shows how consumers use on-premise ATMs more than twice as much as off-premise units. In 2002, that spread goes from an average of 4,269 transactions per ATM on-premise to 2,142 off-premise.

Average Monthly Transactions per ATM among US Financial Institutions, 1999-2003



Source: Dove Consulting, March 2002

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And when compared to other US banking channels, ATMs will become the transaction volume leader by next year, according to IDC's recent "US Online Banking Forecast and Analysis" report.

US Bank Transaction Volume, by Channel, 2001-2006 (in millions)

	2001	2002	2003	2004	2005	2006
Branch	12,606	12,675	12,745	12,815	12,885	12,956
ATM	11,929	12,502	13,102	13,731	14,390	15,081
Call center*	7,964	8,753	9,619	10,572	11,618	12,768
Internet	2,293	2,846	3,532	4,383	5,440	6,751
Other**	1,738	1,527	1,343	1,180	1,037	912
Total	**36,531**	**38,303**	**40,341**	**42,681**	**45,371**	**48,468**

*Note: *call center includes live agent and interactive voice response (IVR); **other includes back office*
Source: International Data Corporation (IDC), May 2002

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More so than the branch or the internet, the ATM offers the possibility of channel profits. The primary sources of revenue for ATM deployers are surcharge income and interchange income. Research last year from Dove Consulting revealed overall average ATM surcharge rates of $1.45 for on-premise machines and $1.48 for off-premise. Here's where the ATM's growing volume of transactions could bring income (although most transactions at a consumer's bank's own ATMs carry no surcharge).

Average US ATM Surcharge Rates, by Deployer Type, 2001

	On-premises	Off-premises
Large bank	$1.59	$1.65
Other bank	$1.47	$1.45
Large credit union	$1.36	$1.36
Other credit union	$1.23	$1.09
Large ISO*	–	$1.66
Other ISO*	–	$1.83
Overall	**$1.45**	**$1.48**

*Note: *Independent Sales Organization*
Source: Dove Consulting, March 2001

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According to Dove, other potential sources of income—such as banking services like mini-statements, non-banking services such as stamps and ticketing, and third-party advertising—produce nominal revenues for all but a few deployers. In fact, despite all fees and revenues, many deployers continue to operate their ATMs at a loss.

Dove's research indicates that in 1998, the average monthly cost to own and operate an off-premises ATM was $1,090. In 2001, it dropped to $1,016. However, once rent expenses and an allocation for back-office operations are factored in, the total cost per off-premise ATM jumps to $1,298 per month.

The extra costs for ATMs away from the bank are one reason why PNC Financial is looking to add wireless technology to its off-premise ATM mix. In July 2002, PNC "rolled out 67 wireless ATMs in nonbranch locations—such as shopping centers, railroad stations, and convenience stores—in Pittsburgh and Philadelphia, and it expects to introduce 100 more by year's end," according to *American Banker*. "Most banking companies pulled back from the off-premises ATM market a few years ago after concluding that the fee income the machines produced was not steady or high enough, and that merchants preferred to cut their own deals directly with suppliers or independent sales organizations. But PNC says that, because wireless ATMs can be installed anywhere, they are a better option for merchants than other types of machines."

About 73.5% of the 3,300 ATMs in the company's network are off-premise machines, and the current wireless effort will drive that percentage up even higher.

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C. Wireless

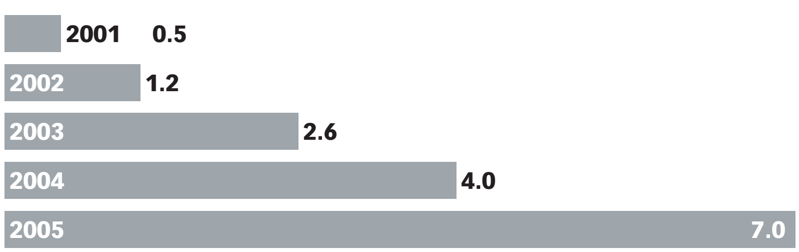
When the term "wireless" comes up in banking circles, people tend to think of it more as an alternative delivery channel for internet banking, not for ATMs. But at this stage of the game, both banks and their customers are not thinking too fondly of wireless internet banking.

In US banking's quest for all possible channels for retail delivery of products, wireless appears to offer more promise than profits. First off, with a tight economy pushing aside new technological ventures, many institutions feel a need to leave wireless banking in the lurch. With the pressure to squeeze profits from website banking, added electronic channels that cannot guarantee a rapid revenue stream are looked at skeptically.

First to hit the chopping block, according to *Bank Technology News*, have been wireless services. The trade magazine pointed to "Bank of America's recent suspension of its own retail wireless banking services as proof that banks are pulling back for the time being." For stronger evidence, a 2001 Morgan Stanley survey of Fortune 1000 companies said that 38% plan to cease wireless marketing projects. And as backup, consider how Celent Communication's recent research on wireless banking—"No Signal: North American Retail Wireless Banking and Brokerage"—reports that budgets for retail wireless financial services have nose-dived from nearly $80 million in 2000 to $20 million in 2002.

Regardless of those indications, GartnerG2 sees a steady rise among US consumers banking wirelessly—up from 1.2 million this year to 7.0 million by 2005. If true, that would make a 483% growth rate. Nevertheless, should you compare the 1.2 million figure to eMarketer's 21.2 million estimate of US online banking households for 2002, that means less than 6% of interactive banking customer do it wirelessly.

US Consumers Using Wireless Banking Services, 2001-2005 (in millions)



Source: GartnerG2, December 2001

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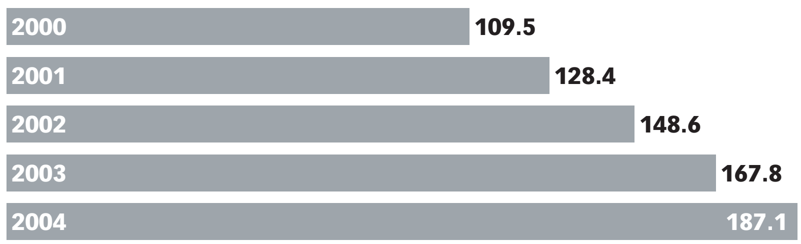
Contrast those Gartner wireless banking estimates with eMarketer's numbers for total wireless subscribers in the US, which show that by 2004, 187.1 million US residents will have adopted wireless services. Even based on Gartner's high figure of 7.0 million in 2004, that still means only 3.4% of wireless customers will bank via that channel.

Mobile Phone Subscribers in the US, 2000-2004 (in millions)



Note: eMarketer's year 2000 & 2001 baselines are from the CTIA
Source: eMarketer, August 2002

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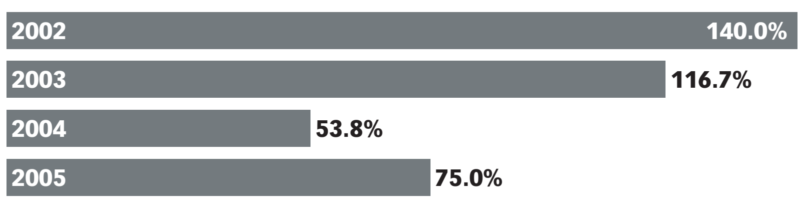
Looking at the same Gartner projections by annual growth rates shows a front end for growth, in triple digits this year and next. Even though these estimates date from only last December, they appear too optimistic in the light of early autumn 2002.

US Consumers Using Wireless Banking Services, 2002-2005 (as a % increase vs. prior year)



Source: GartnerG2, December 2001

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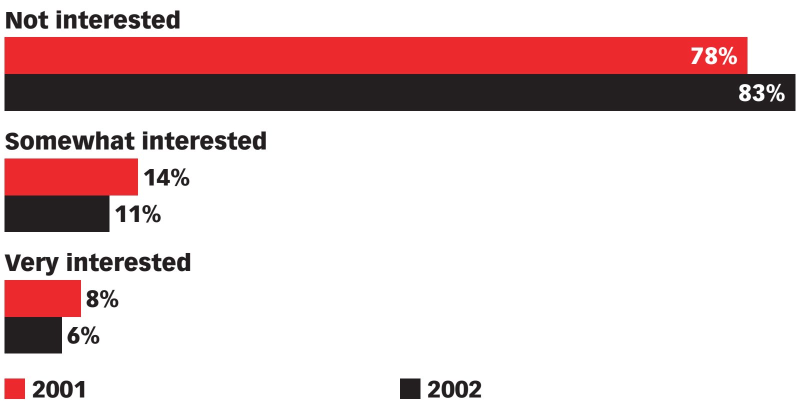
When you view US consumer interest in conducting financial transactions with wireless devices, the reaction of banks makes sense. In the 2002 *American Banker*/Gallup Consumer Survey, 83% of respondents indicated no interest in wireless banking, a 5-point jump from the 2001 figures. And these respondents weren't all US consumers, but just the two-thirds who own or use a wireless device (such as a cell phone or PDA).

US Consumer Interest in Conducting Financial Transactions Wirelessly, 2001 & 2002 (as a % of respondents)



Note: n=1,000; two-thirds of respondents own or use a cellphone or PDA
Source: American Banker/Gallup Organization, July 2002

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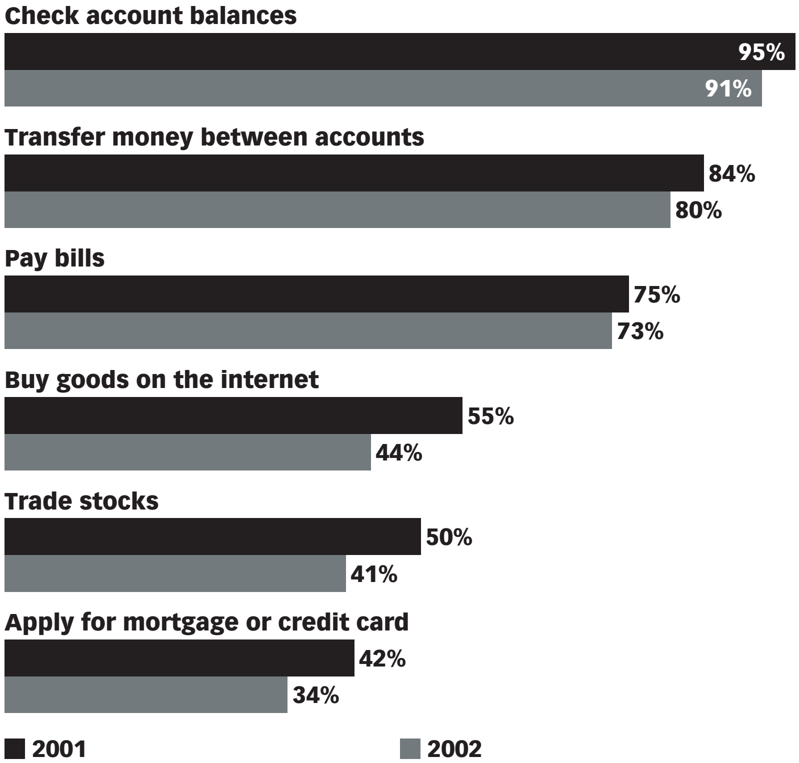
If their primary financial institution did offer wireless banking, despite the low level of interest, the services consumers want most in 2002 are basic: checking account balances (at 91%), transferring money between accounts (at 80%) and paying bills (at 73%).

Tasks rarely done, such as applying for a mortgage or credit card, or not direct to banking, such as buying goods on the internet, called up far less interest from consumers. More important, though, is how interest in each of the six services surveyed dropped from 2001's replies.

US Consumer Interest in Wireless Services Offered by Their Primary Financial Institution, 2001 & 2002 (as a % of respondents)



Note: n=1,000; two-thirds of respondents own or use a cellphone or PDA
Source: American Banker/Gallup Organization, July 2002

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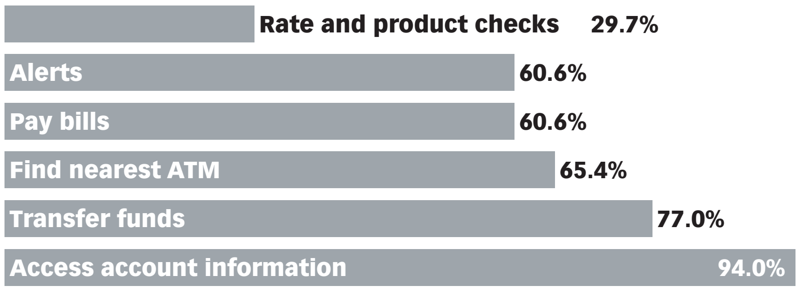
Similar research from IDC shows similar results. The two main services consumers want out of wireless banking are account information and transferring funds.

Banking Services that US Consumers Want to Access via Wireless Devices, 2002 (as a % of respondents)



*Note: *based on survey respondents interested in wireless banking*
Source: International Data Corporation (IDC), 2002; American Banker, July 2002

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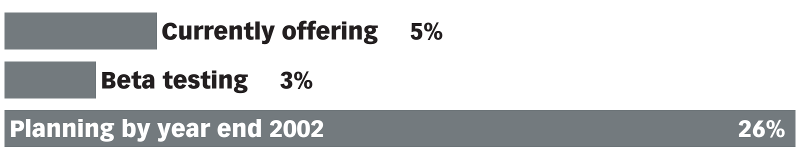
The push and pull among lagging consumer interest, reallocation of resources for technology endeavors, and yet the banking industry's desire to compete in the interactive space by delivering its services across all possible channels shows in GartnerG2's survey of US banks. While only 5% offered wireless financial services in 2001, 26% said they planned to by year-end 2002.

US Banks Offering Wireless Financial Services to Consumers, February 2001



Source: GartnerG2, December 2001

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Still, those estimates come from December 2001. For now, financial institutions are "waiting for consumer demand to come back before becoming more gung-ho on wireless," according to Celent.

The research firm suggests that wireless not be an alternative delivery channel for internet banking, but instead to make wireless banking a unique and attractive alternative. As reported in *Bank Technology News*, "Alerts and messages are a way of sending [customers] information that they wouldn't otherwise have access to." Note that in the IDC chart above, over 60% of consumers would like alerts as part of their wireless banking services.

In the end, though, the disconnect between wireless as a major communication vehicle and as a minor financial services channel looks to be a steady part of the landscape both now and over the next several years.

For more on where wireless is going, see the new eMarketer report, North American Wireless Market: On the Road to 3G: http://www.emarketer.com/products/report.php?wire_no_am

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D. Account Aggregation

Next to online bill payment (which deserves its own section as part of this report's "Electronic Payments" chapter below), account aggregation is the most ballyhooed service among internet banking's offerings.

Quick definition of aggregation: Giving customers information about all of their finances in one place online.

Fuller definition of aggregation: At a customer's request, gathering account information from various websites using that customer's passwords and making that account information available to the customer at a single website operated by the aggregator. The types of information may include not only financial data (such as banking, brokerage and insurance), but other accounts like frequent flyer programs. The aggregator might be a financial service firm, such as a bank, or it could be a third-party site, such as Yahoo! or MSN Money.

"Early returns on account aggregation were disappointing in part because of sloppy execution of the concept. Partly also because the technology available was not really fully functional."
– Christopher Musto, vice president of research, Gomez

Why aggregation: Similar to the industry's intent with CRM and electronic bill payment, banks hope to use aggregation to win new customers and retain existing ones. And, with new tools available from aggregation providers such as Yodlee (by far the largest third-party provider), banks will be able to segment out customer data belonging to other institutions and use that data for targeted marketing projects.

"I like aggregation. But the take-up rate by consumers has been surprisingly low."
– Barry Murphy, executive vice president, American Express Financial Advisors

This latest wrinkle in aggregation's aims puts banks on a tricky footing. While any bank would love to "see exactly what accounts a customer holds with the competition and woo them over with better offers," as *Bank Technology News* put it, the same article says that "Banks armed with this technology will be able to pillage their rivals' databases."

Sounds like war, and such tactics could easily damage relationships among financial institution competitors. Furthermore, unless implemented tactfully, customers could feel that having one institution know fully about their dealings with all institutions as an invasion of privacy.

And yet this data-reaping technique is the first step in turning account aggregation from another loss leader into a profit center. As banks analyze customer data from the full panoply of each person's accounts, working

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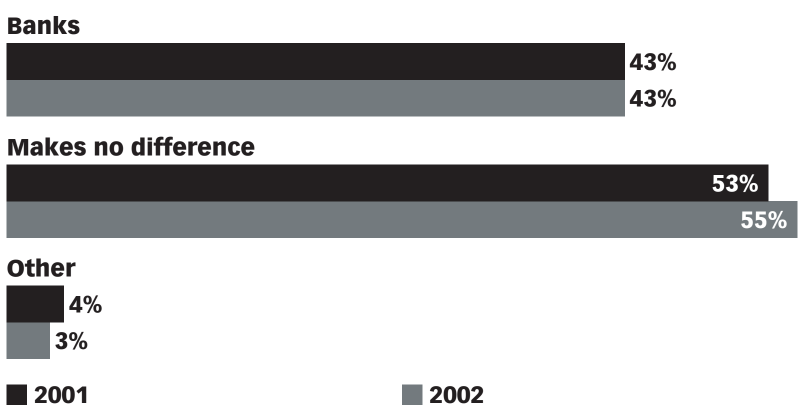
alongside the customer, aggregation turns into an accurate setting for financial planning and counseling. For planning, aggregation is more of a tool for affluent customers. Or, as banks mine the data gathered from aggregation, they will be able to market better deals to all customers.

"We as banks need better data mining and better segmentation from aggregation. And then we also need frankly to do more pilots to figure out what customers want out of that, what are the offers that work, what segmentations really work as opposed to just figuring out the most elegant way of doing it."
– Yawar Shah, executive vice president, J.P. Morgan Chase

That brings us full circle to the "pillage" image, as banks work to steal customers from each other. Competition like this does not guarantee to help aggregation. And lord knows, aggregation needs help.

But banks, at least, appear to have the inside track among those consumers who desire aggregation's benefits, according to the *American Banker*/Gallup survey. While 43% of respondents distinctly prefer banks as their account aggregator, and 55% in 2002 say it doesn't matter, only 3% would rather have another type of company aggregate their financial data.

US Consumers' Preferred Account Aggregator, 2001 & 2002 (as a % of respondents)



Note: n=1,000; figures do not equal 100% due to rounding
Source: American Banker/Gallup Organization, July 2002

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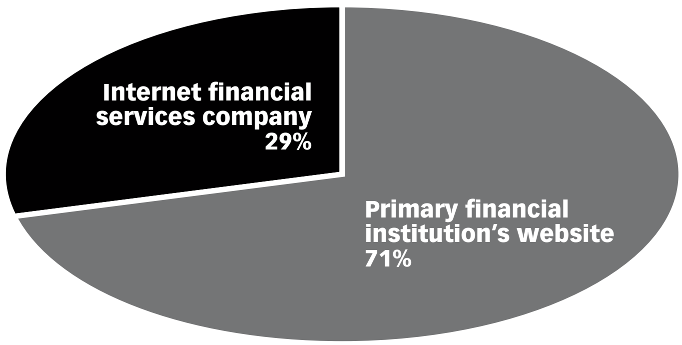
Research from last year by the Raddon Financial Group—an Oakbrook Terrace, IL-based financial-service consulting firm—puts the aggregation vote firmly in the customer's primary financial institution's camp, with 71% of respondents stating that preference.

US Households' Preferred Account Aggregator, 2001



Source: Raddon Financial Group, March 2001

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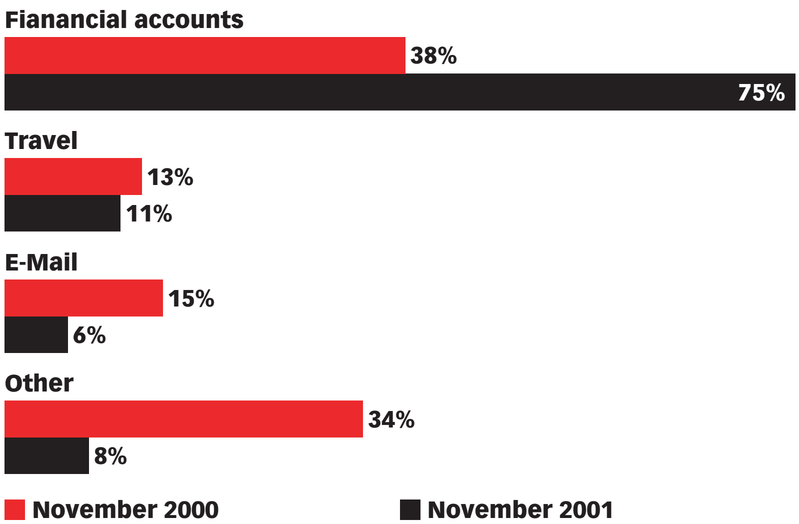
That consumers who want aggregation want to do it at a financial-service firm coheres with the types of applications users most want to aggregate: financial accounts, according to 75% of the respondents to a Celent Communications survey in November 2001.

Types of Applications US Aggregation Users Most Want to Have, November 2000 & November 2001 (as a % of respondents)



Source: Celent Communications, 2002; American Banker, May 2002

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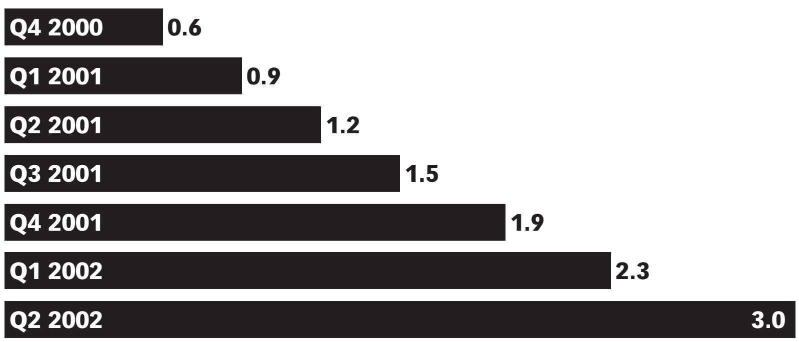
While the market for aggregation is there, its strength is suspect. Some research firms, such as Forrester, expect aggregation to expand from 0.7% of US online households in 2002 to 2.7% by 2003. Raddon, which appears bullish on the service, said that in July 2001, 3% of US households (total, not just online) were aggregating accounts. And Yodlee claimed to have 2.7 million users worldwide in the 1st quarter of 2001, with the lion's share in the US.

Further figures Yodlee supplied indicate that of that 2.7 million, only 0.9 million were in the US. However, the chart below also shows a steady increase from quarter to quarter, reaching 3.0 million by the second quarter of 2002.

US Users of Yodlee's Aggregation Services, Q4 2000-Q2 2002 (in millions)



Source: Yodlee, September 2002

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"Aggregation is a means to an end. It is not a product in and of itself. It enables a whole slew of products that create value, like cross-sell and up-sell...."

–Anil Arora, president and CEO, Yodlee

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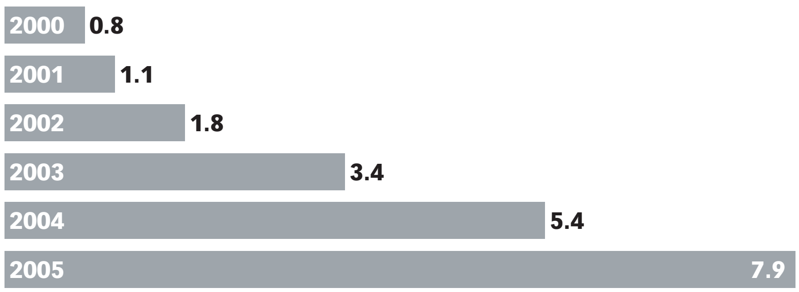
Estimates from eMarketer for the US alone indicates 1.8 million consumers using various account aggregation services in 2002. In three years, the aggregation take-up by consumers should rise by more than 6 million to 7.9 million in 2005. These figures represent active customer use of aggregation, not including those who sign up and then forsake the service.

US Consumers Using Account Aggregation Services, 2000-2005 (in millions)



Source: eMarketer, September 2002

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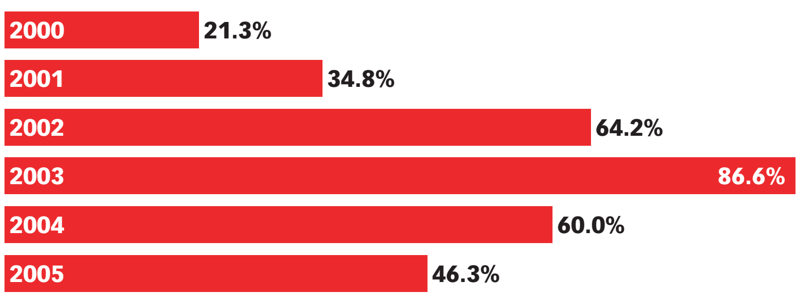
Projections for aggregation's growth rate show the strongest increase (86.6%) over the coming year, as banks further integrate and market the service. Beyond 2003, eMarketer expects growth to remain strong, but not as sharp.

US Consumers Using Account Aggregation Services, 2000-2005 (as a % increase/decrease vs. prior year)



Source: eMarketer, September 2002

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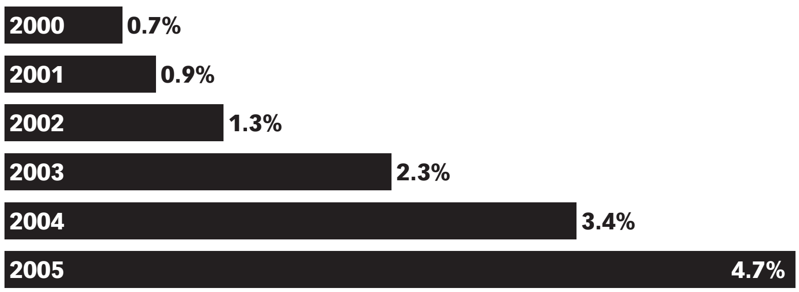
"There's a very low familiarity with aggregation and a low interest level in the affluent market. I think there is a future for account aggregation. But it remains to be seen whether it is the success a lot of people think it is."

–Ann Mahrdt, director, Spectrem Group

Still, when aggregation's customers are viewed as a percentage of US internet users ages 14 or older, the penetration rate will be nothing to write home about, reaching 4.7% by 2005.

US Consumers Using Account Aggregation Services, 2000-2005 (as a % of US internet users ages 14+)



Note: internet users ages 14+ represent roughly 90.75% of all US users according to the August 2000 US Department of Commerce survey
Source: eMarketer, September 2002

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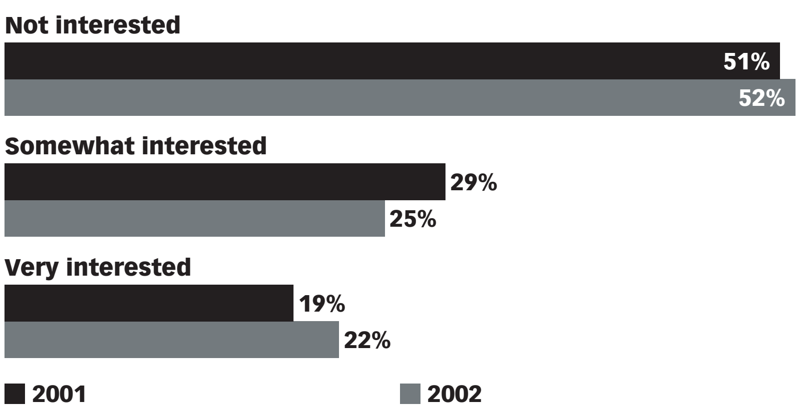
With more than half of all US consumers expressing no interest in account aggregation in the *American Banker*/Gallup survey, and an additional one-quarter saying they're only somewhat interested, the low penetration rates come into sharper focus.

US Consumer Interest in Financial Account Aggregation, 2001 & 2002 (as a % of respondents)



Note: n=1,000; answers of "don't know" not shown
Source: American Banker/Gallup Organization, July 2002

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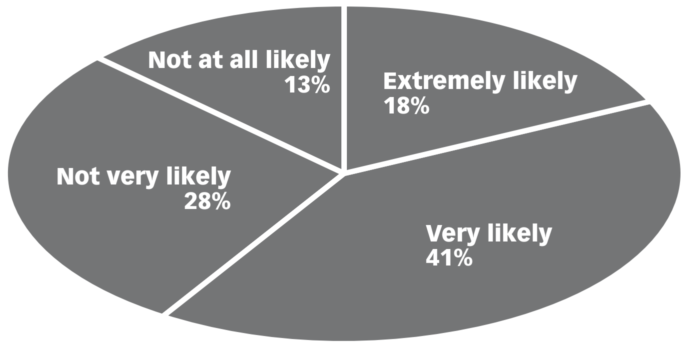
Research from Raddon Financial disputes the *American Banker*/Gallup numbers. Instead, Raddon sees 59% of US internet users either very or extremely likely to use account aggregation.

Likelihood that US Internet Users Will Use Account Aggregation, 2001 (as a % of respondents)



Source: Raddon Financial Group, September 2001

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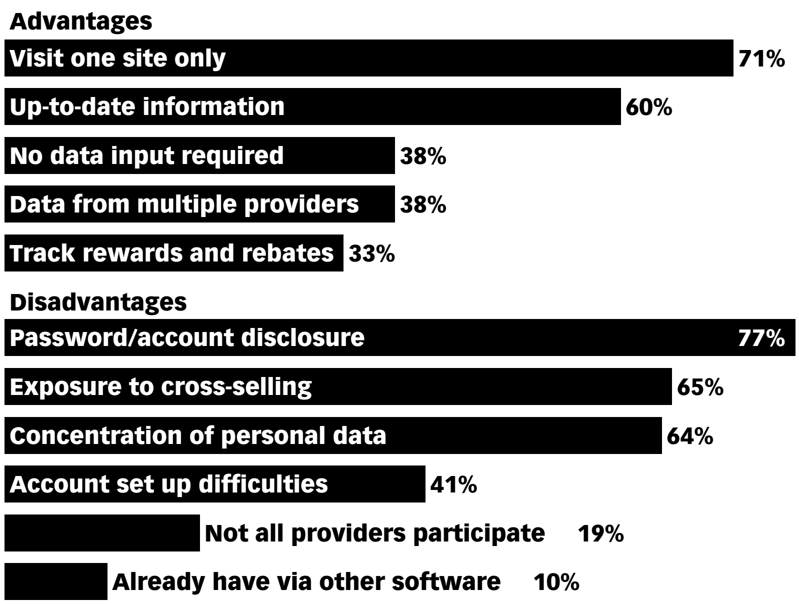
Consumers see the pros and consumers of aggregation clearly, as shown in the Synergistics Research chart below. Yes, it's handy to visit one site only, as 71% of respondents said, and get up-to-date information (at 60%); but fears of password and account disclosure (at 77%), along with exposure to cross-selling (at 65%) and the concentration of personal data (at 64%), are slowing aggregation's growth.

US Consumer Attitudes toward Account Aggregation, 2001 (as a % of respondents)



Note: Multiple responses allowed
Source: Synergistics Research Corp., 2001; BAI Banking Strategies, March/April 2002

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With all of aggregation's advantages and disadvantages for consumers, the same back-and-forth holds true for banks. Nevertheless, most major banks feel to need to offer account aggregation services.

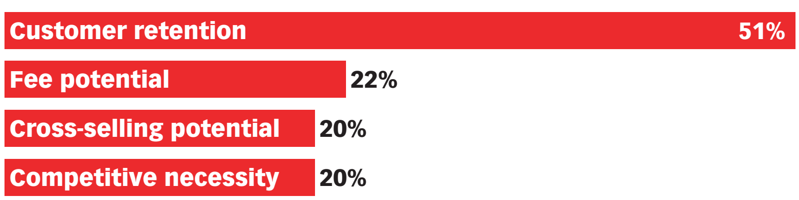
"We are deepening the relationship with our clients with the use of aggregation. We're looking to provide them good advice. Part of this process is trying to see if this creates customer loyalty and retention."

– Yawar Shah, executive vice president, J.P. Morgan Chase

A survey last year by Forrester Research points to four main rationales to offer aggregation: customer retention was the key, which 51% of respondents cited. The potential for fees (such as for financial planning) and cross-selling were mentioned by about 20% of respondents—and this survey took place before Yodlee introduced its data-mining tools. Finally, keeping up with the competition is equally important, especially if they're going to be delving into your customers' financial information.

Note, however, that the chart below represents the opinion of 36% of 45 firms, or 16 total; that's not the most representative sampling.

Why US Financial-Service Firms Offer Account Aggregation Services, 2001 (as a % of respondents)



Note: based on a survey of 45 financial-service firms; asked of the 36% of those firms who already offer account aggregation services; multiple responses accepted
Source: Forrester Research, July 2001

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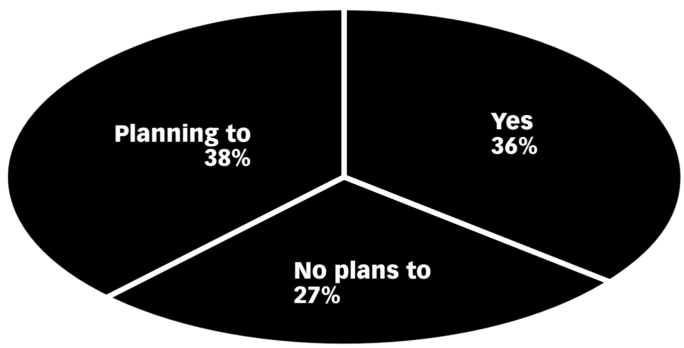
"We're not just regarding use as a measure of success. Aggregation is allowing us to go to members and prospective members and project a leading-edge image."

– Todd Kenthack, president and CEO, Pacific Resource Credit Union

The same Forrester survey (this time polling all 45 firms) shows strong intent to offer aggregation to customers, with 74% either already offering it or planning to.

US Financial Services Firms Offering Account Aggregation Services, 2001 (as a % of respondents)



Note: based on survey of 45 financial services firms; numbers may not add to 100% due to rounding
Source: Forrester Research, July 2001

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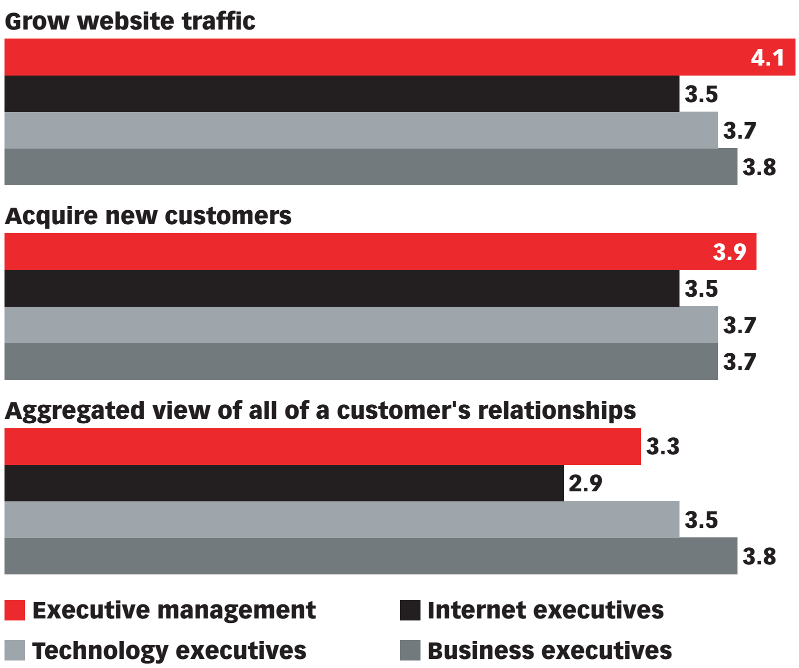
Still, some research makes you wonder how important aggregation is to banking executives. The Forrester Research/BAI survey found that for most executive positions, aggregation is a less important online banking priority than growing site traffic and acquiring new customers. Only business executives, who perhaps have a better view of aggregation's potential cross-selling benefits, ranked it equal to the other two priorities.

US Banking Website Priorities, by Executive Position, 2002 (on a scale of 1-5*)



*Note: n=165 banking executives; *1=low priority and 5=high priority*
Source: Forrester Research/Bank Administration Institute (BAI), April 2002

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In an article earlier this year, *Wall Street & Technology* magazine outlined aggregation's rewards and hazards for financial-service firms. It's enough to summarize the piece here, noting particularly that one listed benefit is "competitive differentiation." If all major banks offer aggregation, how does that help one institution differentiate itself from another?

Rewards and Hazards of Account Aggregation for Financial-Service Firms, 2002

Strategy and benefits
Attract new customers
Retain existing customers
Competitive differentiation
Expand portfolio of services offered to customers
Identify potential partnerships
Organization and governance
Understand responsibilities, including compliance and privacy requirements
Have sufficient resources
Policies
How aggregation affects security and privacy policies and disclosures
Processes and systems
Understanding how offering aggregation services affects an organization's processes and systems
Risk and controls
What if a customer's compiled-account information is inaccurate or incomplete?
Consider website disclaimers that inform customers about possible inaccurate or incomplete information
Ensure that customer complaint mechanisms exist to facilitate identifying, tracking and resolution of customer problems.

Source: Wall Street & Technology, March 2002

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"Aggregation services are going to be the way that most of us access our data five years from now."

– Catherine Allen, chief executive officer, BITS (technology unit of the Financial Services Roundtable)

Perhaps the answer to that question comes from changes Wells Fargo made to its aggregation offering this past May. The bank switched from standalone account aggregation, with a separate sign-on and little connection to the rest of its online banking, to bundling it with single sign-on. That seemingly simple move rectifies an aggravating situation that hardly helps build support for aggregation. In fact, Wells is just the first

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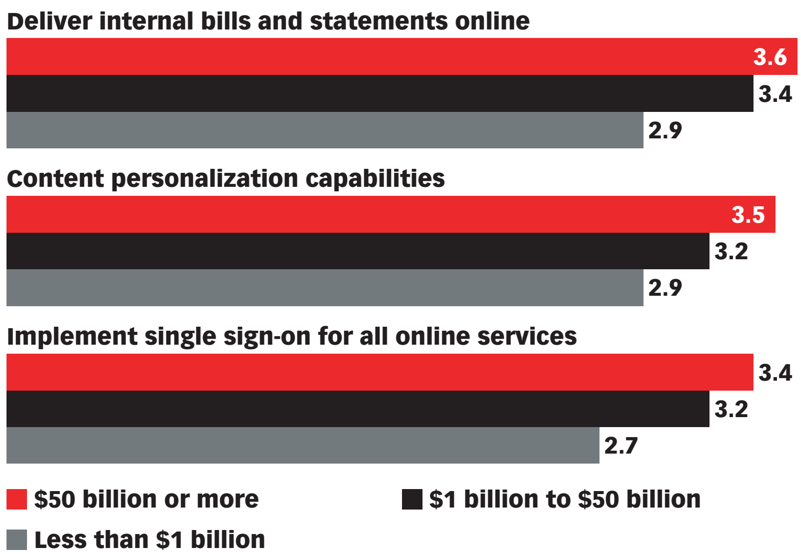
institution to take the suggestion Gomez made in *American Banker*, "Our advice to banks is to integrate account aggregation into the current online banking interface."

Good advice. The more online banking services cohere, the more consumers will find ways to make them part of their regular banking routines.

In this case, larger banks understand better than smaller ones the importance of a single sign-on for all online services. According to Forrester/BAI, banks with $50 billion or more in assets gave single sign-on a higher priority for website development than did banks with fewer assets.

US Bank Website Development Priorities, by Size of Bank, 2002 (on a scale of 1-5*)



*Note: n=165 banking executives; *1=low priority and 5=high priority*
Source: Forrester Research/Bank Administration Institute (BAI), April 2002

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E. Online Lending

In one sense, all loans are alike. The bank, or other lender, provides money to the customer and in return gets paid back principle and interest. Of course the level of detail varies, depending on the loan's amount and the legalities involved, but there's uniformity to the concept, if not the process.

Yet when it comes to the online originations of mortgages, home equity, auto loans, student loans, personal loans and credit cards, the markets vary tremendously even if the concept does not. Looked at as whole, however, it appears that online lending is a static market. A January 2002 survey from IDC found that 14% of consumers have used the internet to research or apply for a loan or credit card in the past year—virtually the same percentage as in a 2001 survey, according to *American Banker*.

Most of the action came from credit cards, with 41% of the online lending market researching or applying for plastic. Numbers were up also for mortgage refinancing, as that market was robust both online and offline. But with personal loans, other than for cars and homes, online action fell sharply. "The web actually lost ground against traditional channels for personal loan borrowers," IDC concluded.

Interestingly, the research firm found that student loans doubled, according to *American Banker*. For example, while the Bank of Montreal's online loan applications doubled last year, the most popular online product is student loans. The bank noted, "The student population has been quick to adapt to this." As in many online activities, the younger generation is more comfortable with virtual transactions than their older counterparts.

However, even those doubled online loan applications accounted for little; loans closed by those interactive originations generated only 1% of the Canadian bank's consumer outstanding debt.

So much for the bad news. Looking ahead to 2005, Celent Communications projects online applications producing 26% of all US consumer loans, including mortgages, up from 6% in 2001.

Or take projections from IDC, which indicate that by 2006, consumers will use the internet "in some way" to apply for 26% of new mortgages and 33% of mortgage refinancings. The firm believes the internet will become "a mainstream mortgage origination channel within the next five years."

That "in some way" term gets to the heart of how the online channel is changing the entire loan process, and is becoming part of a cross-channel effort to sell and close loans.

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Take mortgages, a huge market for many banks. In 2002, total US mortgage originations will hit $1.23 trillion, according to TowerGroup, down from 2001's higher $1.50 trillion figure when there were even more refinancings.

Total Mortgage Origination Market in the US, 1998-2005 (in billions)

Source: TowerGroup, 2001; Bank Systems & Technology, December 2001

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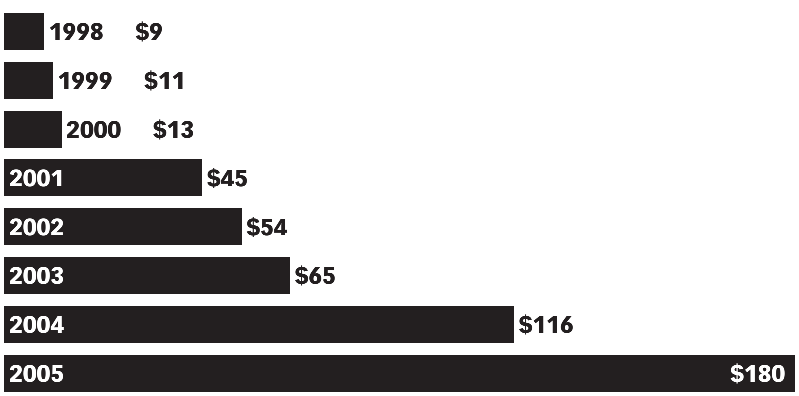
Now compare the online origination component, at $45 billion in 2001, rising to $54 billion in 2002. As a percentage of the total mortgage market, that represents a gain from 3.0% in 2001 to 4.4% in 2002. Still, online is a small share.

Online Mortgage Origination Market in the US, 1998-2005 (in billions)



Source: TowerGroup, 2001; Bank Systems & Technology, December 2001

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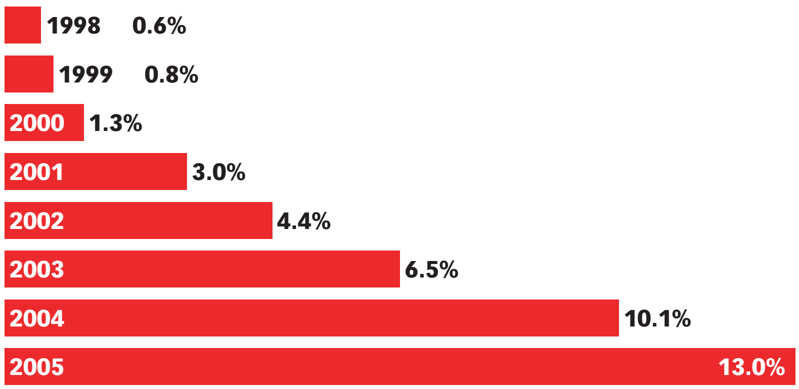
However, Tower expects that by 2005, the online share of all US mortgages will rise to a healthy 13.0%.

Online Mortgage Origination Market in the US, 1998-2005 (as a % of total origination market)



Source: TowerGroup, 2001; Bank Systems & Technology, December 2001

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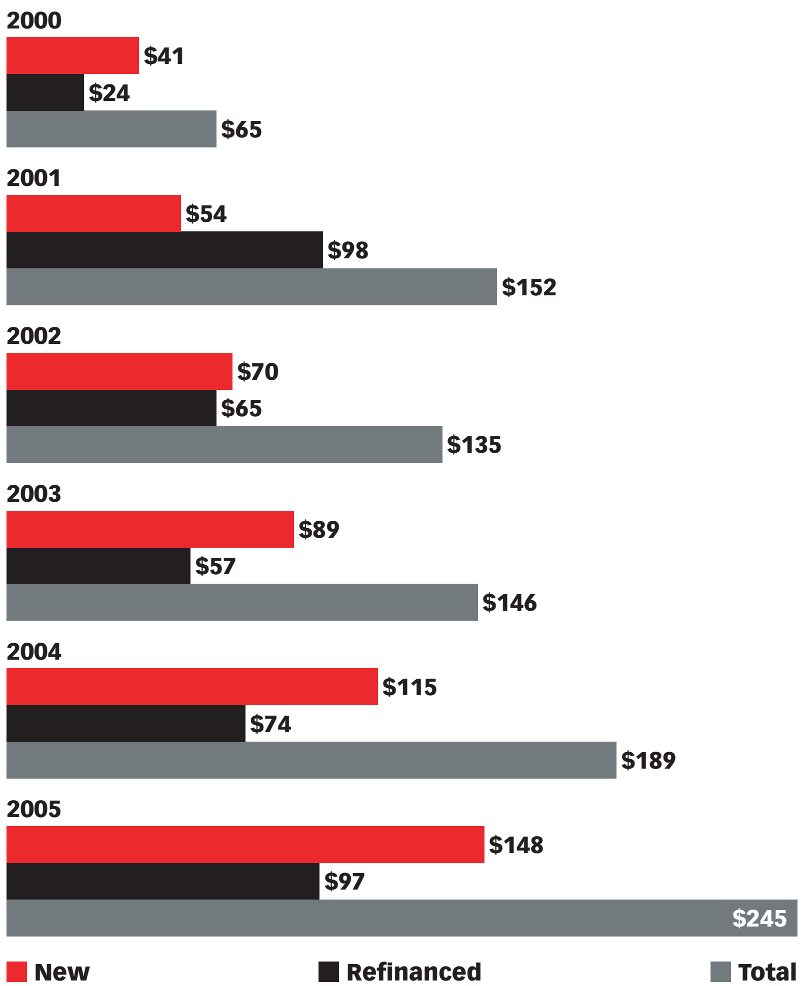
IDC's estimates for online mortgages break out new from refinanced ones. In that light, its figures for new loans alone are more in line with Tower's projections. In 2004, for instance, the IDC new mortgage figure of $115 is only $1 billion less than the Tower number.

But looking at the online mortgage origination action as a whole, IDC's total figures far surpass the TowerGroup estimates.

Online US Mortgage Transactions, New and Refinanced, 2000-2005 (in billions)



Source: International Data Corporation (IDC), 2001; BAI Banking Strategies, March/April 2002

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According to *Origination News*, a trade journal, IDC points out that even though the proportion of borrowers who applied online generally increased, online lending did not grow in popularity against traditional alternatives.

"While online applications are gaining in acceptance—and lenders should improve their online loan applications to increase internet yields—they should pursue a multichannel strategy because [as IDC believes] 'the internet as a channel is not proving to be naturally superior to telephone and branch offices.' Nevertheless, IDC says the introduction of new electronic document and signature technologies and greater

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integration of the web with traditional channels such as call centers and branches will weigh in to make broad consumer adoption of the internet a near-term reality."

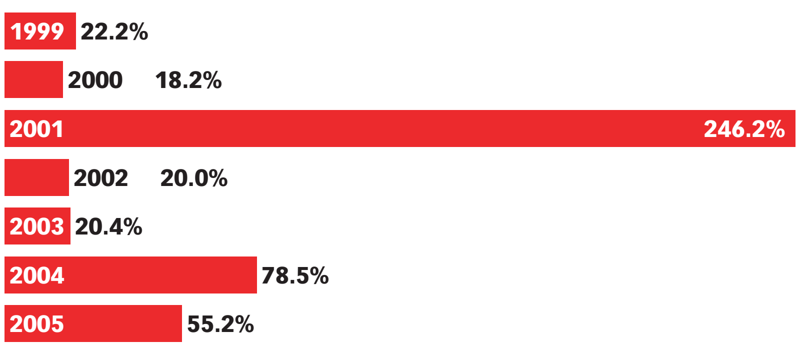
Contrast either TowerGroup's or IDC's online mortgage figures with the entire online loan market—at least according to Forrester Research as reported in *Bank Systems & Technology*. The 2000 total for all "online consumer loan originations (mortgage, auto, home equity, credit card and personal loans) totaled $44 billion…just a tiny slice of the $1.9 trillion in total US consumer loan originations." That $44 billion figure is substantially less than IDC's $65 billion figure for all online mortgage transactions.

Such disparity in estimates from major, respected research firms suggests that this market—online originations of all types of loans—is far from mature and hard to track.

When the online mortgage market is viewed not in comparison to offline but in itself, clearer growth paths show up. The huge 246.2% spike in 2001 was due to two main factors: an increase in online originations in general and highly active refinance activity.

But even after that year, online mortgages will continue to grow at a nice clip, in double figures every year through 2005.

Online Mortgage Origination Market in the US, 1999-2005 (as a % increase vs. prior year)



Source: TowerGroup, 2001; Bank Systems & Technology, December 2001

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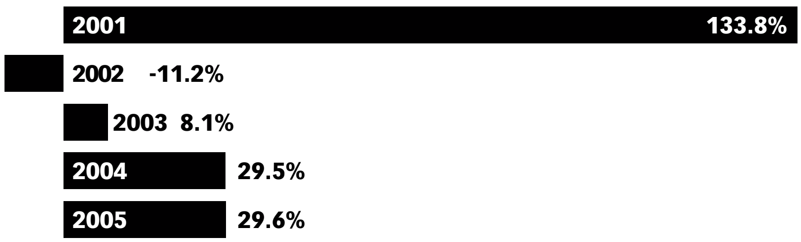
Similarly, IDC saw a huge jump in 2001's total online mortgage market compared to the previous year, and it even projects a drop in 2002, with steady increases afterwards. (IDC predicted that 11.2% decrease last year, when the continuing strong mortgage market was not as apparent.)

Online US Mortgage Transactions, 2001-2005 (as a % increase/decrease vs. prior year)



Note: both new and refinanced
Source: International Data Corporation (IDC), 2001; BAI Banking Strategies, March/April 2002

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All this growth, however, must be referenced back to the IDC phrase "in some way." The Tower and IDC internet mortgage market numbers above presumably take in any loan that has some online component. Most often, that only means shopping for rates. Next, that means applying online.

Most often, though, closing the loan takes place offline, in the traditional way. "Mortgages are high-dollar transactions and involve a much more complex approval and closing process, including appraisals, title, insurance, escrow services [and so forth]," according to *Bank Systems & Technology*. "This almost guarantees that a mortgage application submitted online will end up being completed manually."

For a mortgage to go from soup to nuts interactively is a rare beast nowadays, but some in the industry expect that to change. Until then, two factors deter full online origination: One, the various governmental requirements for mortgages; and two, various elements which make many customers want to close in person.

"[But] buying a home on a computer isn't as Jetsons as it sounds. It's not the technology that's holding things back, it's legal issues regarding electronic signatures, a barrier that's held back online mortgage lending for years but could wane in the next decade," according to *Bank Technology News*. For example, for any mortgage the deed and note must be authenticated by a notary public, but until that step goes online the full mortgage process must be a cross-channel project.

That's just one step. As you undoubtedly know if you've ever bought a home, there are complex issues in coordinating the efforts of various service providers involved in a mortgage transaction. Until they're all online, the loan will mix channels.

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Other mortgage elements remaining offline include bank's requirements for signatures the old-fashioned way—on paper. "Online digital signatures could help," according to *American Banker*, "but…Meridien Research noted that these are still in an early stage, and that banks have not made them widely available because they think many customers are uncomfortable with the idea."

"Though we have legislation to accept signatures electronically, consumers are still concerned about the security of the information they are providing."
– Jeanne Capachin, research director, Meridien Research

Another barrier to full online lending is how legacy computer systems tend to create difficulties for banks trying to merge both the deposit and lending businesses on a single website. Furthermore, the disconnect that still exists between the internet and traditional channels creates further obstacles, such as when the people at the branch have no information about the loan applied for online.

It's in the banking industry's interest to move all types of lending to the online channel, "because it cuts costs and paperwork and can generate leads for cross-selling and new customers," according to *American Banker*.

"Any mortgage lender who is not tapping into this [online] activity is at a competitive disadvantage."
– Aaron McPherson, research analyst, IDC

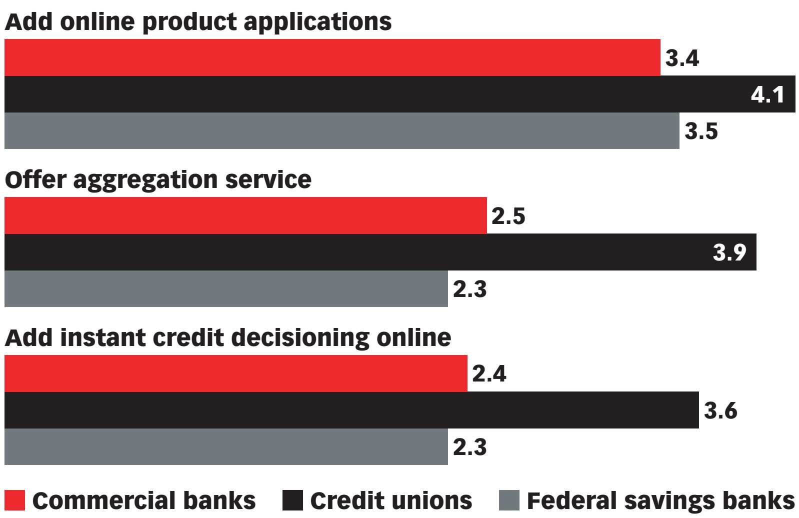
In addition, online lending can bring in customers who had no previous relationship with the bank. That's been the experience of Wells Fargo, where about 30% of the bank's online home equity loans have come from non-customers. In fact, Wells claims extraordinary growth rates in the home-equity business, with 10% of online initiated loans being that product. The volume has doubled annually and is expected to surpass $1 billion this year.

Still, the bank prefers to close home-equity loans and mortgages offline, saying that there's customer skepticism over the security of digital signatures. When it comes to Stafford loans (a federal student loan), however, Wells is testing digital signatures for online loan applications. Students like the all-electronic process because it's faster. The bank likes it because it helps schools simplify the loan-delivery process, and reduces paperwork and errors. Furthermore, according to *American Banker*, "Online student loans also provide tremendous cross-selling opportunities, because students are likely to apply for checking and savings accounts, credit cards and auto loans."

Once again, the younger generation is more ready to conduct as much business as possible online. But for people wanting mortgages, there is reluctance to use the internet for what IDC calls "an emotionally stressful and complex transaction." And it's not just the consumer who is reluctant; lenders don't necessarily want to invest in new technology "absent clear customer demand."

The lack of total enthusiasm for online lending capabilities shows in this result from the Forrester Research/BAI survey, where adding instant credit decision making online gets a lower priority than new online product applications and aggregation services, no matter what type of bank. (Although credit unions, which tend to have closer relationships with customers than commercial or savings banks, gave the online lending tool a better than neutral rating.)

US Bank Website Development Priorities, by Type of Bank, 2002 (on a scale of 1-5*)



*Note: n=165 banking executives; *1=low priority and 5=high priority*
Source: Forrester Research/Bank Administration Institute (BAI), April 2002

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Just as reluctance to use digital signatures is keeping the mortgage business a multi-channel one, another type of unwillingness is preventing auto loans from moving onto the internet, with only 4% originated online. That resistance to the internet comes from the auto dealers, "who wield enormous power because they control the underlying physical asset. And they are loathe to give it up," reports *Bank Systems & Technology*.

Industry observers expect that to change over time, since in their simplicity auto loans are akin to the king of online lending—credit cards. "Estimates of the percentage of credit card balances originated online go as high as 25%," according to *Bank Systems & Technology*. "The reasons are plain: credit cards are generic products and the approval process is easily automated."

These online credit card originations are likely to rise, since while plastic

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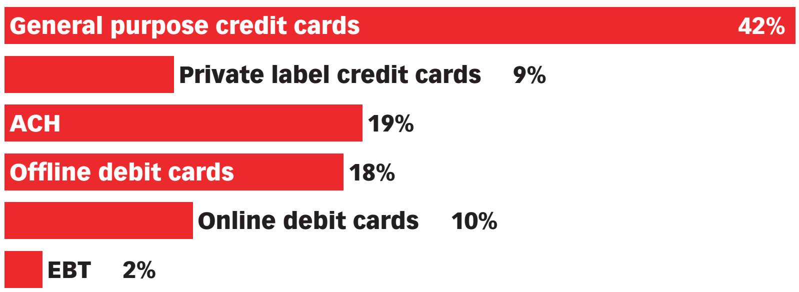
money made up 51% of US electronic payments in 2000, according to the Federal Reserve, the value of those payments was only 17% of the whole. The relatively low-cost use of cards makes them a prime target for online financial-service marketers.

Volume of US Electronic Payments, by Type, 2000



Source: Federal Reserve System, May 2001

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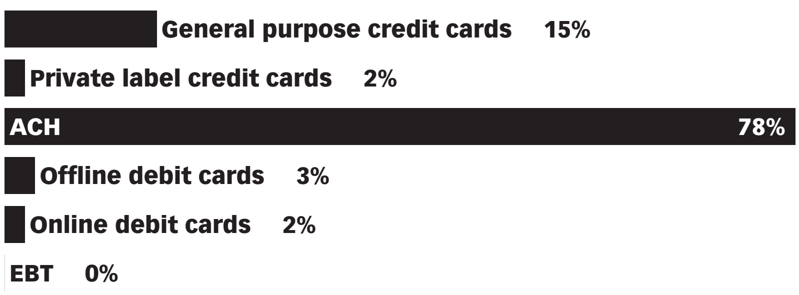
Value of US Electronic Payments, by Type, 2000



Source: Federal Reserve System, May 2001

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But even though applications for credit cards should rise online, that may not be the best channel to market cards to them. At least that's the case in research last year from the Auriemma Consulting Group, a Westbury, NY-based credit-card consulting firm. In the chart below, interactive marketing methods such as e-mail and bank websites are off the screen, being neither most nor least preferred by the respondents.

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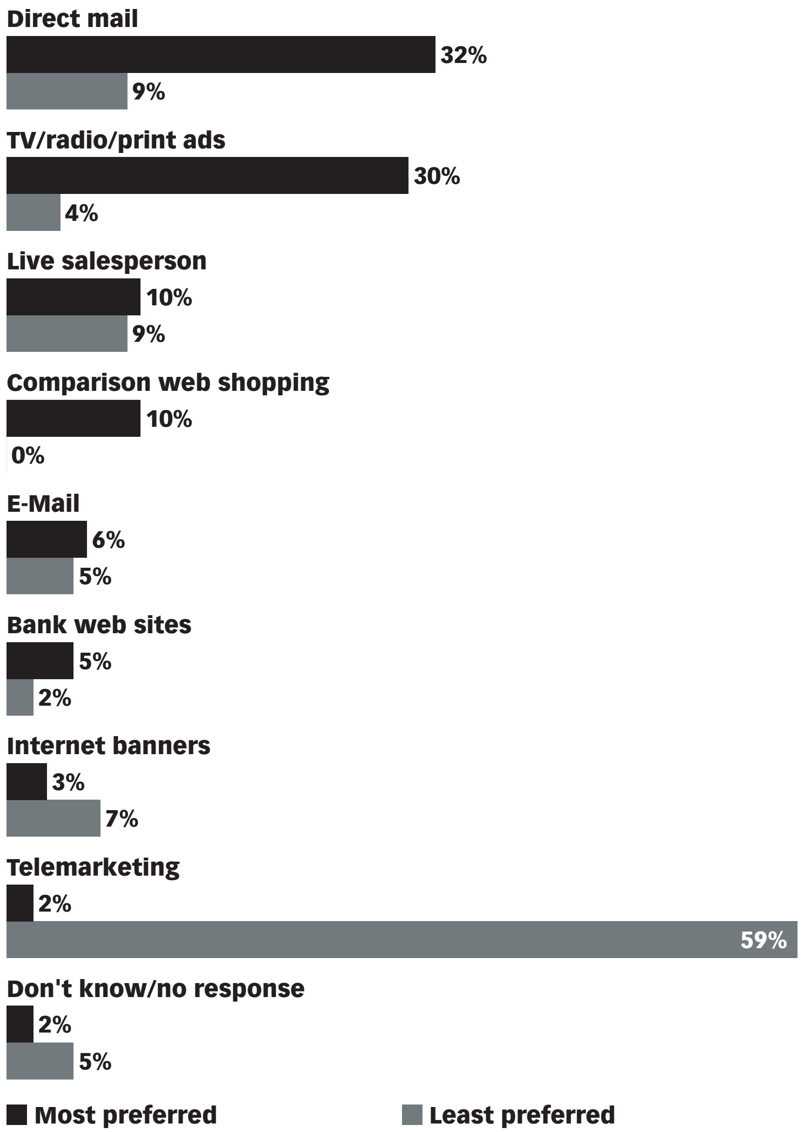
However, comparison web shopping is most preferred by one in 10 consumers. That might take place on sites such as Bankrate.com, which updates comparative interest rates, fees, and other credit card basics.

US Consumers Most and Least Preferred Marketing Channels for Credit Cards, 2001 (as a % of respondents)



Note: n=501
Source: Auriemma Consulting Group Inc., June 2001

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That's just a single survey, however. As banks step up cross-marketing efforts, credit cards are one product that can help them bring in new customers. While consumers might not be willing to switch primary financial service providers, they're often ready to add another bank's credit card to their personal portfolios.

To focus that cross-marketing on customers who bank online makes much sense, according to Gomez, which told *Bank Systems & Technology* "that among online bankers, there's a one in nine chance that they're going to apply for a credit card in the next six months. 'If those users are going to apply for a credit card, there's a better than two-thirds chance that they are going to apply for it online, or at least that's what they plan to do,' [the Gomez report] said. 'Given that they're coming to a bank's website on a regular basis, there's room therefore for a bank to try to market its credit card product.' And that's a big area for growth. Retail banks...haven't been all that successful at getting their consumers to use their credit card products."

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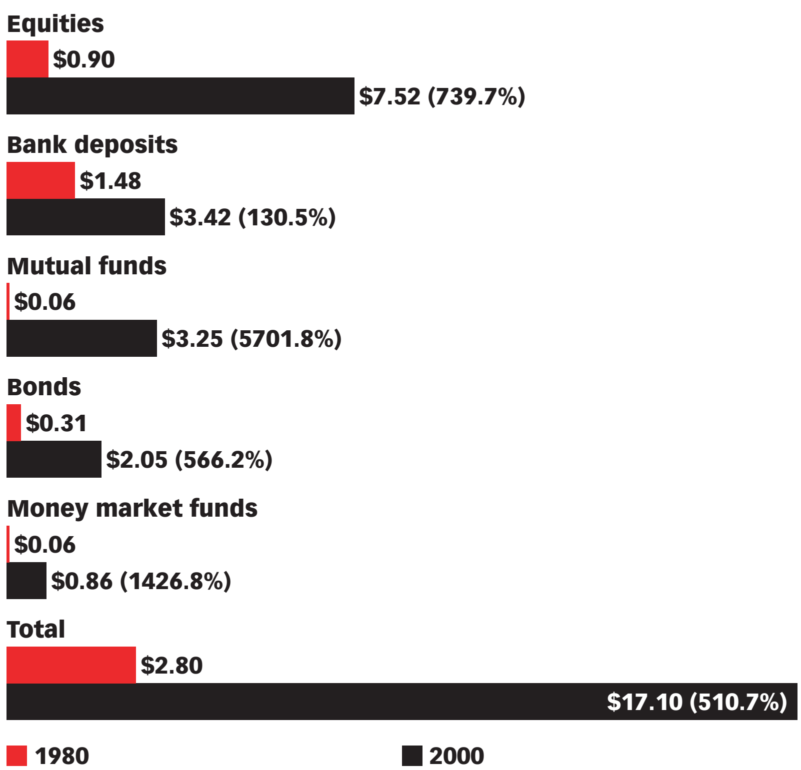
F. Brokerage

More and more, banks are finding the need to offer brokerage services along with standard banking ones. Perhaps that's truer in the online channel than in traditional ones, where banks such as FleetBoston, with its Quick & Reilly discount brokerage unit, have positioned themselves as across-the-board financial service providers.

That there's been a strong shift from bank deposits to equities and mutual funds over the past two decades is obvious. Data from the Federal Reserve backing up that perception shows that while bank deposits by US households increased by 130.5% between 1980 and 2000, equity investments rose by 739.7% and mutual funds by 5701.8% during that same span.

Where US Households Invest Liquid Assets, 1980 vs. 2000 (in trillions and as a % increase)



Source: Federal Reserve System , 2000; derived by eMarketer, May 2002

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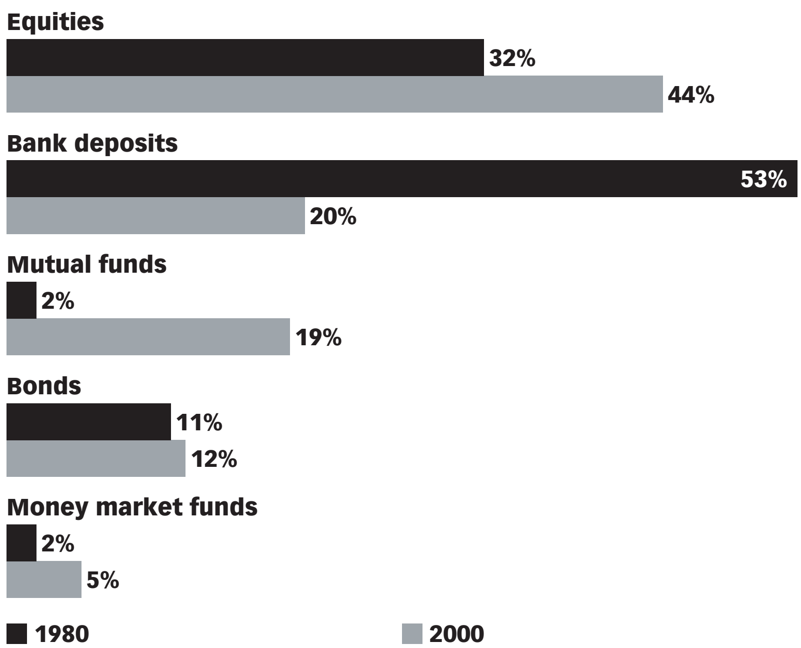
Looked at another way, while 53% of liquid assets went into bank deposits in 1980, only 20% were invested through the same means in 2000. Therefore, if banks want to be like Willie Sutton—the once-famous bank robber who replied when asked why he robbed banks, “Because that’s where the money is”—they’ll offer brokerage services. Even with the drop in investing concurrent with the drop in the markets, the trend is toward securities more than secure but low-paying investments such as CDs.

Where US Households Invest Liquid Assets, 1980 vs. 2000



Note: $2.8 trillion household liquid assets (1980) vs. $17.1 trillion household liquid assets (2000)
Source: Federal Reserve System , 2000

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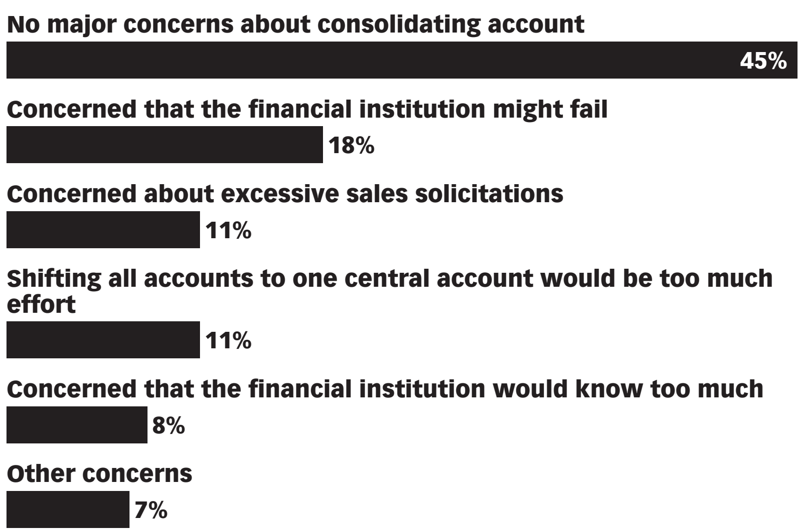
It's worth remembering too that 45% of the respondents to a Jupiter Media Metrix survey last year said they have no major concerns about consolidating accounts—that is, having both banking and investing accounts with a single firm. Some of the consumer concerns could be alleviated by banks. For instance, 11% are worried about excessive sales solicitations. A bank could, then, promise not to perform unwanted cross-selling to any of their customers who sign up for a brokerage account. The same figure of 11% of respondents think that shifting all accounts to one would be too much effort. There again, the bank could find ways to make the shift easier and better woo the customer.

Financial Account Consolidation Concerns among US Consumers, 2001 (as a % of respondents)



Source: Jupiter Media Metrix, Inc., October 2001

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For more information on the internet and investing, see eMarketer's latest report, Online Investing: Brokers, Investors, Statistics, and Market Trends: http://www.emarketer.com/products/report.php?invest_online

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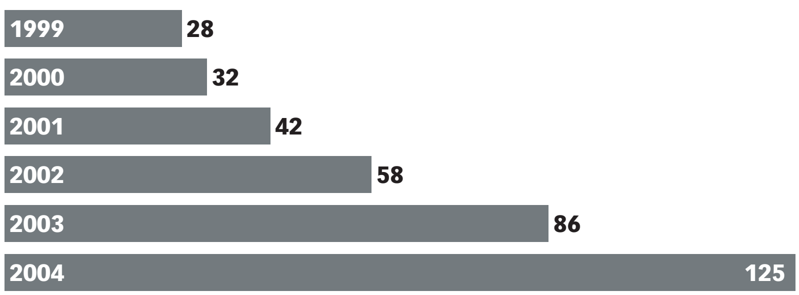
G. Smart Cards

While chip-based smart cards have several applications beyond banking, such as security purposes, for US financial services this is a technology searching for a market. That's an imprudent way to go about it.

"After several 'years of the smart cards,' [Gomez] is beginning to find the technology to be a bit of a snooze, and too little progress has been made in the US over the past few years…to believe American consumers will embrace the technology any time soon," according to *Bank Technology News*. While "in European countries smart card readers are more prevalent in retail outlets, giving them a function that makes the smart chip valuable to both merchant and consumer…in the US the story is different."

The figures from Frost & Sullivan, a marketing consulting company, support the Gomez contention. While the first F&S chart shows a healthy increase in smart cards, ranging in the 30% and 40% growth rate for 2002 and beyond to reach 125 million issued in 2004, the second chart shows a minuscule uptake for smart cards with financial applications.

Number of Smart Cards Issued in North America, 1999-2004 (in millions)



Source: Frost & Sullivan, 2001; Bank Technology News, February 2002

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Number of Smart Cards Issued in North America with Financial Applications, 1999-2002 (in millions)

Source: Frost & Sullivan, 2001; Bank Technology News, February 2002

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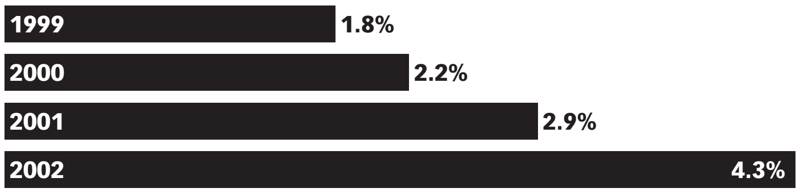
When those financially based smart cards are viewed as a percentage of the entire market, its minor stature comes into closer focus. In 2002, F&S expects only 4.3% of all smart cards to be used for financial purposes.

Smart Cards Issued in North America with Financial Applications, 1999-2002 (as a % of total)



Source: Frost & Sullivan, 2001; Bank Technology News, February 2002

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"Financial applications will drive the [smart card] market in the United States."
– Shalini Chowdhary, senior analyst, Frost & Sullivan

On the other hand, TowerGroup sees a much stronger base for smart cards, with 17 million being used in US payment applications in 2001, growing to 50 million by 2003. The discrepancy between the two research firms' projections could be based partially in parameters; while F&S is tracking the numbers issued annually, TowerGroup appears to focus on total smart cards being used, a cumulative statistic.

Smart Cards Used in US Payment Applications, 2001 & 2003 (in millions)

Source: TowerGroup, 2002; BAI Banking Strategies, May/June 2002

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"The chips in smart cards…don't do anything that a magnetic stripe can't do for a consumer."
– Christopher Musto, vice president of research, Gomez

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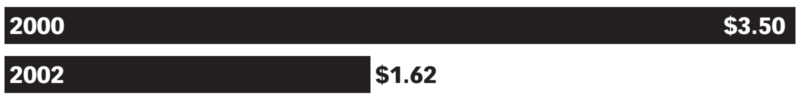
No matter which researchers' numbers are more on target, what's holding back smart cards in the US is their extra cost. When compared to the per unit cost of $0.50 for magnetic-stripe cards, such as nearly all credit cards in your wallet, smart cards (along with their related software and readers) cost issuers $1.62 in 2002, according to TowerGroup.

Cost to US Issuer for Smart Cards and Related Software, 2000 & 2002 (per unit)



Note: Compared to cost of $0.50 per unit for magnetic-stripe cards
Source: TowerGroup, 2002; BAI Banking Strategies, May/June 2002

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For smart card applications to take off in the US financial-service market, real benefits must be apparent and not just hype. Take the various pilots of electronic cash-carrying smart cards from the late 1990s. These "schemes touted the cards' technological superiority," according to *American Banker*. "All preached the value addition of their scheme in terms of convenience—it was a 'speedier alternative to cash'—but when customers used these cards, it took much longer to pay for a small item than it would to pay with simple cash and coins."

Value-added smart cards, such as ones that give discounts, would be a more fruitful path. However, it will take investment by banks, credit card organizations and other financial-service firms for enough retailers to have smart-card readers. Only then will smart cards in the US reach the critical mass necessary for success.

H. Portal Services

This tiny section of the *Interactive Banking* report is here more as an historical curiosity and a warning than as an attempt to show where the portal-services portion of the market is going—because it's going nowhere.

"Nobody is talking about portals anymore. The portal strategy was not a good investment."

– Jeanne Capachin, research director, Meridien Research

Only a couple of years ago, however, US banks thought online competition meant the absolute necessity to offer portal services—with such non-banking information as news and weather. Take this chart from RSM McGladrey, a mid-market business consulting company. In 2001, 16% of banks claimed to offer portal capabilities, with 47% saying they planned to offer them within the next two years.

US Bank Websites Offering Portal Capabilities: Currently and within 24 Months, 2001

Source: RSM McGladrey, 2001

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But according to a Gomez survey of 3,500 online adults, while banking customers want online services such as stop-payment requests, weather and news appeal to about 5% of respondents.

"We found that customers' awareness of their bank site offering weather reports, sports or news didn't correlate with their happiness with the bank."

– Christopher Musto, vice president of research, Gomez

For the future, banks might remain aware that playing toward your strengths is the best way to win the game, and to avoid the next wave of technological and cultural hype. Portals weren't "all for naught, though," according to *Banking Strategies*. "Banks learned some valuable, albeit expensive, lessons: define your strengths as a business, provide services customers actually need, and don't waste precious capital for the sake of buzz."

The prominence of e-billing and other electronic payments make this topic due a chapter all by itself. The banking/consumer side of e-payments goes by several names and wears multiple hats, including online bill payment, e-billing, electronic bill presentment and payment (EBPP, which is an enhancement of bill pay alone), and just plain bill pay. Further aspects of electronic billing include B2B invoicing.

Other e-payment channels include:

- automated clearing house (ACH), the primary nationwide electronic funds transfer network for financial institutions;
- P2P payments, also called person-to-person or peer-to-peer, a system of electronic payments made most famous by PayPal, where individuals use the existing systems to send money to each other; and
- electronic checks, also called check truncation and check imaging, which is simply a means of turning the paper checks that normally get shipped from bank to bank into digital data.

Some issues common to nearly all types of electronic payments are addressing consumer and business concerns about authentication and privacy, fraud prevention and detection, integration with banks' back-office systems and convincing customers to use these various e-payment systems. This was true in 2000, as the Meridien Research chart below shows, and essentially continues to be true today.

Top 10 Strategic IT Initiatives for Electronic Payment Services, 2000

Rank	Business issue/ Application
1	Electronic purchasing for B2B procurement, with XML as the leading technology driver
2	Fraud prevention and detection technology will become an increasing necessity
3	Need for financial services institutions to confront authentication and privacy concerns of wholesale and retail customers
4	Refinements to and implementations of secure integration with back-office payment systems
5	Electronic bill presentment and payment (EBPP) implementations, which both consumers and businesses will adopt in growing numbers
6	Multiple application chip cards, highlighting the growing links between convenience and security
7	Electronic wallets, which merchants and card issuers will increasingly use
8	Retail/wholesale convergence, as companies share e-payment solutions across departments/functions
9	Non-credit card payment mechanisms to bolster e-commerce growth outside of the US
10	Wireless payments, still in the early stages of development, but poised for dramatic growth

Source: Meridien Research, 2000

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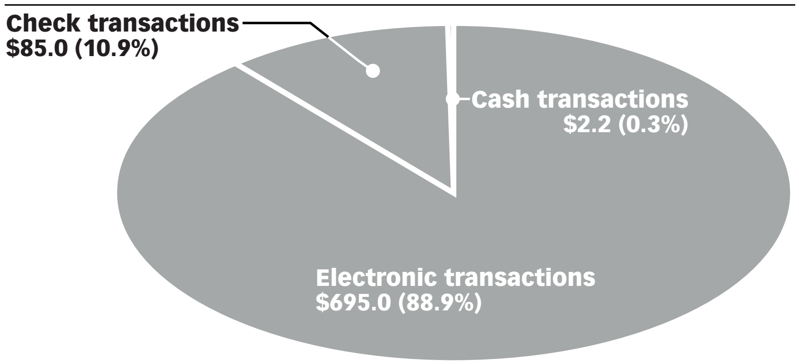
Even as of the year 2000, electronic transactions made up the vast majority of all US payments, 88.9% or $695 trillion. At least that's accurate when value of the transactions is measured, as the chart below from National Automated Clearing House Association (NACHA) shows. As the main organization running the ACH network, the figures from NACHA reflect mainly that system.

Value of US Payments, 2000 (in trillions and as a % of total value)



Source: National Automated Clearing House Association (NACHA), 2001

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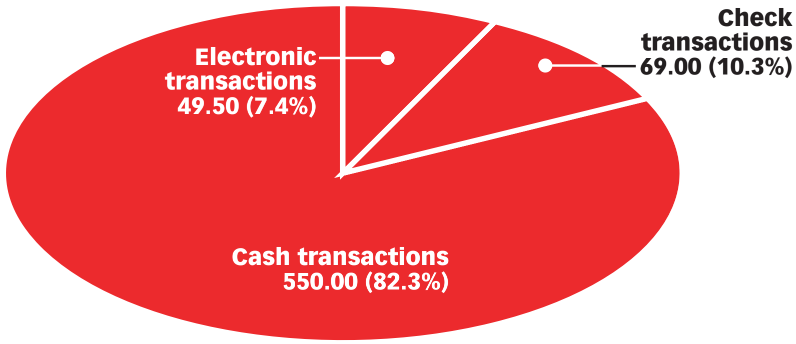
When the focus turns from value to volume, however, electronic transactions turned into 7.4% of all US payments in 2000, with cash being the most-used vehicle.

US Payments, 2000 (in billions and as a % of total transactions)



Source: National Automated Clearing House (NACHA), 2001

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As the internet becomes more entrenched into daily life, both consumers and businesses are finding a means and a desire to shift more transactions into electronic channels. Here's how that's playing out.

A. Bill Payments

More than any other interactive banking service, online bill payment promises to be the killer app. It's not that bill payment per se is profitable—in fact, in many cases it's a loss leader—but banks see that customers who sign up for e-billing tend to be more affluent and to stick around.

According to Forrester Research, "BofA [Bank of America] found that EBPP is one of the best ways to lock in customers—its EBPP customers have an astonishing 80% lower attrition rate than their offline counterparts do." Or as *Banking Strategies* phrases it, "When customers go to the trouble of entering account information for their regular bills into the system, they create a big disincentive to leaving the bank."

That positive trend is why, earlier this year, BofA altered its strategy for electronic bill presentment and payment (EBPP): one, the service is offered free to new customers; and two, the bank waives fees for existing customers "if they are active users and the bank has their e-mail address," the latter element for cross-selling purposes.

With such success, why doesn't every bank's online division follow the BofA lead? Despite BofA's free e-billing move, followed in September by Cleveland-based National City Bank, "most banks still charge $5 to $7 a month for the privilege of paying bills online," as the *Wall Street Journal* notes.

In a comparison chart of selected banks that accompanied the recent *WSJ* article, see that while the cost for online bill pay may be free for several banks, only BofA makes both the payment element and bill presentment (viewing) no-charge items.

Measures Undertaken by US Banks to Persuade Customers to Pay Bills Online, 2002

	Cost of online bill payment*	Number of companies whose bills you can view online	Cost for both viewing and paying bills
Bank of America	Free	202	Free
Citibank	Free	Unlimited. For credit card customers only through Citibank Bill Manager	$4.95 for 10 bills; $9.95 for 24 bills
E*Trade	$6.95 per month	Unlimited	$4.95 per month and ¢.50 per bill or $12.95 per month for 30 bills
FleetBoston	$4.50 per month	None	N/A
J.P. Morgan Chase & Co.	Free	Unlimited, through Chase Bill Management Center	$9.95 per month for 20 bills
US Bank	$4.95 per month	222	Free
Wells Fargo	$6.95 per month	3	Free

*Note: *may be free for customers with higher balances or preferred accounts*
Source: company reports, 2002; Wall Street Journal, September 2002

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So, why is BofA in the e-bill vanguard, with few followers? According to "Why Hasn't Electronic Bill Presentment And Payment Taken Off?," a July 2002 study from the Federal Reserve Bank of New York, "A lack of coordination among billers and customers, combined with the high fixed costs of the new technology, may help account for the cool reception [received by electronic bill presentment and payment]."

Costs for banks, as well as for consumers, is one major issue. "Although EBPP generates considerable operating efficiencies for every bill paid, it also requires billers to make a large initial investment in the technology," reports the New York Fed. "It is estimated that a biller has to incur an up-front fixed cost ranging between $150,000 and $1 million to develop EBPP capabilities; the average cost is approximately $400,000."

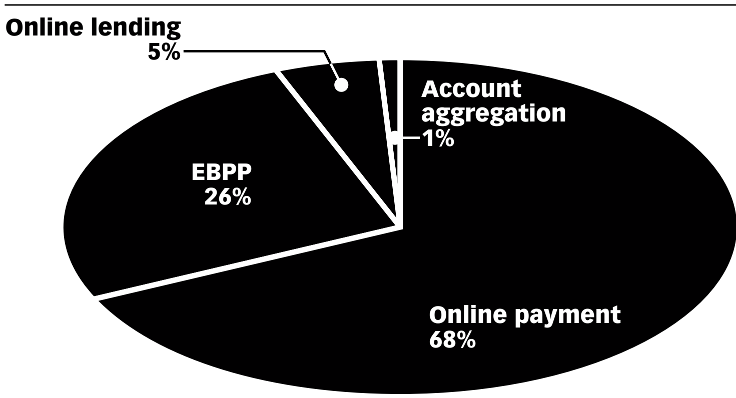
Implementing a full-fledged e-billing system is, at this point, doubly expensive, since paper systems are not going away, according to the study. "Adding to the pressure on billers is the high cost of operating two different bill presentment and payment systems—one electronic and the other paper-based—at the same time."

Consumer find costs not just in bank fees but in the time it takes to set up online billing information, which is why even most people interested in e-billing want to view and pay their bills from a single site. "Billers will be reluctant to adopt EBPP unless they are confident that they can sharply reduce their paper-based system by having most of their customers switch to the new technology. Customers are in a similar bind, seeking some assurance that they will not need to use two different forms of bill presentment and payment," according to the New York Fed study. "In short, new EBPP systems face a chicken-and-egg problem."

Even for banks who charge fees to their customers, online billing can be a money loser. "Institutions must pay service providers such as CheckFree a fixed per-customer fee, and it may exceed whatever little revenue they are making," according to *Bank Technology News*. "Thus, many banks are losing money on the deal, even without adding overhead expenditures, such as marketing."

Even with the outstanding cost issues still unresolved, Celent Communications found that 68% of US banks' online service pie is devoted to online payments, with 26% for its extension, EBPP.

US Bank Spending on Online Service Offerings, 2001



Source: Celent Communications, October 2001; Bank Technology News, March 2002

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Number of Bills Viewed Online by US Consumers, 2001 & 2006 (in millions and as a % of total US consumer bills)

Note: CAGR=41%
Source: Jupiter Research, September 2002

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Still, it's vital to recognize that consumer interest in paying bills online is not quite as fervent as the banking industry might wish. According to research last year from the American Bankers Association, there's an overwhelming lack of desire for e-billing, with 85% of respondents indicating that disinterest.

US Consumers' Interest In Paying Bills Online, 2001 (as a % of respondents*)

*Note: n=1,000; adults ages 20+ who have an account or financial dealings with a bank; figures do not equal 100% due to rounding; *based on those who have not paid bills online*
Source: American Bankers Association/Mathew Greenwald & Associates, September 2001

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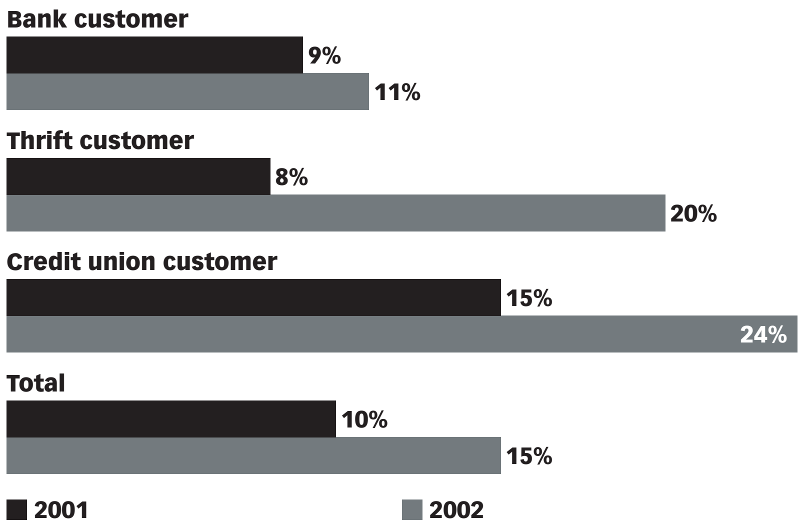
Further indication of still-low customer demand comes from the annual "*American Banker*-Gallup Consumer Survey." This year's results show that among customers of all financial institutions—bank, thrift and credit union—only 15% use an online bill payment service. That figure matches the 14% interest-rate in the ABA chart above.

US Consumers Using an Online Bill Payment Service, 2001 & 2002 (as a % of respondents)



Note: n=1,000
Source: American Banker/Gallup Organization, July 2002

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In support of the figures above, Forrester Research projects that while nearly 17 million US households will take up online bill payment in 2002—a 41% jump from 2001's figure of about 12 million—that current figure still represents only about 16% of all households.

Meanwhile, a Jupiter Media Metrix/NPD consumer banking survey in 2001 projected more than 7.8 million US households using EBPP in 2002—less than half the Forrester estimates—with an increase to 44.5 million households by 2006.

Looked at as a daily increase, Dove Consulting estimates that "more than 100,000 consumers per day are signing up to view and pay their bills electronically...the majority of that is with credit card issuers."

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And research from the Yankee Group points to 6% of US consumers paying bills online in 2001, which translates to about 6.5 million households—an even lower penetration rate than the *American Banker*/Gallup, Forrester or Jupiter numbers.

North Americans Who Currently Pay Bills Online, 2001 (as a % of respondents)

Source: Yankee Group, March 2002

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Note that for all these e-bill adoption figures, the companies are typically counting consumers who have paid, or will pay, at least one bill over the internet.

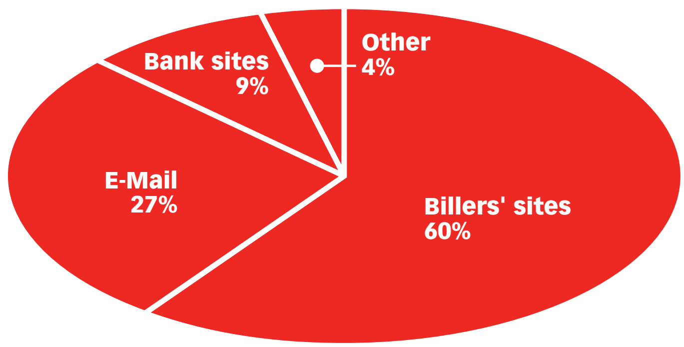
As might be expected, e-bill sign-up rates vary tremendously by bank. "Half of FleetBoston's online customers pay bills electronically, according to CSFB," reports *Banking Strategies*, "compared with 24% at KeyCorp and 7% at US Bancorp."

"I don't think half the population will adopt electronic bill payment and presentment at all. And even if they did, if you had 50% of the population doing it, at least 50% would choose not to do it at a bank."

– Paul Duckham, COO, Aurum Technology

Another bank-billing bugaboo is the consumer preference for e-bill locale. Even among those who desire to pay bills online, 60% want to pay directly at the billers' sites, while only 9% prefer to bill-pay at their bank's site. (The 27% who want e-mail notification and payment might get the bills either direct or from a bank.)

Where US Consumers Want to View E-Bills, 2002 (as a % of respondents)



Source: Gartner, 2002; American Banker, July 2002

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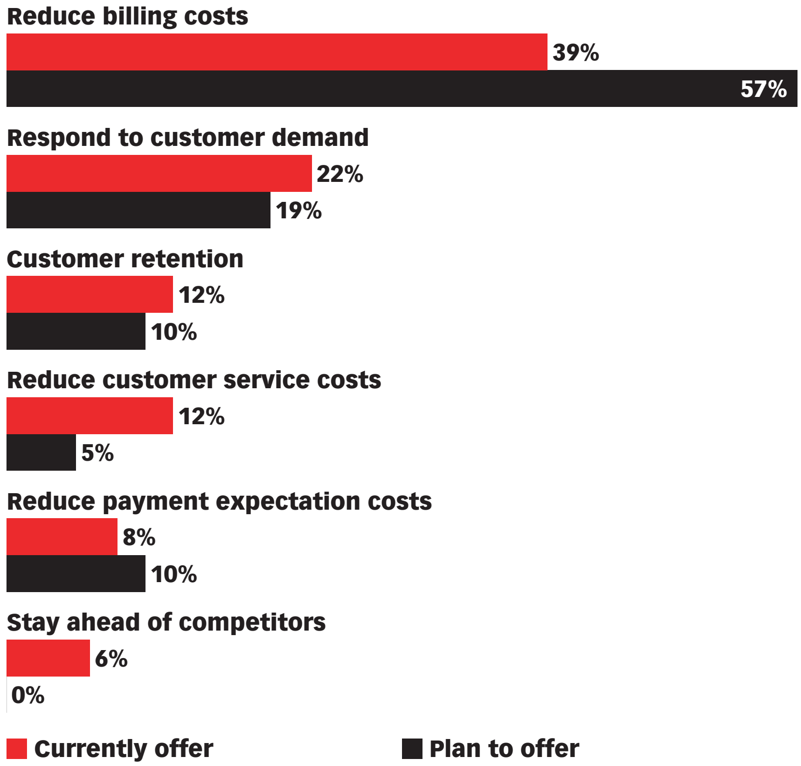
Then, too, not all banks perceive the same customer-retention benefits as does BofA. In a survey of 135 banks and their reasons for offering or planning to offer e-billing, Gartner found that keeping customers is a rationale for only 22% of the responding institutions. More important for banks is reducing billing costs and responding to customer demands for e-billing services.

Why US Banks Offer or Plan To Offer E-Billing, 2002 (as a % of respondents)



Note: n=135 banks
Source: Gartner, January 2002; American Banker, August 2002

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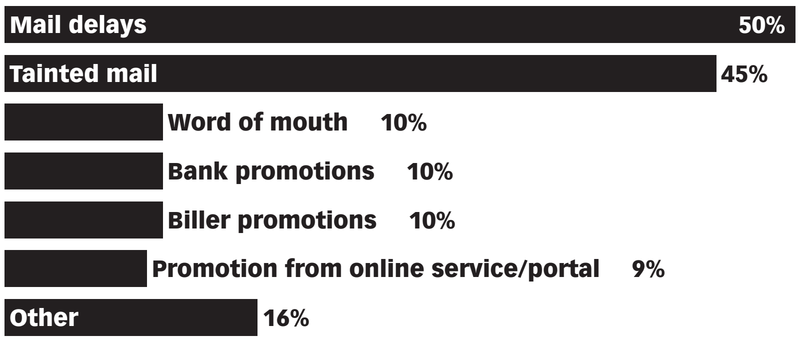
With all that, e-billing is still relatively new, and the strong customer retention BofA and other banks experience is no mirage. Therefore, consider the top reasons why US consumers would pay bills online: mail delays (at 50%) and tainted mail (at 45%). While the Dove Consulting poll connected e-bill considerations with 11 September changes (the "tainted mail" referring to anthrax threats, for example), other postal changes such as the recent $0.03 price increase are seen as incentives for online bill payment.

The Dove survey also showed that "7% of consumers have either enrolled to pay their bills online or have increased the number of bills they already pay online due to their concern over handling mail and delayed payments," according to *Bank Technology News*.

Reasons Why US Consumers Would Consider Paying Bills Online, 2001 (as a % of respondents*)



*Note: *based on 32% of respondents to survey who said their views about paying bills online had changed since 11 September 2001*
Source: Dove Consulting, 2001; Bank Technology News, January 2002

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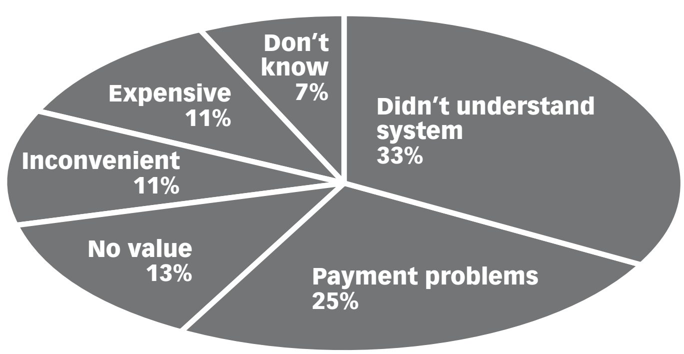
The Postal Service's recent $0.03 price hike in first-class mail lead to a Direct Marketing Association (DMA) study. The trade organization found that more than half of all respondents under age 25 and 42% of those from 25 to 34 said the recent postal rate increase would lead them to look for bill payment alternatives such as electronic billing.

And research from Gartner shows that the main reason US customers dropped a bank's bill-pay services is failure to understand the system, at 33% of respondents. So for banks to capture that market segment—rather than cede it to the biller-direct model—they need to educate, encourage and support their customers.

Reasons US Customers Dropped Banks' Bill Payment Services, 2001



Source: Gartner, 2001; Bank Technology News, April 2002

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Banks need to keep working on further enticements to draw online banking customers into e-billing services. When you consider that 49.1% of all first-class mail in the US is for bill payment and transactions, according to the DMA study, there's motivation for both biller and customer. That's one reason why the billers themselves are looking to draw customers to their websites for bill payment, and why the banking industry wants it as their own.

The cost savings for billers can be enormous. (Remember that as credit card issuers, banks also wear the biller hat big-time.) Shortly after the postal-rate increase, the ClickZ online newsletter described the following biller-based savings scenario:

"A large credit card issuer with 20 million customers could have spent up to $81 million last year to deliver monthly statements via traditional mail, depending on its typical postal rate. Today, that company must budget nearly 9% more—more than $88 million. If the issuer migrates just 30% of its customers to online billing—using e-mail notifications—over a five-year period, then 6 million customers will receive e-mail alerts versus traditional billing statements. At a projected cost of 1¢ per e-mail including set-up and automation, or 12¢ per year versus more than $4 for postal mail, we're talking significant savings: nearly $26 million dollars each year excluding any investments needed to build the necessary infrastructure to support online account services."

The key, and somewhat dubious, supposition in that scenario is the 30% migration figure—more optimistic than current studies indicate. If the e-billing uptake is to increase, banks need to get the word out about the service and how it benefits customers.

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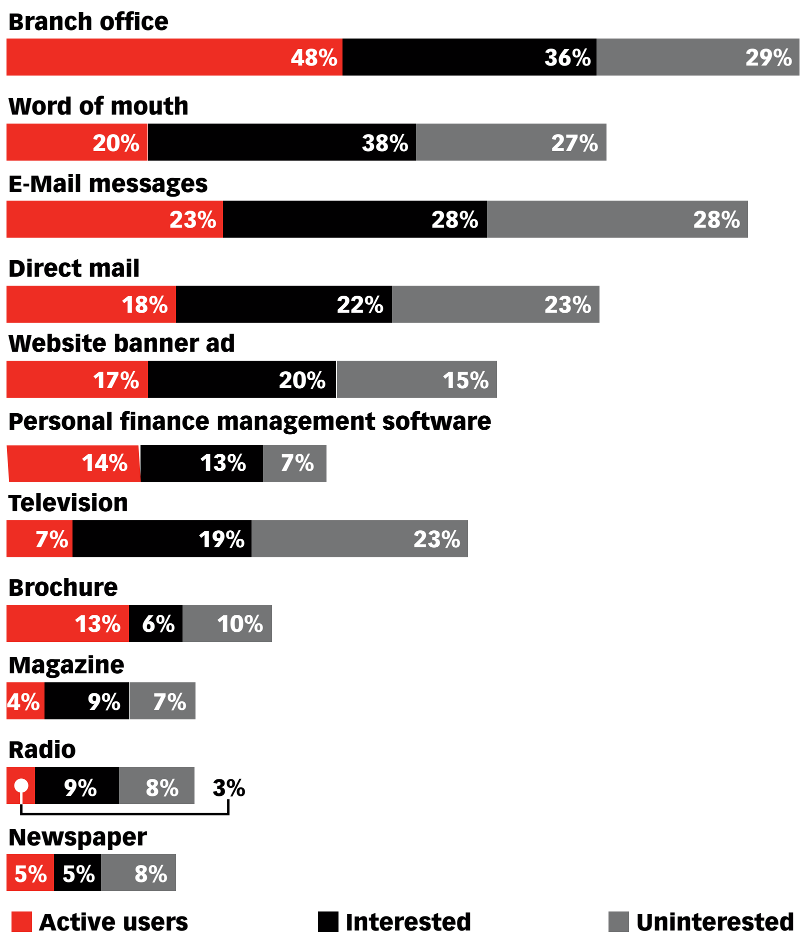
However, how those customers hear about a bank's online bill payment services may not be a component of traditional marketing, if that means advertising and direct mail. According to CheckFree and Harris Interactive, of those online banking customers interested in e-bill payment, 38% heard about it through word of mouth and 36% through information at their local branch—both substantially greater figures than those whose source of initial awareness was direct mail or a website banner ad.

Source of Initial Awareness of Online Bill Payment among US Household Bill Payers, 2001 (as a % of respondents)



Note: n=2,201; multiple answers allowed
Source: CheckFree/Marketing Workshop/Harris Interactive, December 2001; BAI Banking Strategies, July/August 2002

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No matter what the electronic tools employed for online bill payment systems, banks must build it, and make it free, and then there's a good chance they will come. Just remember: online bill payment may never be a profit center directly, but it's a channel tool for keeping a bank's most valuable customers.

Electronic Bill Presentment and Payment

Some media observers sometimes make the mistake of conflating online bill payment with electronic bill presentment and payment (EBPP). The essential ingredient that makes EBPP a broader branch of plain bill-pay is the presentment. For the customer, that means not just paying a bill online based on the total due, but getting a full view of the bill's details prior to payment, just like with a paper bill. Bills are typically presented to the customer on the biller's or a bank's website or via an e-mail hyperlink.

That crucial choice about where the bill is presented contributes to what *American Banker* calls "a subtle turf war," where banks believe online billing will increase customer retention and nonbank billers are loathe "to cede any part of a customer relationship to banks that would present bills on their behalf."

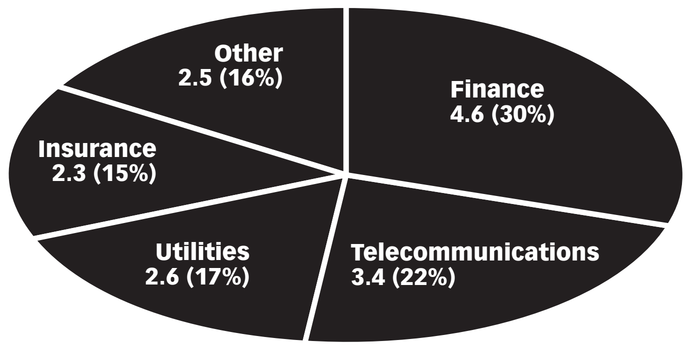
"[Bill presentment] would require consumers seeing the value in it, and I don't think we've ever defined what that value is."

– Janey Place, executive vice president, Mellon Financial; president, Mellon Lab

The battle between billers wanting the online action directly and banks wanting to control the match is a factor that might either boost or retard consumers signing up for e-bill services. To have all bills consolidated at one website certainly is easier for customers than having to log in at each biller's website to pay bills. That puts the ball in the bank's court. Billers, on the other hand, will sometimes offer benefits, such as discounts, to customers who pay bills at their sites. Now the ball is back in the biller's court.

The bank-consolidation versus biller-direct competition consists of industries such as other financial-service firms, with 30% of US consumer bills in 2000, according to TowerGroup. Other active billers include telecommunications, with 22%, and utility companies, with 17%.

US Consumer Bills, by Industry, 2000 (in billions and as a % of total volume)



Source: TowerGroup, 2001

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A breakdown of those three industry billers shows credit card, telephone and electric as the dominant players, with the greatest shares.

US Consumer Bills, by Industry, 2000

Finance/ 4.6 billion bills		Telecom/ 3.4 billion bills		Utilities/ 2.6 billion bills		Insurance/ 2.3 billion bills	
Revolving cards	47%	Telephone	36%	Electric	51%	Property and casualty	40%
Charge cards	17%	Cable	24%	Water/ sewer	27%	Health	30%
Mortgages	15%	Cellular	23%	Gas	22%	Life	25%
Other	14%	Other cellular	11%	–	–	Other	5%
Auto	7%	Other	7%	–	–	–	–
Total	**100%**	**Total**	**100%**	**Total**	**100%**	**Total**	**100%**

Source: TowerGroup, 2001

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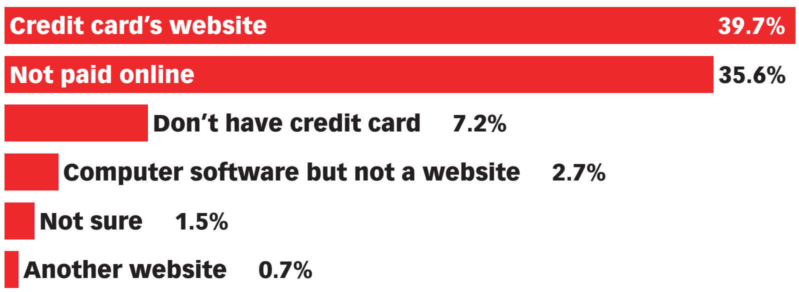
At this point in the e-bill game, the biller-direct model appears to be winning. Take credit card bills, as Gomez did in a March 2002 survey. Among US internet users, while 39.7% paid their plastic bills directly at the card issuer's website and 35.6% paid offline, a mere 0.7% paid at another website.

Perhaps credit cards aren't the best example, since many of the billers' websites are banking websites, but the trend looks bad for banks.

How US Internet Users Paid Their Most Recent Credit Card Bill, 2002 (as a % of respondents)



Note: n=206
Source: Gomez, Inc., March 2002; American Banker, March 2002

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This move toward the biller-direct model by consumers is attributed to banks charging fees for e-billing, according to Forrester Research. The firm found that 78% of consumers prefer to get their bills by e-mail from the companies they do business with, rather than paying their bills at a bank site.

"[In fact], the success of the biller-direct model, in which large consumer-oriented enterprises such as telephone companies and credit card issuers deliver their own bills via their own websites, is no doubt hampering banks in presenting aggregated bills on their sites," reports *American Banker*.

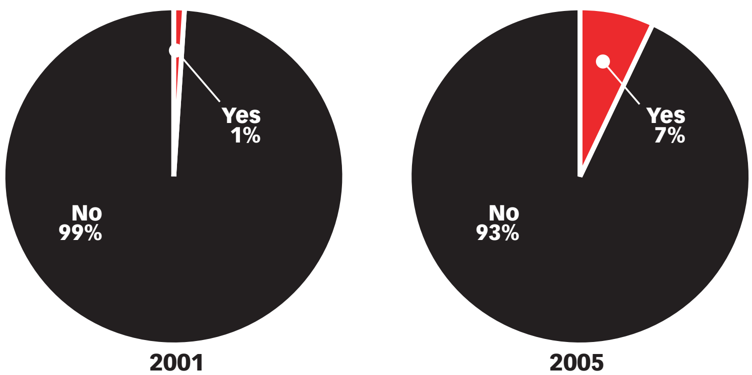
"The number of banks doing presentment is definitely a minority."

– Moriah Campbell-Holt, analyst, Gomez

So, while virtually all large banks, and many smaller ones, offer online bill-pay services, only seven of the 30 banks ranked by Gomez on its internet banking scorecard offer full EBPP. "To be counted, banks must offer bills from third parties through a service that is integrated into their online banking offerings," according to *American Banker*. "Wells and Citi do not qualify." The seven that do offer presentment are Bank of America, Bank One, Charter One Financial, LaSalle Bank, US Bancorp, Wachovia and NetBank. (For more on the Gomez rankings, see the "Rank the Bank" chapter below.)

When the EBPP target opens up from seven out of 30 institutions ranked by Gomez to all US banks, TowerGroup suggests even smaller EBPP rates. The firm predicts that the microscopic 1% rate in 2001 will develop to a still tiny 7% by 2005.

US Banks Offering Electronic Bill Presentment Services, 2001 & 2005



Source: TowerGroup, 2001

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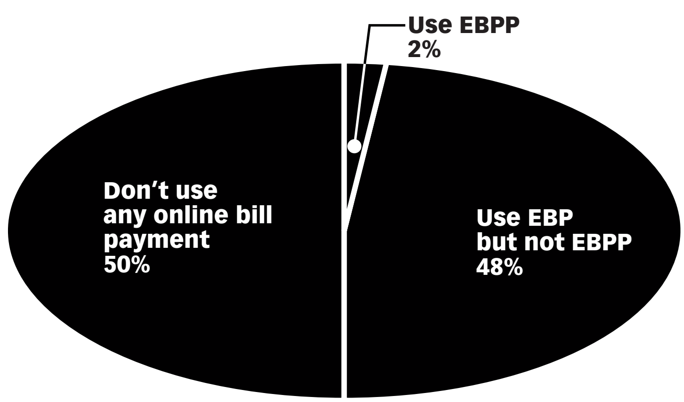
Which comes first, then, the bank or the customer? The traditional chicken-and-egg conundrum shows that even US households that bank online still shun EBPP. While 48% use bill-pay services—according to Cyber Dialogue, *American Banker* and Dove Consulting—only 2% have bills presented to them.

US Households that Use EBP and EBPP, 2001 (as a % of households banking online)



Note: survey based on 13 million US online banking households; EBP - Electronic Bill Payment; EBPP - Electronic Bill Presentment and Payment
Source: Cyber Dialogue, American Banker, Dove Consulting, 2001

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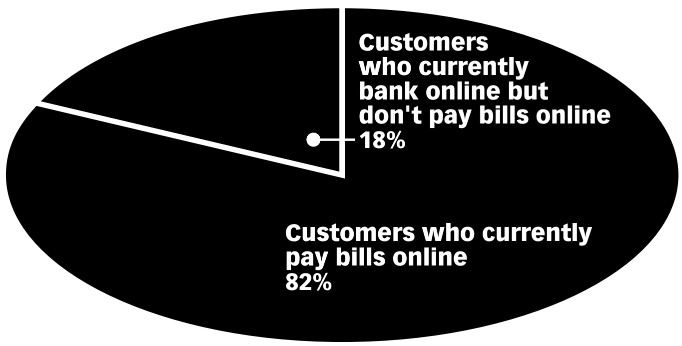
"The real cost savings is occurring on the customer-service side."

– Penny Gillespie, analyst, Giga Information Group

That 48% segment is the prime target for marketing electronic bill presentment, according to Forrester Research. In a survey of 22 financial institutions in late 2001, 82% said that customers who currently pay bills online are their EBPP target. That's fairly logical.

US Banks' Targets for Marketing Electronic Bill Presentment, 2001



Note: based on survey of 22 financial institutions in late 2001
Source: Forrester Research, 2001; BAI Banking Strategies, July/August 2002

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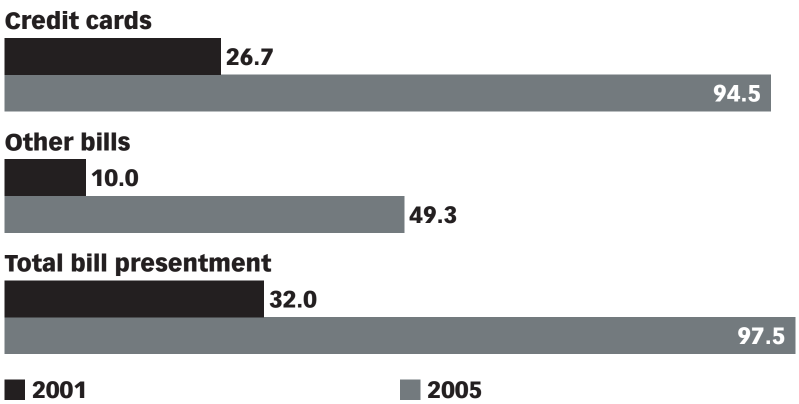
In contrast, the figures below from Gartner seem entirely off the map. The research firm believes that 32.0 million internet users adopted bill presentment in 2001, with that group rising to 97.5 million in 2005. Is Gartner conflating bill-pay with bill presentment? Was there a typo in their data, with millions really being thousands?

E-Bill and Online Account Management Adoption among US Internet Users, 2001 & 2005 (in millions)



Note: The sum of credit cards and other bills does not equal stated total because many individuals will receive and pay both credit card and other bills online
Source: Gartner, November 2001; Credit Card Management, April 2002

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Statistics from CheckFree, the largest provider of EBPP systems to banks, disagree with Gomez, Tower and the three firms cited above. According to the Atlanta-based technology firm, 475 of its customers—most of them financial institutions—act as bill presenters to consumers. However, that figure "really represents the number of bank customers that have signed up for bill payment, a service that automatically includes presentment capabilities," reports *American Banker*. Even CheckFree's vice president for channel marketing admits that whether or not the banks are actually presenting bills "is another issue."

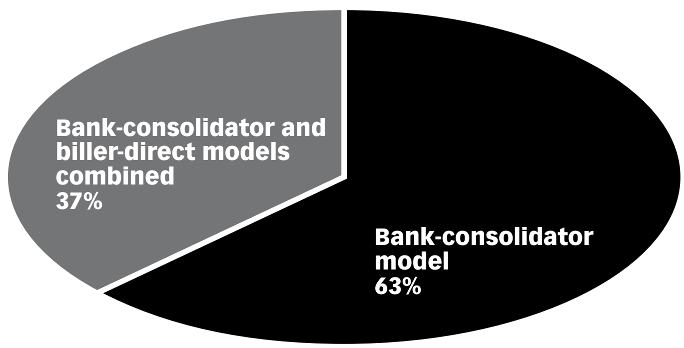
"At the end of the day, what presentment requires is a change in behavior. If all you can tell customers is that they can get two bills electronically, that's not enough to change—particularly for something so personal as paying bills."

– Paul Ayres, senior vice president of online services, KeyCorp

One tool that banks have in their favor is an already-used electronic system for payments, and that's the automated clearing house (ACH). While the network currently lacks the capacity to transport all the information that a typical bill—such as a monthly credit card statement—carries, tests are underway to adapt ACH for e-billing. (More on the topic in the ACH section below.)

Even though the Gomez chart above shows more credit card bills being paid directly at the billers' websites, a study last year by Forrester Research estimates the odds for EBPP success in favor of the bank over the biller, 63% to 37%, respectively.

Estimated Success Odds for EBPP* Distribution Models, by US Financial Institutions, 2001 (as a % of respondents)



*Note: n=40; *electronic bill presentment and payment*
Source: Forrester Research, 2001; BAI Banking Strategies, May/June 2002

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The cause that banks and billers fight over has two slogans: Save money! and Customer loyalty! Considering money, the chart below from TowerGroup shows that annual biller costs in the US could drop from $44.4 billion total to $38.9 billion with EBPP systems in place. That $5.5 billion savings translates to a 12.3% discount.

Annual US Biller Costs for Current Billing Systems vs. EBPP, 2001 (in billions)

	Current system	EBPP system	Cost savings
Internal expense	$10.0	$5.0	$5.0
Payment to third parties			
Hardware/software/support	$20.0	$11.0	$9.0
Bill presentment/payment fees	$5.4	$12.7	($7.3)
Payment to banks			
DDA fees	$3.6	$2.8	$0.8
ACH/ card/lockbox fees	$1.0	$2.5	($1.5)
Bill presentment fees	$0.0	$4.7	($4.7)
Payments to the USPS			**$0.0**
Postage	$4.2	$0.0	$4.2
Certification authority and other eService for billing/payments	$0.0	$0.2	($0.2)
Total	**$44.4**	**$38.9**	**$5.5**

Source: TowerGroup, 2001

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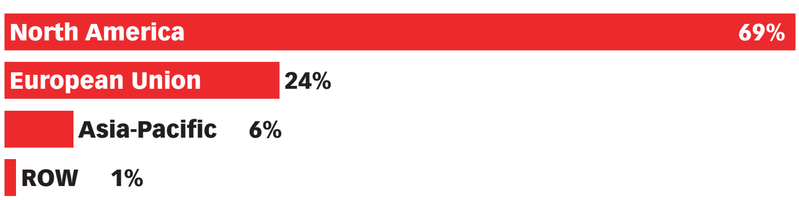
No matter which side wins the EBPP game, the lion's share of activity (69%) is in North America, according to TowerGroup, with the EU following at 24%.

Electronic Bill Presentment and Payment (EBPP) Volume Worldwide, by Region, 2005 (as a % of global EBPP activity)



Source: TowerGroup, January 2002

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B2B E-Payments

Online bill payment and presentment perhaps makes even more sense in the business-to-business realm than among consumers. Also called electronic invoice presentment and payment (EIPP) in the corporate world, e-payments offer businesses certain benefits that paper mail cannot match. For example, "electronic billing...offers predictability, something corporate treasurers admire and want," according to *American Banker*. In that light, e-payments change from being an automation tools to a risk-management system.

Regardless of the purported benefits, EIPP is hitting roadblocks that are slowing its growth. A recently published report from The New York Clearing House—an e-payments association owned by 11 large banks such as Bank of America, Citigroup, J.P. Morgan Chase and Wells Fargo—points to the problems. The report, called "The Remaining Barriers to e-Payments and Straight-Through Processing," surveyed 155 companies with annual revenues of $10 million and above.

According to these corporations, the e-payment barriers include:

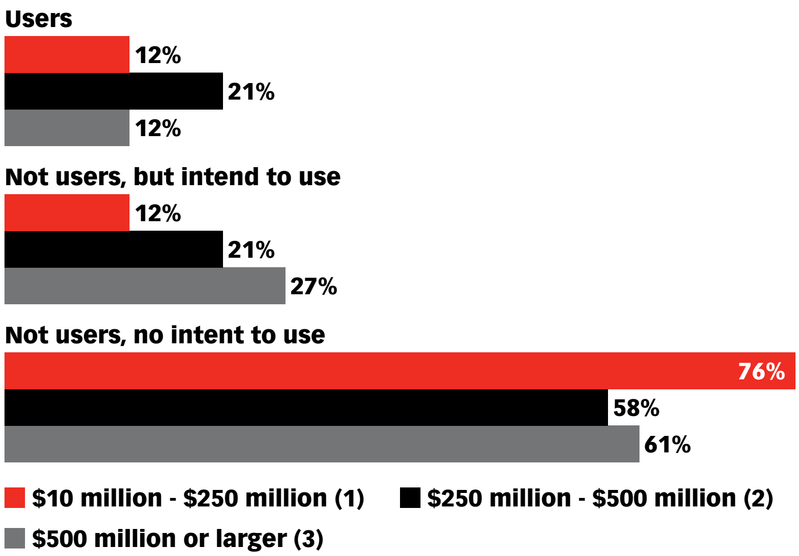
- invoices not containing electronic payment remittance information;
- software shortfalls, where accounting programs do not have e-payment initiation or receipt capabilities, and lack of integration with cash-management systems;
- perception of loss of float;
- fears about unauthorized or inaccurate debits;
- concerns about security and fraud;
- and reluctance to give out necessary banking information, such as account numbers.

"The invoice is the key. Making the payment is easy."

– Suzanne Hurt, director of marketing, Bottomline Technologies (e-payments provider)

How these various obstacles delineated by the Clearing House translate statistically shows in the chart below, where—no matter what the size of the corporation—the majority have no intent to use EIPP services.

US Corporate Interest in EIPP* Services, by Company Revenues, 2002 (as a % of respondents)



*Note: *Electronic Invoice Presentment and Payment; (1) n=50; (2) n=53; (3) n=52*
Source: The New York Clearing House, April 2002

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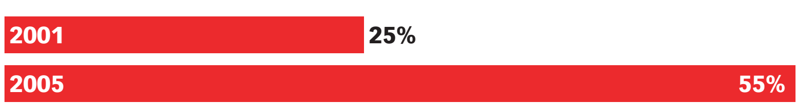
In a survey earlier this year of companies with $100 million or more in annual revenues, Gartner came away with different adoption rates for e-payments—but from a different perspective.

First, the research firm sees electronic payments as 25% of total payments in 2001, rising to 55% by 2005. These e-payments, however, include not only internet-based transactions but also electronic channels such as the automated clearing house network.

Electronic Payments as a Portion of Total Payments among Large US Enterprises, 2001 & 2005



Note: survey of companies with more than $100 million in annual revenue
Source: Gartner , 2002; ecomworld, May 2002

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As cited in the Clearing House report, a recent Federal Reserve study indicates that 86% of B2B payments occur via paper check, with only 14% being electronic. And of those electronic payments, 70% are ACH, 17% are electronic data interchange (EDI) and 9% are on the credit-card networks.

While not indicated in the report, let's assume for the moment that the remaining 4% of B2B electronic payments are over the internet. Gartner sees it differently, saying that 20% of e-payments made by large US enterprises were made via the internet in 2001, with projections that the proportion will jump to 45% by 2005.

Large US Enterprises' Electronic Payments Made via the Internet, 2001 & 2005 (as a % of all e-payments)

Note: survey of companies with more than $100 million in annual revenue
Source: Gartner , 2002; ecomworld, May 2002

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Furthermore, Gartner projects that the percentage of corporate customers receiving bills over the web will rise to 16% by 2005, from the current 2%; and that internet-based transactions will catch up to EDI by 2005, with each accounting for 45% of electronic invoice volume.

Moving from payment to presentment, and from US only to worldwide, Gartner expects that by 2004, 35% of companies will deliver invoices using the internet.

Share of Companies Worldwide Using the Internet to Deliver Invoices, 2001, 2002 & 2004

Source: Gartner, 2001

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In order to overcome the EIPP obstacles, the Clearing House points to incentives. Take the reluctance to give up float, where the company can mail a check for payment and have four or five days for it to clear. In response, "one of the incentives mentioned frequently was splitting the benefits of the float by giving a small discount of 1% to 2% for paying on time."

In addition, corporate financial officers may have misperceptions about existing electronic networks. For example, while current ACH formats have defined fields for most of the necessary e-payment information, not one of the executives surveyed by the Clearing House mentioned that. In that light, "Banks should be positioning themselves in assist their customers in reaching this next level of efficiency in financial transactions."

Another EIPP success story, related in the August 2002 issue of *Global Finance* magazine, talks about how those companies who pay now have leverage. "Big buyers of supplies and services—conglomerates such as General Electric and Wal-Mart—are demanding that their sellers send them invoices only over the internet. And in this tough global business and economic environment, they're getting what they want since sellers are eager to get their business."

And even small take-up rates for B2B e-payments make financial sense, according to Gartner. *Global Finance* reports the research firm as saying that "two-thirds of businesses are sending an average of 20% of their invoices electronically, but only 15% of those invoices are being transmitted over the internet while 70% are sent over electronic data interchange (EDI). …So, among companies that use electronic invoicing, just 2% of their customers are receiving the invoices over the web. That small rate of adoption, though, is just about enough to make EIPP financially viable for billers."

A Gartner report published in May 2002 noted that US companies sending business invoices on the internet can achieve a positive ROI even if only 2.3% of their bills are viewed and paid online. Therefore, an average large business that mails 66,000 invoices a month can save about $7.25 per bill when it's sent and paid online.

Finally, some industries have surmounted EIPP hurdles by implementing standards that everyone stands behind. The legal industry, for one, is a "leading adopter of e-billing, with 35% or more of total invoices being sent over the web," according to *Global Finance*.

Gartner maintains that EIPP will become pervasive "only if buyers and sellers can see they have strong financial incentives to do business in this new way. For sellers, that means receiving quicker payment, and for buyers it means obtaining discounts for paying faster."

B. Automated Clearing House (ACH)

As today's primary electronic payments network for financial institutions, the automated clearing house (ACH) is finding applications beyond its initial purpose.

As defined in *American Banker*'s online glossary, "The ACH network is a nationwide electronic funds transfer system for participating depository financial institutions. The American Clearing House Association, Electronic Payments Network, Federal Reserve and Visa act as ACH operators—central clearing facilities through which financial institutions transmit or receive ACH debits and credits. The ACH network serves 20,000 financial institutions, 3 million businesses and 100 million individuals. The ACH network is commonly used for direct deposit of payroll and government benefits such as Social Security, direct payment of consumer bills, business-to-business payments, federal tax payments and, increasingly, e-commerce payments."

More so than other networks, the ACH is behind online bill payment services by banks. When a consumer authorizes payment to the biller, that occurs most often as a direct debit from that person's bank account, in the form of an ACH transfer.

Most of the top US banks using the ACH payment network are the top banks by size as well. However, Citigroup, the largest US bank, is ranked only tenth in the ACH listing.

Top 10 US Banks in National Automated Clearinghouse (ACH) Payments, 2001 (in millions)

	Debits	Credits	Total	Change
1. J.P. Morgan Chase (New York)	$348.73	$282.1	$630.83	14.3%
2. Bank One (Chicago)	$396.94	$191.27	$588.21	21.4%
3. Wells Fargo (San Francisco)	$235.82	$267.07	$502.89	9.0%
4. Wachovia (Charlotte, NC)	$150.37	$267.5	$417.87	98.3%
5. Bank of America (Charlotte, NC)	$114.39	$235.14	$349.53	-0.5%
6. KeyCorp (Cleveland)	$128.96	$90.97	$219.93	35.8%
7. FleetBoston (Boston)	$39.01	$126.54	$165.55	23.3%
8. Northern Trust (Chicago)	$55.41	$84.01	$139.42	13.2%
9. U.S. Bancorp (Minneapolis)	$42.67	$80.55	$123.22	147.8%
10. Citigroup (New York)	$61.65	$59.87	$121.52	24.7%

Source: National Automated Clearinghouse Association (NACHA), April 2002

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According to the National Automated Clearing House Association (NACHA)—the Herndon, VA-based e-payments trade organization—6.9 billion ACH payments made in 2000 were worth more than $20 trillion. That averages to approximately $2,900 per payment. No other electronic payment method transmitted as many dollars, although greater volume occurred in ATM and credit card networks.

Volume and Value of US Electronic Transactions, 2000

Payment method	Volume (in millions)	Value (in billions)
ACH	6,900.0	$20,300.00
ATM	13,200.0	$800.00
Credit card	20,000.0	$1,400.00
Offline debit	5,300.0	$294.50
Online debit	3,975.0	$105.50
CHIPS	58.0	$292,147.00
FedWire	108.0	$379,756
Total	**49,541.0**	**$694,803.00**

Source: National Automated Clearing House Association (NACHA), 2001

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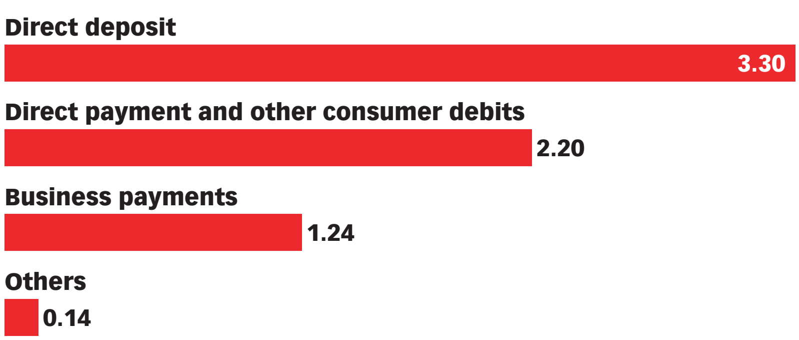
Of those 6.9 billion transactions, NACHA says that 48% were direct deposits, 32% were direct payments or other consumer debits, 18% were B2B payments and 2% were other types.

ACH Transaction Volume, by Type, 2000 (in billions)



Source: National Automated Clearing House Association (NACHA), 2001

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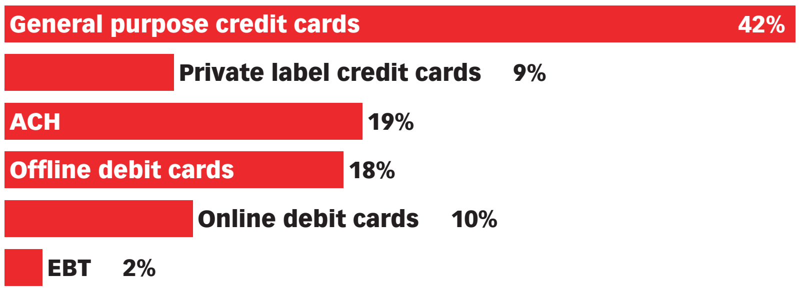
Research from the Federal Reserve backs up the NACHA balance between volume and value. Looking at the two charts below, you see that while ACH comprised only a modest volume of US electronic payments in 2000 at 19%, the network passed through a high proportion of value, at 78%.

Volume of US Electronic Payments, by Type, 2000



Source: Federal Reserve System, May 2001

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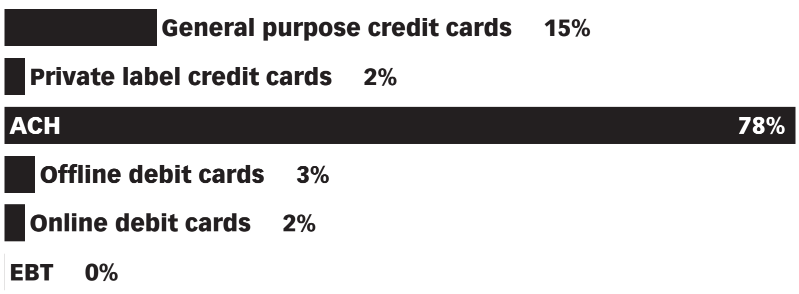
Value of US Electronic Payments, by Type, 2000



Source: Federal Reserve System, May 2001

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On the B2B side, the value of each payment was substantially higher than the $2,900 figure, at an average of $11,812. And even though we're comparing B2B in 2001 to the entire ACH network in 2000, it's worth noting the value of payments: $16.3 trillion for B2B out of $20.3 trillion for the whole network, or approximately 80%.

Total Value of B2B Payments Conducted via ACH* Network, 2001

Notional value of payments	$16.3 trillion
Average value per payment	$11,812

*Note: *Automated Clearing House*
Source: National Automated Clearinghouse Association (NACHA), 2002

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But B2B payment activity remains in the mid-teens as a percentage of total ACH transactions.

B2B Payment Activity via the ACH* Network, 1999-2001 (as a % of total transaction activity)

*Note: *Automated Clearing House*
Source: National Automated Clearinghouse Association (NACHA), 2002

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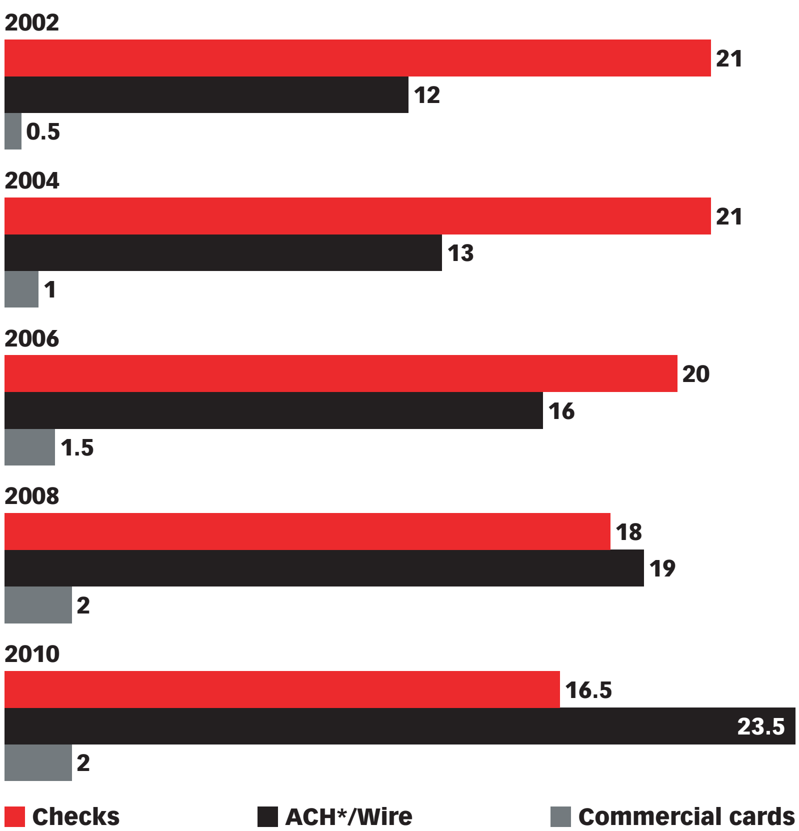
Celent Communications' look at just B2B electronic payments points to a shift from checks to ACH. In a February 2002 report, the firm projects that while in 2002 the largest share of transactions were by check, at 21 billion, by 2008 and beyond ACH will be the primary means of e-payments.

B2B Payments in the US, by Number of Transactions, 2002-2010 (in billions)



*Note: *Automated Clearinghouses*
Source: Celent Communications, February 2002

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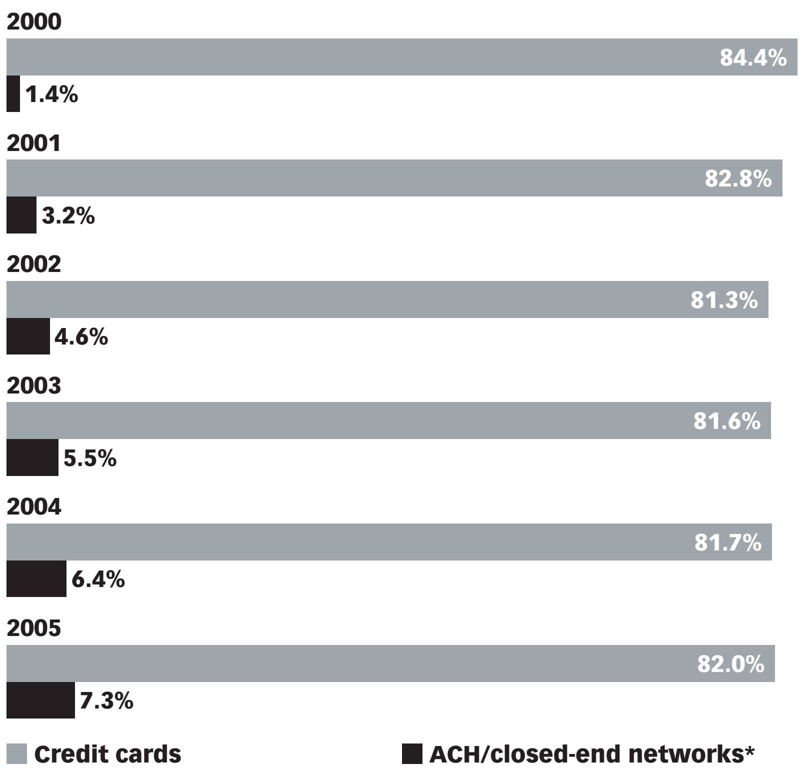
In addition to B2B, the use of the ACH network for e-commerce is on a slow but steady upswing, according to Celent. While the lion's share of non-recurring payments by US online shoppers will remain by credit cards, the use of ACH is expected to grow from 4.6% of total e-commerce in 2002 to 7.3% by 2005.

Payment Methods Used by US Online Shoppers, 2000-2005 (as a % of total e-commerce)



*Note: *non-card solutions*
Source: Celent Communications, April 2002

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The ACH network's predominant use for e-payments is making banks think it might be the perfect tool for an e-billing network—one that the banks would control, instead of the billers. Furthermore, the ACH offers a cost-effective method for e-payments, since each transaction costs less than a cent.

> **"It [using ACH for e-billing] makes perfect sense. It allows banks to leverage a network that's already in place."**
> *–Avivah Litan, research director, Gartner*

According to Gartner, the ACH presently plays a big role on the payment side of EBPP. The network carries 64% of consumer bill payments and 42%

of the related remittance data, such as invoice numbers and dates. The research firm believes the ACH offers more positives than negatives when it comes to e-billing. "Everyone is already hooked up to the ACH," says Avivah Litan, a Gartner research director. "All the billers know how to do it. It's just a matter of adding and activating the new message type [for e-billing]. If they manage to pull it off, it could be really attractive."

"All financial institutions and most major corporations already use the ACH, following established operating guidelines, dispute-resolution routines, and security standards," according to *American Banker*. "Broadening their deployment of the ACH should not present a huge leap for current users."

These various strengths are why the Federal Reserve Bank of Cleveland, working with Dollar Bank of Pittsburgh, is conducting a pilot this fall to test the ACH network for full-scale EBPP.

"The ACH is a guaranteed payment system that's open to all participants, and we like that."

– Abraham L. Nader, chief operating officer, Dollar Bank of Pittsburgh

While bills cannot currently go through the ACH, the pilot would be testing such enhancements as a standard classification code for invoices and an expansion of the ACH file structure from today's 80 characters to 300 characters, enough for summary bill information. In addition, the ACH would carry hyperlinks for connecting customers to biller websites.

Used like this, the bank-controlled ACH would put financial-service institutions into the consolidator model for electronic bill presentment and payment.

"The ACH is the lowest-cost mechanism available. We think we can leverage the existing ACH infrastructure fairly easily."

– Mike Taipale, manager of product development, Federal Reserve Bank of Cleveland

"Systems changes aside, the ACH has much to recommend it as an executor of EBPP transactions," according to *American Banker*. "The network processed more than 7.8 billion payments in 2001, and transaction volumes are expected to grow 15% each year, so there are no questions about its integrity or feasibility."

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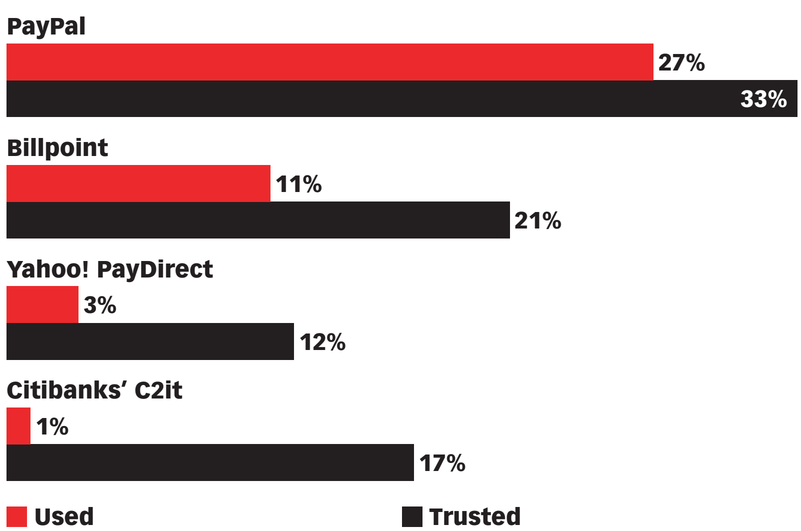
C. P2P Payments

Whether the concept is shorthand for person-to-person or peer-to-peer, payments made the P2P way appeared as a rocket among e-payment channels. Before 1999, the year PayPal and Billpoint were launched, the P2P payment method didn't even exist. Other major P2P services include Yahoo!'s PayDirect, Bank One's eMoneyMail and Citigroup's c2it, but PayPal is the largest and most-known of the group.

PayPal's dominance in this market is so clear that eBay, the online auction giant, has offered to buy the P2P company. That's true even though eBay, along with Wells Fargo and Visa, is a partner in the Billpoint service. According to a document filed with the Securities and Exchange Commission, PayPal shareholders will vote on 3 October 2002 whether or not to accept eBay's offer of 0.39 eBay shares for each outstanding PayPal share. At eBay's current stock price, the deal would be worth about $1.42 billion.

Research from Gartner earlier this year puts numbers on PayPal's anecdotal strength. Among US online consumers, 27% have used PayPal services, but only 11% have used Billpoint.

Used and Trusted P2P* Payment Services in the US, January 2002 (as a % of online consumers)



*Note: *person-to-person*
Source: Gartner, February 2002

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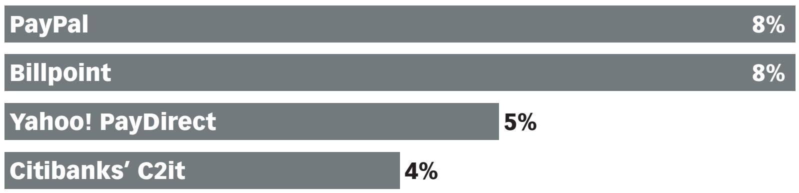
However, when Gartner asked those same consumers about which P2P service they plan to use in the future, PayPal and Billpoint came out tied at 8%.

US Consumers Planning to Use Selected P2P* Payment Services in the Future, January 2002 (as a % of online consumers)



*Note: *person-to-person*
Source: Gartner, February 2002

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Today's P2P market focuses on online auctions, with 99% of the volume from that source, according to TowerGroup. By 2005, the research firm expects that figure to fall only slightly to 95%. As auction sites have become an established element of internet commerce, Jupiter Media Metrix projects that P2P payments will rise from 7% of consumer e-commerce transactions in 2001 to 9% by 2006.

When Tower looks at how many P2P payments are made annually, huge increases are seen—soaring from 100 million in 2001 to 4 billion by 2005.

Volume of Person-to-Person (P2P) Payments Online, 2000, 2001 & 2005 (in millions)

Source: TowerGroup, 2001

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And as people become more used to online auctions, the more they adopt P2P payments. Research from ESP Consulting, an Austin, TX-based technology consulting firm, shows that while checks are used more than e-payments for a person's first online auction, subsequent payments trend more toward electronic methods.

Percent of Active Online Auction Buyers Using Electronic Payments and Checks, 2002

Electronic payments	
First online auction purchase	14%
Most recent online auction purchase	37%
Checks	
First online auction purchase	50%
Most recent online auction purchase	29%

Source: ESP Consulting, January 2002

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Therefore, if the bulk of P2P action remains restricted to auctions—which is largely a consumer-to-consumer activity—then banks see their best P2P opening in consumer-to-business e-payments. This might consist of e-payments to small businesses that are unwilling or unable to pay credit card acceptance charges and for charitable donations.

The banking industry's opportunity to steal a share of P2P payments is based in consumer sentiments. According to a web-based survey in January 2001 by NYCE, an ATM network operator, approximately 57% of respondents said it's important that their financial institution support a P2P service.

According to *Electronic Payments International*, "The bank-owned [credit] card associations could be the dark horses in the P2P payments industry. The card associations have global infrastructures and credit, debit and ATM cards in the hands of millions of consumers."

As it stands now, credit cards are already a major factor in P2P activity. For example, of PayPal's $3.5 billion in transactions in 2001, with daily transactions exceeding $10 million, more than half was charged to credit cards, according to *Bank Technology News*. The use of credit cards online brings up security issues for consumers. As a Jupiter report conducted last year, "Online consumers are clear in their priorities: When making a payment online, nothing is more important than making it difficult to commit fraud using consumers' personal account information."

That emphasis on P2P payments funded by credit card will shift, if Jupiter's projections are on target. In fact, even though PayPal claims that more than half of its payments are by credit card, that method constituted 40% of all P2P funding in 2001, with direct debit (typically through the ACH network) at 50%. And by 2006, the research company sees direct debit funding as the predominant payment method, at 75% of the total.

Peer-to-Peer (P2P) Payment Transactions in the US, by Funding Method, 2001-2006 (as a % of total transactions)

	2001	2002	2003	2004	2005	2006
Debit card	10%	9%	9%	8%	7%	6%
Credit card	40%	36%	32%	27%	23%	19%
Direct debit	50%	55%	60%	65%	70%	75%

Note: P2P payments are expected to total 9% of all consumer commerce transactions by 2006
Source: Jupiter Media Metrix, Inc., September 2001; Bank Technology News, May 2002

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How much of a market banks will really find in P2P payments is still up for debate, however. Some observers feel that while P2P is perfect for online auctions, outside of that venue there's little case for the e-payment method. As quoted in *Bank Technology News*, Paul Rodwick, vice president at E.piphany—a San Mateo, CA-based CRM systems company—says, "I use online banking and credit cards and checks and those meet my needs for almost any case. When I think about dealing with individual people, I can only think of two cases where there'd be an interest. One would be at something like a garage sale. The other case would be with very small vendors, a gardener for example. The kinds of things that P2P are designed to deal with don't really come up."

Whether or not that's the case remains out for judgment.

D. E-Checks: Truncation & Imaging

With all the hubbub about e-billing, alternative uses of the ACH network and P2P payment schemes, good old paper checks continue as the dominant payment method in the US. According to Celent Communications, 83% of remote retail payments in 2002 will be made by check, with only 17% by credit cards and direct debit. (Those numbers nearly reverse in Europe.)

Remote Retail Payments in the US vs. Europe, by Type, 2002

Source: Celent Communications, March 2002

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But if the Federal Reserve and many banks get their way, a substantial proportion of today's check processing will change from paper to electrons. Whether this practice is called check imaging or check truncation, the idea behind the proposed Check Truncation Act—drafted by the Federal Reserve and submitted to Congress in December 2001—is to reduce the need for paper.

The current check-processing system works as follows, according to the Financial Services Roundtable, a Washington, DC-based financial-service association: "Each night, checks are processed by depositary banks and various intermediaries and then transported for presentment to paying banks across the country. Similarly, checks that, for a variety of reasons, cannot be paid are returned to depositary banks. While the banking industry has applied technology to improve the check collection and return process, the check collection system's legal framework still requires that banks physically present and return checks unless they have obtained agreements to do so electronically."

The proposed law "would allow for digital images of checks to be legally recognized as 'substitute checks'—making an image of a check legally the same as its paper version. Banks would not have to wait to receive the paper check, and could begin processing the payment as soon as the digital image is received," according to *American Banker.* "Under current rules a bank either sends the original check to another bank or has an agreement to send an electronic version. Under the Check Truncation Act there would be no need for such agreements."

Besides the general movement toward e-payments, another impetus toward changes in how checks are handled came the aftermath of last

September's terrorist attack. "The Federal Reserve, for example, was forced to absorb billions of dollars in float—$23 billion on 12 September versus $2 billion on 5 September—when it decided...to provide credit to depositing banks on money it had not yet collected."

"We were thinking about it [the Check Truncation Act] in terms of cost-effectiveness, not in terms of a contingency measure if physical transportation came to a halt."

– Louise Roseman, director of operations and payment systems, Federal Reserve Board

The interruptions in the nation's transportation infrastructure pointed to the need for moving as much of the traditional, paper-based financial system to electronic methods. The possibility of disturbances became magnified when the anthrax scares closed post offices throughout the US, and hindered timely delivery of check payments.

The guiding principals of the Check Truncation Act, as outlined by the Financial Services Roundtable, consists of five elements:

- The law should improve the overall efficiency of the nation's payments system.
- The law should foster innovation without mandating the receipt of checks in electronic form, significant operational changes, or specific technical solutions or operational processes.
- The law should ensure that a bank and its customer would be in the equivalent legal and practical position regardless of whether or not they received the original check.
- The burdens associated with the law should not outweigh the associated benefits for either banks in the aggregate or their customers in the aggregate.
- The law should provide that banks that choose to convert a check to, or receive a check in, electronic form should internalize, to the extent practicable, the costs and risks related to the creation of the substitute check, as they receive most of the associated benefits.

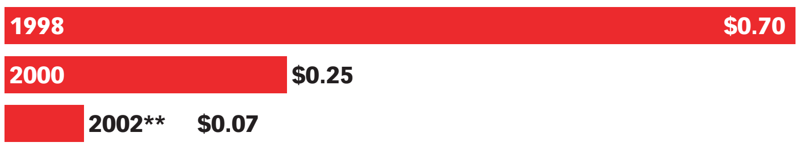
"Had the provisions of this proposed act [Check Truncation Act] been in effect when air traffic came to a standstill due to the terrorist attacks on September 11, banks would have been able to reduce the impact of the disruption in air transportation on the check collection system."

– Alan Greenspan, chairman, Federal Reserve Board

Other elements that make the proposed act more feasible than ever is the declining cost of imaging technology, which allows banks to produce computer-based images of each check even when the physical check's shipment is truncated. In fact, the Federal Reserve Bank of Atlanta told *US Banker* that "electronification of the paper check will lower costs and risks for banks."

According to TowerGroup research, the cost per megabyte for online digital check imaging should drop radically from $0.70 in 1998 to one-tenth that—or $0.07—in 2002.

Cost per Megabyte* of Online Digital Check Imaging, 1998, 2000 & 2001



*Note: *Sub-second access time*
***TowerGroup estimate*
Source: TowerGroup, 2002; Bank Technology News, April 2002

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In this light, e-checks also offer benefits to customers, both in the branch and offline. "Rather than having to search for a check on microfilm and then make a photocopy to get it to the customer," according to *US Banker*, "[a bank's] representatives can immediately produce a copy of a check from their PCs, which are linked into the digital check archive."

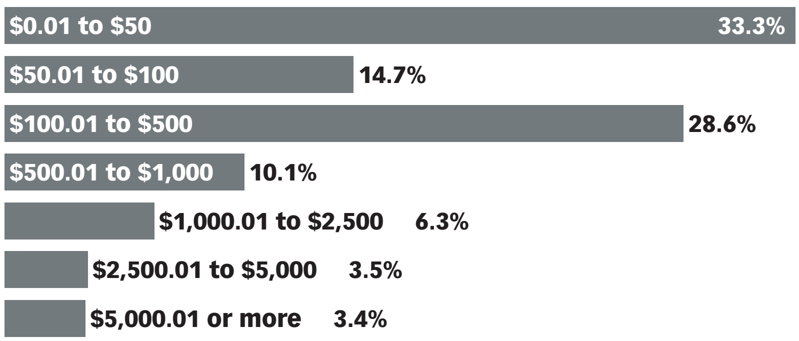
In fact, Union Bank of California plans to offer its consumer and commercial customers the ability to retrieve check images on their own on the bank's website, and is currently piloting the service.

"There was untapped demand for better customer service when it came to the checking business. Customers accepted that it was difficult for a bank to find records of a specific check when they asked for a copy."

– Bill Christensen, executive vice president, Union Bank of California

Consumers are likely to accept check truncation if the benefits can be shown to them. Even though truncation means the paper check won't be returned to them along with their monthly statement, the Federal Reserve analysis of check distribution by dollar amount in 2000 shows that the vast majority of checks, 76.6%, are for $500 or less. That means the loss of the paper check won't be, in most cases, for instruments used for significant purchases.

Distribution of Checks in the US, by Dollar Amount, 2000



Source: Federal Reserve System, May 2001

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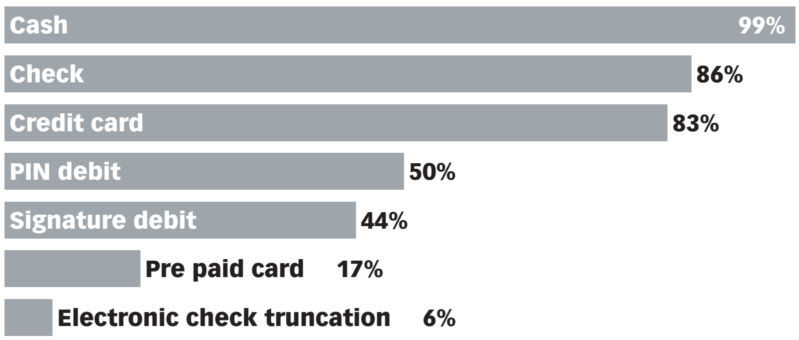
Should the Check Truncation Act, and the subsequent increase in check imaging, take off, it will help alleviate a large burden banks bear. Even though fewer checks are written now in the US than in the mid-1990s, checks are the dominant payment method. According to the Federal Reserve, 42.5 billion checks valued at $39.3 trillion were paid in 2000, down from the 49.5 billion figure for 1995.

Even with the downward trend, checks made up 59.5% of the retail noncash payments stream in 2000, as compared to 77.1% in 1995 and 85.7% in 1979. The main cause for checks' decreased share is the corresponding increase in credit cards.

Cash may still be king, as research from the American Bankers Association and Dove Consulting shows, but for payment at point of sale by US consumers, checks and credit cards are nearly as royal.

Payment Methods Used at Point of Sale by US Consumers, 2001 (as a % of respondents)



Note: n=1,499
Source: American Bankers Association, Dove Consulting, 2001; BAI Banking Strategies, March/April 2002

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Information technology and financial services go together like ham and eggs, peanut butter and jelly, champagne and caviar—like things that are nurturing and necessary and natural together. Long before the days of the internet, banks took to large, complex IT systems to manage their copious quantities of data.

That long history tells a classic good news/bad news story. While most banks have incorporated computer systems into all aspects of their operations, a combination of multiple systems and older (called "legacy") systems can make full bank-wide integration across channels a challenge.

"What happened with IT spending was almost the reverse of the way it should have happened. People spent all their money on internet applications. But they [the applications] don't talk to anything else, such as the back office."

– Michael McNamara, financial services analyst, Datamonitor

How well or poorly banks use information technology is another story, but one thing is certain—they spend substantial amounts of money on it, so that's one topic addressed in this chapter. The other main factor looked at are tech-based initiatives: how banks deploy IT to further strategic goals.

One basic problem, as Cap Gemini Ernst & Young points out in its "2001 Special Report on the Financial Services Industry," is that as older institutions attempt to move from being organized around products to customers—with the concurrent need to "integrate all their information and processes by customer instead of by product or geography"—expensive legacy systems saddle banks with burdens.

Banks tend to spend more of their financial resources on IT than other industries. According to *InformationWeek*, in 2001 US banks allocated an average of 8.4% of their annual sales revenue to their IT budgets. Only telecommunications, at 10.6%, and financial services in general, at 8.8%, surpassed banking (and telecommunications, with its colossal downslide, might not be as high in 2002.)

"Information technology is a key to differentiation. In fact, it is *the* key to differentiation."

– Octavio Marenzi, managing director, Celent Communications

Viewed as a percentage of sales, instead of revenue, US financial-service firms will devote 5.65% to IT in 2002, with only government and public sector enterprises at 7.31% being more, according to the Computer Sciences Corporation.

A. Spending Patterns

The need to create effective cross-channel systems, generated first by Y2K concerns and accelerated by the pursuit of online banking, created what *Bank Technology News* calls a "torrid pace of financial IT spending in recent years…double-digit, year-to-year increases in IT spending…had almost become commonplace in financial services."

In today's environment, "year-to-year IT spending within financial organizations is now increasing at a rate of about 5%," according to Cap Gemini, "down from meteoric heights of about 16% annually between 1997 and 1998."

Of course, the current recession restrains IT budgets. However, other issues also block IT spending. "Banks still are loaded down with technologies and underused capabilities purchased during the go-go years," according to *BTN*. "As a result, IT executives have become extremely conservative toward new purchasing." The Cap Gemini study finds a drop in spending for new IT infrastructure, going from 33% of budget in 1997 to 24% today.

Perhaps the primary focus for today's IT endeavors, at least according to TowerGroup, is what the research firm describes as "branch renewal"—the pursuit of branch "effectiveness," as contrasted to most institutions' previous focus on efficiency and sales within the branch. By being the oldest channel, branches are often the home of an aging IT infrastructure, as well, which needs to be replaced. Tower reports that of the more than 70,000 commercial bank branches in the US, "thousands run on IBM's OS/2 operating system and the hardware on which it resides…[but] IBM will discontinue support of OS/2 soon." The technology foundation in many other branches is even older, which creates escalating costs to maintain and upgrade.

"I just don't think you can ever be too pragmatic when it comes to IT spending in financial services."
– Kathleen Khirallah, senior research analyst, TowerGroup

As reported in *BTN*, Tower estimates that more than half of the nation's branch bank networks will update their IT over the next five years. "This effort, along with spending on maintenance of current systems, will cost over $17 billion," according to the Tower study.

The specific figures show 2002 IT spending on US branches at $3.7 billion, with ATMs and call centers next at $1.8 billion each. By 2005, spending on branch systems will still consume the bulk of IT budgets, while ATMs and call centers will still be the next two in budgetary line. However, the $1.9 billion Tower projects banks to spend on personal sales (such as CRM) will be the biggest change, as banks look to make more money from the mass affluent.

North American Banks' IT Spending, by Retail Delivery Channel, 2001-2005 (in billions)

	2001	2002	2003	2004	2005
Wireless	$0.0	$0.0	$0.1	$0.1	$0.2
Internet	$0.5	$0.6	$0.7	$0.9	$0.9
Personal sales	$1.3	$1.4	$1.6	$1.7	$1.9
ATM/kiosk	$1.8	$1.8	$1.9	$1.9	$2.0
Call center	$1.6	$1.8	$1.9	$2.0	$2.0
Branch	$3.4	$3.7	$4.1	$4.5	$4.8
Total	**$8.6**	**$9.3**	**$10.3**	**$11.1**	**$11.8**

Source: TowerGroup, December 2001; BAI Banking Strategies, July/August 2002

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"We're an information company and delivering information for our customers, so we have to keep investing in that space [the internet]."

– Kurt Woetzel, CIO, Bank of New York

Viewing those same TowerGroup retail delivery projections as percentages, it's clear that internet IT spending is the weak sister among channels. In no year will it be above 10%, and its peak is expected in 2004, at 8.1% of retail delivery channel IT budgets.

North American Banks' IT Spending, by Retail Delivery Channel, 2001-2005 (as a % of total spending)

	2001	2002	2003	2004	2005
Wireless	0.0%	0.0%	1.0%	0.9%	1.7%
Internet	5.8%	6.5%	6.8%	8.1%	7.6%
Personal sales	15.1%	15.1%	15.5%	15.3%	16.1%
ATM/kiosk	20.9%	19.4%	18.4%	17.1%	16.9%
Call center	18.6%	19.4%	18.4%	18.0%	16.9%
Branch	39.5%	39.8%	39.8%	40.5%	40.7%
Total	**$8.6**	**$9.3%**	**$10.3**	**$11.1**	**$11.8**

Source: TowerGroup, December 2001; BAI Banking Strategies, July/August 2002

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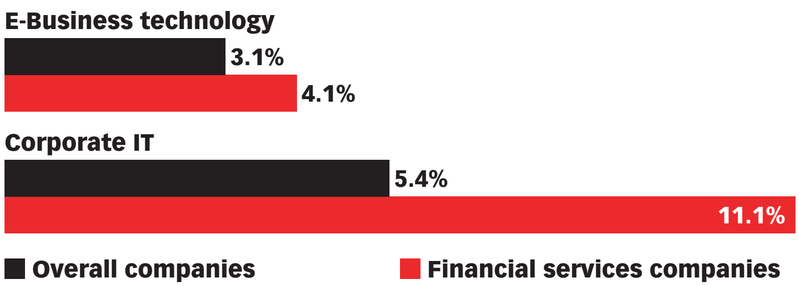
Research from Forrester aligns somewhat with Tower, showing that while financial-service companies in North America will spend 4.1% of their revenues during 2002 on e-business technology, they'll spend nearly three times as much, or 11.1%, on corporate IT.

Technology Spending among North American Financial Services Companies, 2002 (as a % of revenues)



Source: Forrester Research, June 2002

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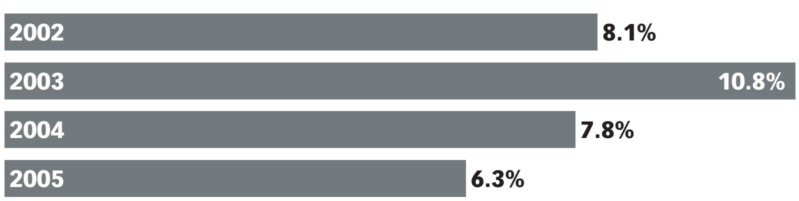
Other retail delivery channels US banks will spend 2002 IT budgets on, TowerGroup says, include "relationship sales" (defined as sales-force automation or wealth-management systems), call centers, ATMs, online banking and wireless devices.

Looked at in its entirety, total IT spending by banks for retail channels will increase each year, with the largest jump of 10.8% in 2003.

Total IT Spending by North American Banks for Retail Delivery Channels, 2002-2005 (as a % increase vs. prior year)



Note: includes wireless, internet, personal sales, ATM/kiosk, call center and branch
Source: TowerGroup, December 2001; BAI Banking Strategies, July/August 2002

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For a quick contrast, look at Datamonitor's projected IT spending for US retail banks. The 2001 figure of $10.43 billion is about 21% more than Tower's 2001 estimate, while the 2005 figure of $10.20 billion indicates a drop in IT spending, where Tower expects growth up to $11.8 billion that year.

US Retail Banks' IT Spending, 2001 & 2005 (in billions)

Source: Datamonitor, 2002

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Celent Communications and Meridien Research agree with Tower that the branch will command a substantial share of total bank technology investment in 2002, according to *BTN*. For example, Meridien forecasts that financial institutions worldwide will spend about 4% more on IT this year than they did in 2001, or a total of about $230 billion—down from 5.5% growth (at best) last year. By 2003, spending on financial IT will start to grow a little faster, and perhaps will return to a 6.5% growth rate by 2004.

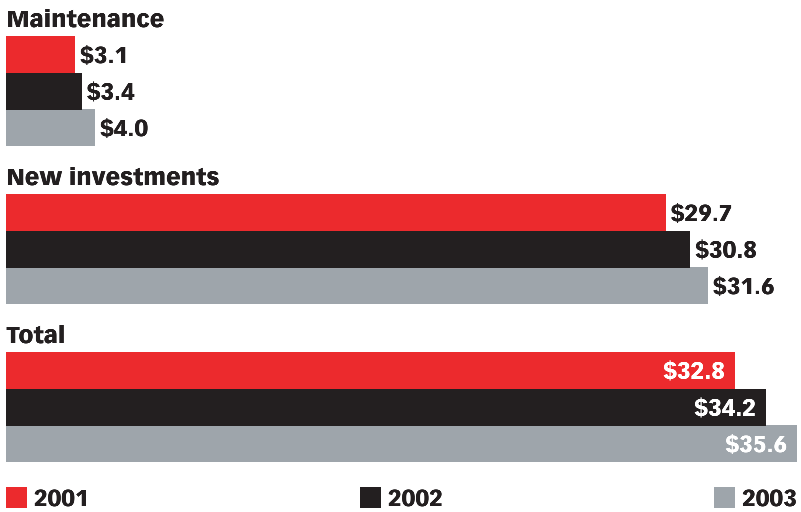
When healthy IT growth resumes, Meridien believes that "nearly all of it will be steered by strategic spending" rather than routine maintenance of existing infrastructure.

"Things got cut out of budgets in 2001. Technology initiatives were frozen or pruned significantly, and that process has continued to roll into this year. So, there is an absence of what I would call 'net new spend.'"

– Bill Bradway, co-founder, Meridien Research

Celent's figures on bank IT spending in the US alone concurs with the Meridien projections, showing new investments garnering 91% to 89% in the three years shown.

IT Spending for Maintenance and New Investments at US Banks, 2001-2003 (in billions)



Source: Celent Communications, January 2002

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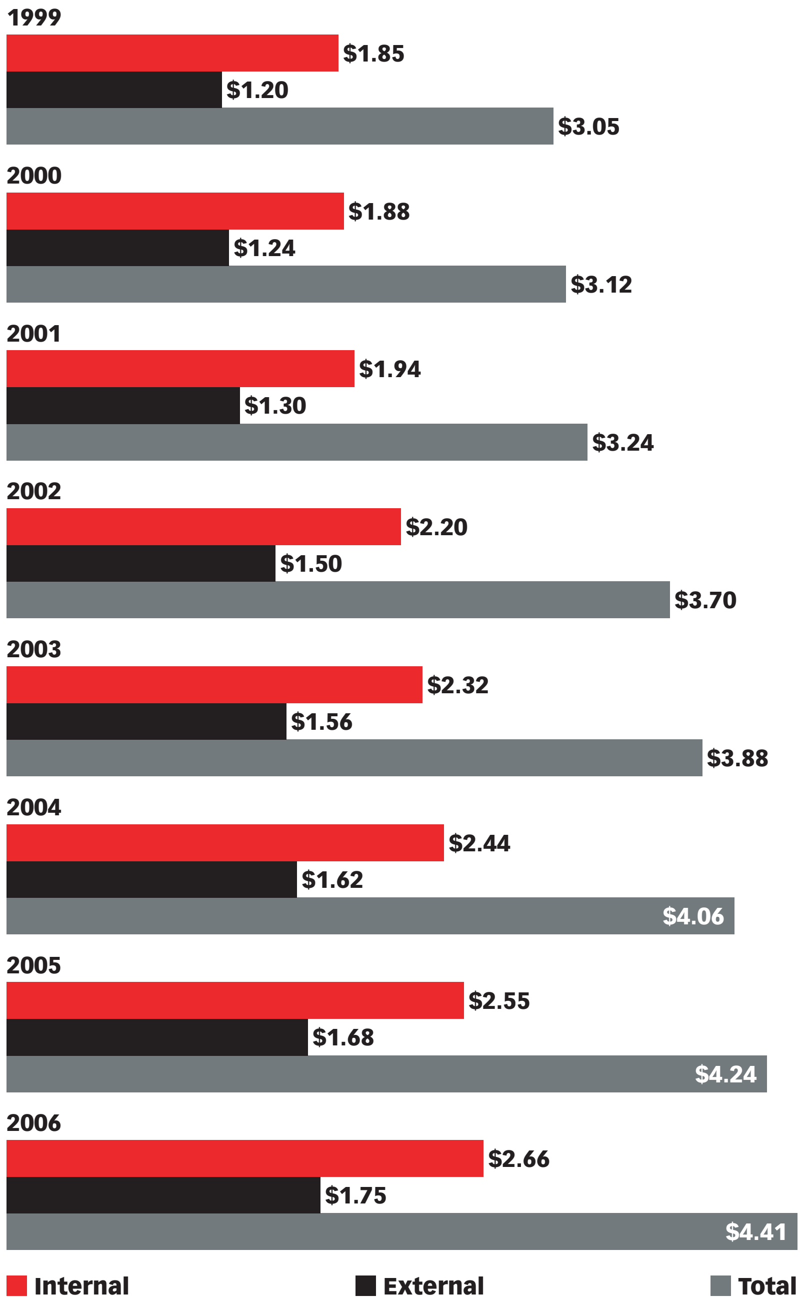
As the branch gets pumped up with IT dollars, Celent believes banks will divvy it up more for internal than external needs. That would include replacing the outmoded systems, as Tower pointed out.

US Bank IT Spending on Branches, 1999-2006 (in billions)



Source: Celent Communications, July 2002

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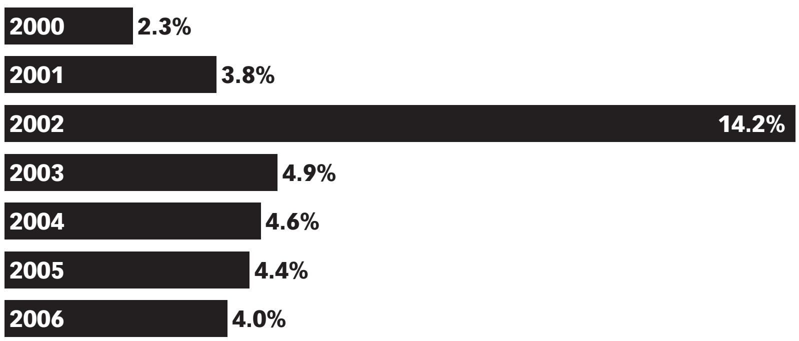
However, compare Tower's figures above for branch IT spending at about 40% of the total retail delivery channel to Celent's figures in the two charts above, which give branches approximately 10% of the IT budgets. The large difference between the two figures comes from Tower's focus on retail banking IT and Celent's on all sides of banking IT.

Turning back the focus to branch IT spending alone, Celent sees a large spike this year, with a 14.2% growth rate, settling back to the 4%-plus range in subsequent years.

US Bank IT Spending on Branches, 2000-2006 (as a % increase vs. prior year)



Source: Celent Communications, July 2002

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While Cap Gemini expects overall technology spending patterns to be much the same as other researchers, it sees IT priorities differently, with no single trend dominating. Banks have a seesaw focus, where enterprise systems and application integration are vital to financial IT executives, yet "institutions are shying away from huge enterprise investments and sticking with more tactical rollouts."

And while the "internet has lost its gold-rush luster," as reported in *BTN*, banks continue to "invest substantial sums in e-commerce-related systems." And as online banking becomes a mainstream channel, "these systems have been tapped to serve new purposes, such as supporting CRM and building new wealth-management infrastructures."

"More and more, technology is playing a crucial role in financial services. Customers have begun to make decisions on which institutions they will patronize based on the technology available, so IT takes on such strategic importance that you really can't ignore it."

– Octavio Marenzi, managing director, Celent Communications

In fact, despite the demise of dot-com fever, Cap Gemini expects e-commerce initiatives to direct IT priorities, with a 50% rise in IT spending over the next three years for online endeavors. "Demand for e-commerce shows little sign of slowing, particularly in financial services," the firm's report states. Or as *BTN* puts it: "Investment in internet-enabling technologies is seen as critical because the financial services industry is built on information rather than physical products."

"Clearly, IT spending is returning to historic levels, if not a little below those levels at the moment."
– James Scurlock, bank technology analyst, Cap Gemini Ernst & Young

Despite Cap Gemini's apparent disagreement with Tower regarding the branch IT focus, the consulting firm says that "many branch automation systems are overdue for replacement. These systems are only good for about five or so years."

As reported in *BTN*, "Banks and financial institutions are scrambling to catch up on years of relative neglect in branch automation systems. The net effect of this pent-up demand is an impending buying spree of new-generation branch automation technologies, ranging from Windows 2000 systems to web-based networks." These technologies include "CRM capabilities that enable branch personnel to identify and service profitable customer segments more effectively."

Changing the financial-service IT spending focus from channels to technology categories, the chart below from Computer Economics shows that of the $60.46 billion the Carlsbad, CA-based IT advisory company expects the US financial services industry to spend on IT in 2002, the largest portion is dedicated to people—staff services at $22.94 billion—with hardware next at $21.59 billion.

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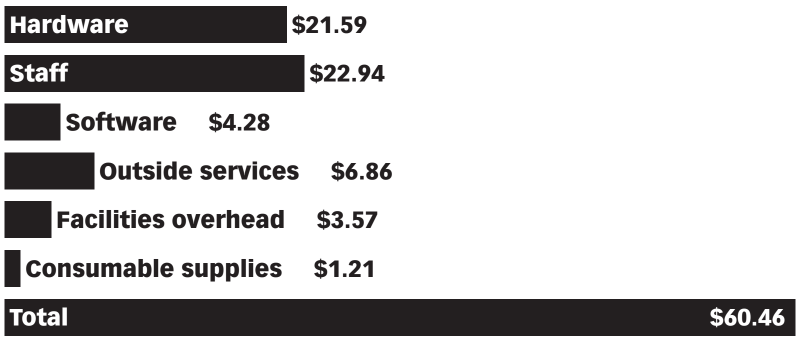
Note that the $60.46 billion total is far larger than 2002 projections by other researchers, such as Celent's $34.2 billion. Perhaps others are not including staff costs as part of their estimates; if true, the Computer Economics total figure (minus staff) falls in line with the Celent number.

Estimated US Financial Services Industry IT Spending, by Category, 2002 (in billions)



Note: Numbers may not add to total due to rounding
Source: Computer Economics, 2002

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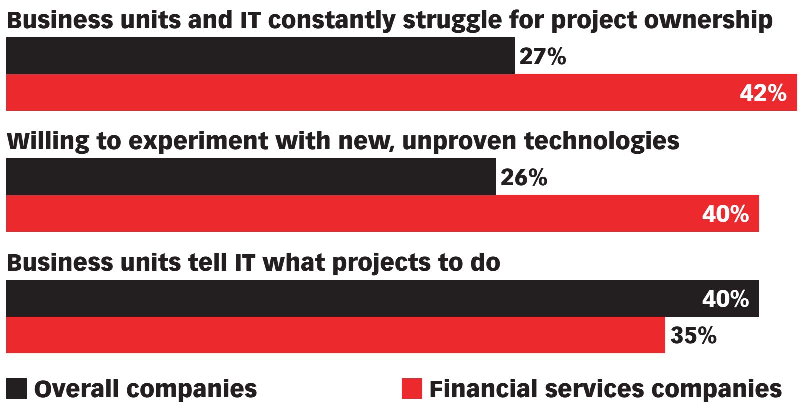
Unfortunately, where IT personnel place the focus and where business units do may not always match. A study by Forrester Research in June 2002 shows that among North American financial-service companies, business units are technology project leaders according to 35% of respondents—better, at least, than the 40% who say the same for all companies.

Even more disconcerting for a CIO and staff is the constant struggle for IT project ownership, which 42% of respondents cited. On an up note for IT, however, 40% indicated that financial-service firms are willing to experiment with new, unproven technologies. Considering the essentially traditional nature of banking and other financial services, even that four out of 10 figure is somewhat surprising.

Attitudes toward Technology among North American Financial Services Companies, 2002 (as a % of respondents)



Source: Forrester Research, June 2002

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Narrowing the scope to individual companies, *InformationWeek* research shows that a US bank's average annual IT budget in 2001 was $953.01 million, second only to the so-called average telecomm firm.

US Companies' Average Annual IT Budget, by Industry, 2001 (in millions)

Telecommunications	$1,194.26
Banking	$953.01
Financial services	$720.68
Biotechnology & pharmaceuticals	$691.32
Retail: general merchandising	$499.41
Energy	$498.12
Automotive	$487.72
Distribution	$434.31
Information technology	$416.76
Logistics & transportation	$348.80
Insurance	$343.39
Manufacturing	$290.62
Consulting & business services	$284.21
Electronics	$266.37
Hospitality & travel	$240.80
Chemicals	$221.68
Health care & medical services	$208.18
Utilities	$198.62
Consumer goods	$194.84
Food & beverage processing	$140.07
Media & entertainment	$124.02
Retail: specialty merchandising	$118.98
Metals & natural resources	$105.99
Construction & engineering	$90.48
Total	**$354.89**

Source: InformationWeek, 2001

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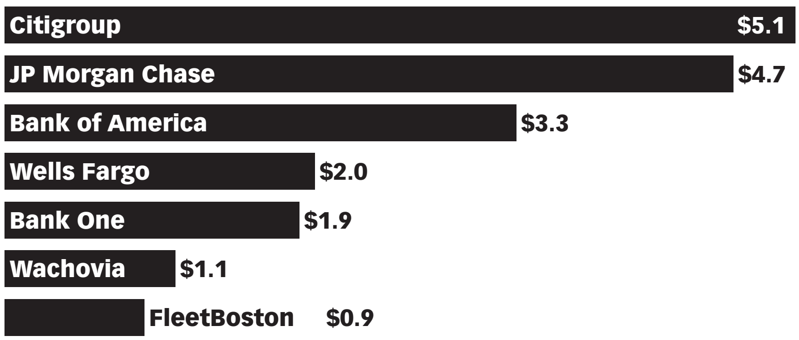
And the specific banks that spend the most on technology tend to correspond with their ranking by total assets, according to Celent Communications. Citigroup is first. With a $5.1 billion IT budget in 2002, J.P. Morgan Chase is second at $4.7 billion, and Bank of America is third at $3.3 billion.

IT Budgets at US Banks, 2002 (in billions)



Source: Celent Communications, January 2002

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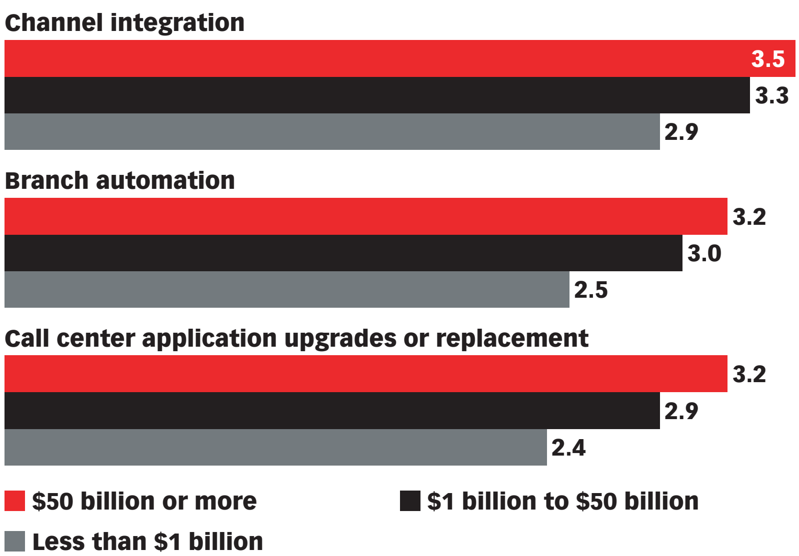
B. Technology Initiatives

Strategic use of technology means, for example, not just Bank X bulking up its website because Bank Y is doing that, but instead because Bank X sees ways to make more from its customers by making its site more robust. Competition doesn't always work that way, however, since even for a business as allegedly logical as banking, the emotion of the chase wins out from time to time. To an extent, during the deceased dot-com bubble, that emotional side of competition became a prime motivation in internet tech initiatives.

Now that banks grasp the internet as a vital—but still one-of-the-gang—channel, the industry realizes it needs to strengthen the tech side of other channels and bring them all together both for customers and bankers. In that light, the desire to blend banking services across multiple channels—called "channel integration" in the Forrester Research/BAI chart below—is the top priority of US banks, no matter what the size.

However, the bigger the bank, the more the channels, the greater the number of customers and the higher the priority for such integration.

US Bank Technology Priorities, by Size of Bank, 2002 (on a scale of 1-5*)



*Note: n=165 banking executives; *1=low priority and 5=high priority*
Source: Forrester Research/Bank Administration Institute (BAI), April 2002

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Customer-Focused Tech

One initiative that spans several channels—internet, branch, and call center—comes from the linked desires to retain existing customers, attract new customers and make more from all customers. The CRM acronym refers both to the technology implementation of systems that aid and abet customer interaction and to the attitudes within a company that support such ventures. (Research and analysis on customer and banking attitudes are found in the "Keep the Customer Satisfied: CRM and Beyond" section above.)

Even as the entire customer relationship management concept is being scrutinized, banks continue to love the technology. In the Forrester Research/BAI survey of 165 banking executives, the highest ranked technology priority is CRM. Because of CRM's potential benefits on the technology front—such as integrating databases across an enterprise—successful implementations reverberate across a company.

US Banking Technology Priorities, 2002 (on a scale of 1-5*)

*Note: n=165 banking executives; *1=low priority and 5=high priority*
Source: Forrester Research/Bank Administration Institute (BAI), April 2002

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Spending on CRM reflects banking's ardent adoption of the technology. For example, Cap Gemini Ernst & Young anticipates CRM technology spending will double over the next three years. Or a quick look again at Jupiter Media Metrix's estimates for US financial services CRM spending shows a projected leap from $3.6 billion this year to $5.4 billion by 2006.

Should Jupiter's annual estimates be on target, it means more than $25 billion will be spent on CRM technology alone over the six-year period shown.

CRM Spending by US Financial-Service Firms, 2001-2006 (in billions)

Note: Figures for spending by firms with 500+ employees
Source: Jupiter Media Metrix, Inc., September 2001

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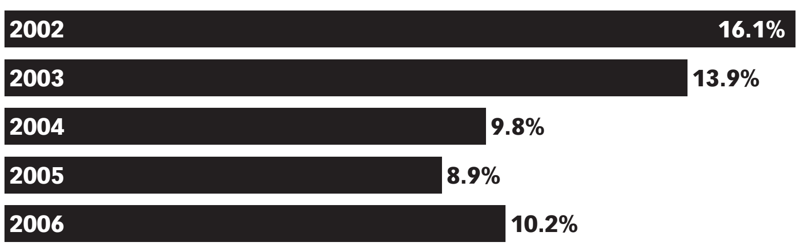
Expectations from Jupiter point to the greatest increases in CRM technology ramp-ups this year and next, with a leveling off the three years following as the systems become more greatly integrated into each company.

CRM Spending by US Financial-Service Firms, 2002-2006 (as a % increase vs. prior year)



Note: Figures for spending by firms with 500+ employees
Source: Jupiter Media Metrix, Inc., September 2001

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In a recent brief, Forrester Research surveyed 874 North American executives, 80 from the financial industry, about the types of technology they plan to purchase this year. While not an indication of spending on a dollar-by-dollar basis, the chart shows that 84% will be buying server hardware—such as you would buy if online services are growing. But those servers might also be deployed internally for disseminating customer data across channels.

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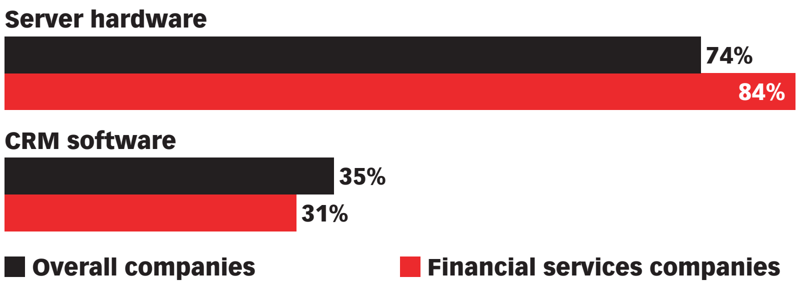
Along with the 31% of financial-service executives planning to buy CRM software, that points to an active market for customer-related technology.

Types of Technology North American Financial Services Companies Are Planning to Purchase This Year, 2002 (as a % of respondents)



Source: Forrester Research, June 2002

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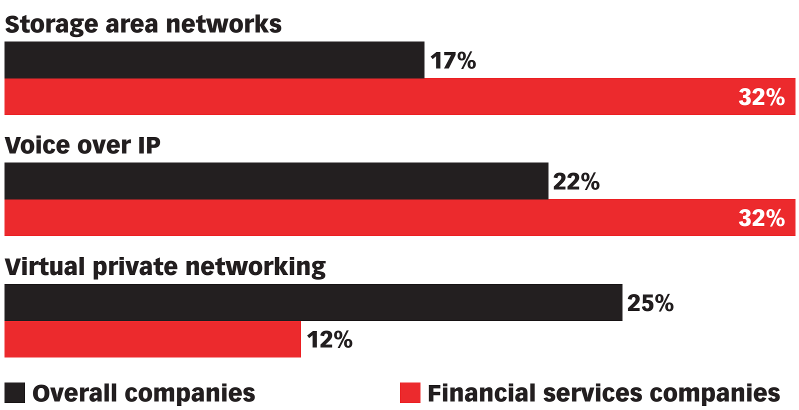
Another technology type that 32% of financial-service firms are looking to pilot or deploy this year are storage area networks. Again, this is an essential tool for sharing data across an enterprise.

Types of Technology North American Financial Services Companies Are Piloting or Deploying, 2002 (as a % of respondents)



Source: Forrester Research, June 2002

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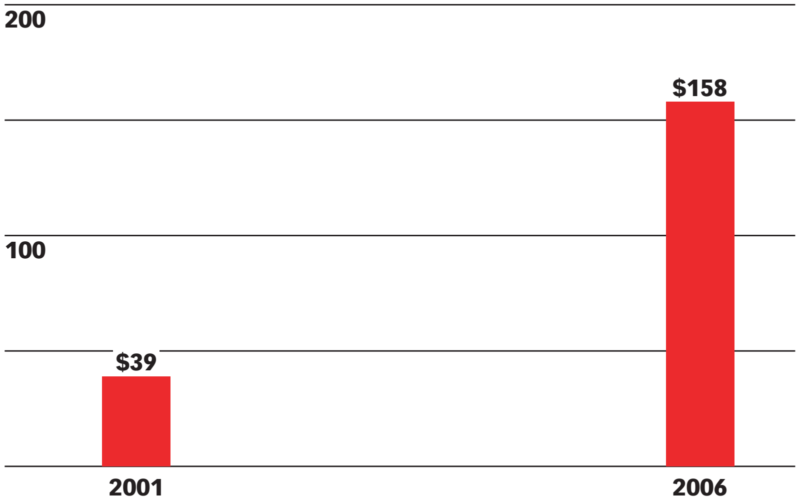
Another customer-focused technology is e-mail, an increasingly used channel for contact between bank and customer. Meridien Research expects startling—and needed—growth in US bank spending on e-mail management systems, with the increase to $158 million by 2006 representing a 305% growth rate.

US Bank Spending on E-Mail Management Systems, 2001 & 2006 (in millions)



Source: Meridien Research, 2002; BAI Banking Strategies, July/August 2002

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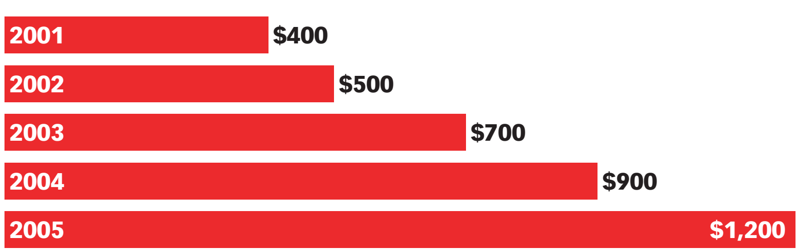
Celent Communications anticipates large growth ahead in wealth management IT spending (for technologies that Tower lumps under "personal sales" and Cap Gemini identifies as "CRM capabilities" in charts in the section above). Celent's global estimates project annual growth rates of 25% or more, reaching 40% in 2003. Note that expecting peak growth in 2003 matches Tower's prediction for a peak that same year in total IT spending by US banks for retail delivery channels.

Wealth Management IT Spending Worldwide, 2001-2005 (in millions)



Source: Celent Communications, 2001; Bank Technology News, February 2002

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One core element of wealth management IT spending comes from customer profitability analytic software, which Celent sees rising steadily among North American financial institutions, reaching $840 million by 2004. That translates to a 75% growth rate for the five-year period shown.

Spending on Customer Profitability Analytic Software by North American Financial Institutions, 2000-2004 (in millions)

Note: based on institutions with more than $100 million in assets
Source: Celent Communications, 2001; Bank Technology News, March 2002

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Finally, recognizing the financial industry's desire to migrate certain services away from more costly channels—like call centers—to less costly ones—like the internet—look at the Meridien chart below. The firm predicts that worldwide spending on web self-service technology will nearly triple from 2001 to 2004, going from $33.9 million to $99.8 million, or a 194,4% growth rate.

Spending on Web Self-Service Applications by the 500 Largest Financial Services Institutions Worldwide, 2001 & 2004 (in millions)

Source: Meridien Research, February 2002

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How can you make the most of the internet as a sales and communication channel? Online Selling & eCRM from eMarketer has the answers:
http://www.emarketer.com/products/report.php?crm_online

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Outsourcing

Is outsourcing a cost-cutting tool, or is it a path toward creating superior customer experience? Is outsourcing a strategic weapon to be embraced, or is it a necessary evil to be shunned whenever possible?

Is the best answer the classic answer “all of the above”? When it comes to IT outsourcing among financial-service institutions, surely the answer is “yes.” Whether outsourcing is used to implement customer-oriented technology, as discussed in the prior section, or to more rapidly grow entire channels, such as online banking, hiring others to do the work is a steadily growing trend among financial-service technology initiatives. Outsourcing arrangements range from web hosting all the way to full-time operation of data centers.

But banking’s attitudes toward outsourcing deliver a mixed message.

“Outsourcing is a two-way commitment. Both the business and the technology aspects of it are important. It is not just an IT decision. It is a business decision.”

– Randy Peyser, general manager of the banking practice, IBM Global Services

Outsourcing calls up concerns for banks that other industries may not face. “With financial services companies, there is a control issue and there are stringent federal requirements, which makes it more difficult to easily trust an outsourcer,” according to Cutting Edge Information, which recently released a report on the topic. The Durham, NC-based research and consulting firm’s study indicates that 40% of companies, from diverse industries, are dissatisfied with their outsourcing relationships.

In addition, Cutting Edge says that 90% of US companies outsource at least one activity and that companies worldwide spend $350 billion on outsourcing deals.

Gartner estimates that spending on North American IT outsourcing reached about $101.6 billion in 2001, up from $93.8 billion in 2000. That translates to an 8.3% gain during a down year for much of the IT market. By 2005, Gartner expects total outsourcing budgets to reach $159.6 billion, for a six-year growth rate of 70.1%.

Spending on IT Outsourcing in North America, 2000-2005 (in billions)

Source: Gartner, 2002; Bank Technology News, February 2002

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Research from IDC, while limited to the US and not all of North America, offers considerably different outsourcing estimates than Gartner's. For IDC, the 2001 total spending was $29.04 billion (about one-third of the Gartner figure), with expectations for 2005's IT outsourcing spending to hit $44.34 billion (about one-quarter of the corresponding Gartner figure). Clearly, differing delineations of outsourcing are at play here.

More important in the IDC chart for this discussion, though, is banking's share of IT outsourcing spending—much greater than any other industry in either year shown.

US IT Outsourcing Spending, by Industry, 2001 & 2005 (in billions)

	2001	2005
Banking	$5.70	$8.83
Federal government	$2.80	$4.77
Other financial services	$2.36	$3.47
Communications	$2.04	$3.02
Insurance	$1.93	$2.68
Utilities	$1.90	$2.75
Retail	$1.87	$2.60
Healthcare	$1.76	$2.81
State and local government	$1.75	$2.98
Discrete manufacturing	$1.70	$2.68
Process manufacturing	$1.66	$2.70
Other	$3.58	$5.05
Total	**$29.04**	**$44.34**

Source: International Data Corporation (IDC), 2001

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In TowerGroup's IT spending study, results shows that US banks pay out substantially more dollars for internal technology implementations than for outsourcing, both in 2001 and expected for 2005. However, outsourcing's growth rate of 61.0% is greater than for the other four categories.

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Furthermore, as the chart's note shows, Tower presents the outsourcing portion of the external professional services category separately. Many other researchers look at the two categories as a unit, and consider IT professional services outside the company part of the whole outsourcing phenomenon. Perhaps varying definitions like this also make the Gartner and IDC outsourcing estimates so radically different.

IT Spending by US Banks, 2001 & 2005 (in billions and as a % increase)

	2001	2005	% increase
Internal	$3,892	$4,924	26.5%
Professional services (external)	$1,041	$1,644	57.9%
Software (external)	$580	$922	59.0%
Hardware (external)	$1,026	$1,539	50.0%
Outsourcing	$896	$1,443	61.0%

Note: Internal spending defined as all expenses associated with the internal management, analysis, development, maintenance, support and operation of information technology; external spending includes the purchase of hardware, software and services tied to each of those functions (in this chart, the outsourcing portion of the services category is presented separately)
Source: TowerGroup, 2001; Bank Technology News, March 2002

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Some other takes on bank outsourcing spending find that, as Cap Gemini did, "on average, financial institutions' are devoting about one-quarter of their IT budgets to outsourcing," as reported in *Bank Technology News*.

Meeting strategic goals is the driving force behind much outsourcing. "Increasingly, the current environment is forcing financial services organizations to consider outsourcing as a viable operational tactic," reports Cap Gemini Ernst & Young. "Traditionally viewed as a cost-cutting option, outsourcing can also be considered as a means of supporting operations that help create a superior customer experience."

"It's five times as hard to manage outsourcing than it is to manage people who work for you."
– Douglas K. Freeman, chief executive officer, NetBank

Banks must determine what can be done best "inside the company and what can be achieved more efficiently and effectively by means of strategic alliances and partnerships." That's true for any industry, of course, but banking presents a notable mix in terms of outsourcing. As a data-intensive operation, banking relies totally on IT systems, and yet, as Cutting Edge put it, "The true strength of the industry is in helping clients make smart financial decisions, not building the most technologically advanced call center or database."

Hence, the movement toward outsourcing by banks as a "strategic weapon to focus their resources."

"Outsourcing has moved up the value chain, from infrastructure to applications management outsourcing. We see a lot more interest in business process outsourcing for non-core and non-strategic functions."

– Jimmy Harris, vice president for the financial practice, Accenture

The internet is one key area for bank IT outsourcing. Among the top 10 US banks, five run their online banking channel in-house and five outsource at least part of the platform. According to Summit Strategies—a Boston-based technology research firm—the pressure to build e-business systems puts "an added burden on already strained IT managers and IT resources." Hence, with established online banking providers such as Corillian, even major banks such as Chase outsource the process.

Note that Bank of America and Wells Fargo—the two banks with the largest and probably most developed online banking presence—run their internet divisions internally.

10 Largest US Banks and Their Online Service Providers, 2001 (ranked by assets)

	Head-quarters	Assets* (in billions)	Online provider**
1. Citicorp	New York, NY	$902.2	Inhouse
2. Chase	New York, NY	$715.3	Corillian
3. Bank of America	Charlotte, NC	$642.2	Inhouse
4. Wachovia/First Union	Charlotte, NC	$328.2	Corillian/ Inhouse
5. Wells Fargo	San Francisco, CA	$272.4	Inhouse
6. Bank One	Columbus, OH	$269.3	Corillian
7. FleetBoston Financial Corp.	Boston, MA	$219.2	Inhouse
8. Washington Mutual	Seattle, WA	$188.6	Financial Fusion
9. U.S. Bankcorp/Firstar	Minneapolis, MN	$164.9	Inhouse
10. SunTrust Bank	Atlanta, GA	$103.5	Corillian

*Note: *assets as of 12/31/2000 according to American Banker; **primary supplier of the online banking software platform and/or online banking service bureau as of 10/15/01*
Source: Financial Insite, October 2001

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"More and more companies are looking to outsource many of the services necessary to deploy, maintain and support their web infrastructure. This is especially true as integration with key business processes and systems becomes more vital."

– John Madden, analyst, Summit Strategies

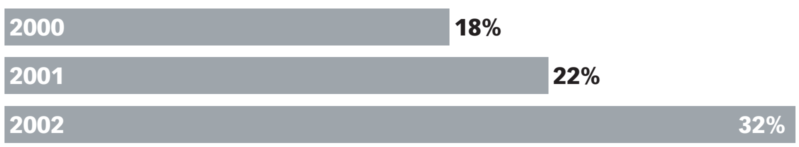
In the end, as an August 2002 article in *American Banker* reported, "Within the financial services industry, opinions are divided on the merits of outsourcing. Citing control issues, Bank One and Washington Mutual have recently taken stands against it. American Express and Royal Bank of Canada are among those touting the benefits of outsourcing. Bankers who take a middle-of-the-road position say that outsourcing is necessary, but difficult nonetheless."

American Banker wrote that there is no way to tell whether outsourcing was growing or diminishing in popularity within financial services. The industry newspaper quoted Octavio Marenzi, the founder and managing director of Celent Communications, saying: "There is no clear trend in either direction."

That more customers fail to use online banking as their primary, or even secondary, channel places financial burdens on financial institutions. The shift to the internet promises lower-cost delivery, but without a critical mass of customers, that promise remains unfulfilled.

The experience of banking online tends to satisfy those customers who do it, but many others remain unswayed by the internet channel. The *American Banker*/Gallup survey revealed that as of this year, 68% of US residents with computers at home have not used it for online banking. Add to that figure those banking customers without a computer, and the penetration rate is not quite as rosy as the half-glass-full school of thinking would have it.

Percent of US Computer Users* Who Bank Online, 2000-2002 (as a % of respondents)



*Note: n=1,000; *defined as respondents who have a personal computer at home*
Source: American Banker/Gallup Organization, July 2002

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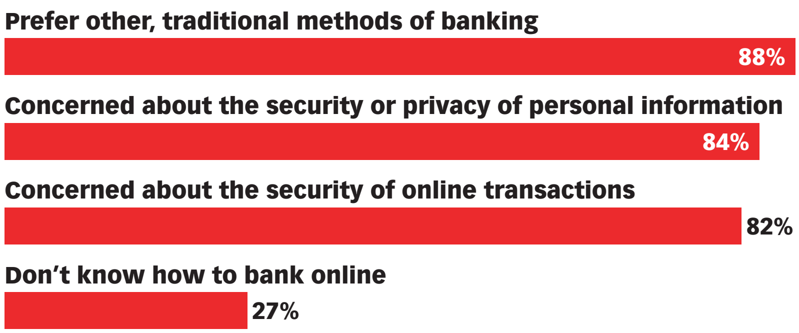
The barriers to online banking range from unawareness on the part of consumers to their concerns about privacy and security. In a 2001 survey of US online adults who have not banked online, Ipsos-Reid found that their prime reason for shunning the internet is a preference for other, traditional banking channels. Close behind are concerns about security and privacy of personal information and online transactions.

While those three barriers were each cited by more than 80% of respondents, a still-disturbing 27% said they don't know how to bank online. Remember, these are adults who already go online, not the general population. In that 27% figure lies a hint of how banks must educate customers to surmount some of online banking's barriers.

Barriers to Online Banking among US Online Adults, May 2001 (as a % of those who have not banked online)



Source: Ipsos-Reid, 2001

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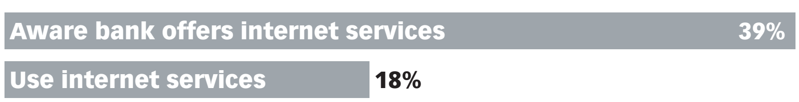
Along with education, banks need to find alternative methods of marketing their online channel. Alternative, because even with the traditional marketing tools that banks use increasingly, 61% of respondents to a 2001 TowerGroup survey say they are unaware that their bank offers internet services.

Consumer Awareness and Usage of Bank Internet Services, 2001



Source: TowerGroup, 2001

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In the Gartner Dataquest chart below, concerns about invasion of privacy, lack of trust and desire not to be solicited all form the reasons why US online adult users never register with websites. This includes banks.

Reasons Why Online US Adult Consumers Never Register with Websites, 2001 (as a % of respondents who never* register with websites)

*Note: *5% of respondents never register*
Source: Gartner Dataquest, August 2001

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A. Privacy & Security: Whose Data Is Safe?

Consumer concerns about privacy, security and fraud are echoed by financial-service institutions. Banking executives put controlling privacy, security and fraud on a priority-level equal to increasing online product functionality, according to the Forrester Research/BAI survey.

US Banking Technology Priorities, 2002 (on a scale of 1-5*)

*Note: n=165 banking executives; *1=low priority and 5=high priority*
Source: Forrester Research/Bank Administration Institute (BAI), April 2002

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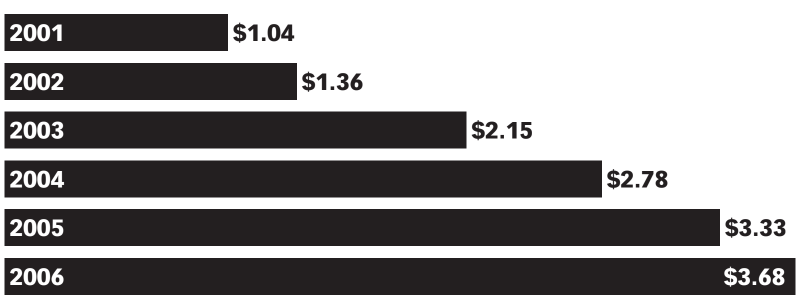
That fraud causes a major hit on banks shows in data from Celent. The firm expects costs incurred by US financial institutions due to identity theft to rise annually, from $1.36 million in 2002 to $3.68 million by 2006. The growing use of the internet to exchange private financial information, by both institutions and consumers, creates a valuable channel for identity thieves.

Costs Incurred by US Financial Institutions Due to Identity Theft, 2001-2006 (in millions)



Source: Celent Communications, August 2002

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The law, along with tradition and cost-containment needs, forces banks into positions as privacy advocates. In late 1999, Congress passed the Financial Services Modernization Act (better known as Gramm-Leach-Bliley, or GLB), which became effective in July 2001. The law's major update allows firms to create holding companies that offer banking, securities and insurance products under a single corporate entity.

The other thread embedded in GLB requires financial institutions to send notices outlining their privacy policies to customers and to give them the chance to "opt out" of having their financial information shared with third parties, while imposing no restrictions on sharing information with a firm's affiliates. GLB also allows states to pass stricter laws. Furthermore, GLB provides that conflicts between federal and state privacy laws be resolved in favor of the more stringent standard—which means that various levels of privacy standards between states and the Feds could hamstring financial-service institutions.

One conclusion to draw from GLB's sheer existence is that "customers are becoming so concerned about security and privacy that governments have seen fit to intervene, even in this era of deregulation," according to Cap Gemini Ernst & Young.

Another conclusion that some bankers draw from GLB is that the sheer existence of the law's mandated privacy disclosures makes privacy a more prominent issue for people who might otherwise not have thought about it.

"Disclosures have raised this [privacy] issue with many customers who had not thought about it in the past."

– James Garavaglia, chief privacy officer, Comerica

Information privacy's biggest battle is currently being waged in California, where a proposed bill may influence the rest of the country. It would require that financial firms get consumers' permission before using any "sensitive" information to market any nonfinancial products. Introduced to the California Assembly in March 2002, the proposed bill (AB1775) defines "sensitive" information as anything beyond a customer's name, address or phone number.

The proposed bill requires financial firms to get explicit customer permission (or opt-in) before sharing that information for marketing non-financial products, even with affiliates in the same holding company. A customer opt-in would also have to precede sharing any sensitive financial information with a third party. And a financial firm would have to let its customers opt-out of the sharing of sensitive information with affiliates that market financial products, or of nonsensitive data with third parties.

Here's how AB1775 compares with GLB in giving consumers control of their personal financial information.

California's Proposed Financial Information Privacy Bill vs. Gramm-Leach-Bliley Act, 2002

If a financial-services firm wants to:	California Proposed Bill (AB1775)	Gramm-Leach-Bliley Act
Sell account balances, loan amounts or other sensitive financial information to a third party.	Opt in	Opt out
Share sensitive customer information with one of its affiliates planning to market "nonfinancial products."	Opt in	No opt
Share sensitive customer information with an affiliate that also markets financial products.	Opt out	No opt
Provide sensitive customer information to outside companies that are engaged in a "joint marketing agreement" with a financial institution.	Opt out	No opt
Sell "contact lists" with names, addresses, phone numbers and other "non sensitive information" to third parties.	Opt out	Opt out

Note: Opt in means companies must obtain customer permission; opt out means selling or sharing information is okay unless customer objects; no opt means no restrictions
Source: San Francisco Chronicle, March 2002

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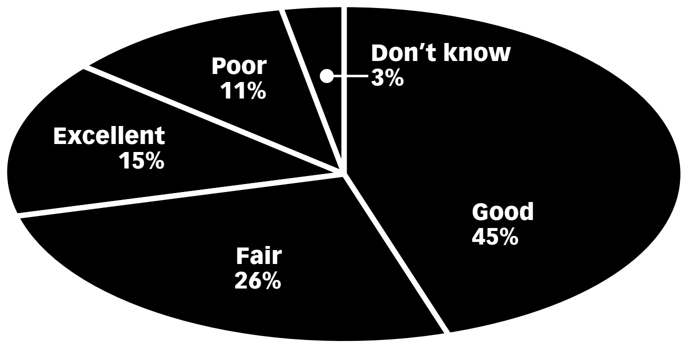
Further changes are forcing the financial community to realize how much privacy matters to consumers. In June 2002, the citizens of North Dakota voted in a referendum for opt-in privacy rules more stringent than GLB mandates. What makes this significant is that "despite being outspent at least 6-to-1, proponents of the opt-in requirement persuaded nearly three-quarters of the voters to agree with them," according to *American Banker*. "Money for fancy ads did not override privacy concerns." Even though some state legislatures, such as California's, are looking at opt-in privacy rules on the selling and sharing of personal financial information, this popular referendum points to the supreme "importance that people attach to their personally identifiable financial information."

In this era of corporate distrust in the US, banks might appreciate the privacy provisions forced upon them by GLB and various states as blessings in disguise. That 45% of US consumers feel banks are good at protecting their financial privacy, according to *American Banker*/Gallup, and 15% even feel banks are excellent at privacy protection, is surely good news in the year 2002.

How Well US Consumers Feel Banks Protect Their Financial Privacy, 2002 (as a % of respondents)



Note: n=1,000
Source: American Banker/Gallup Organization, July 2002

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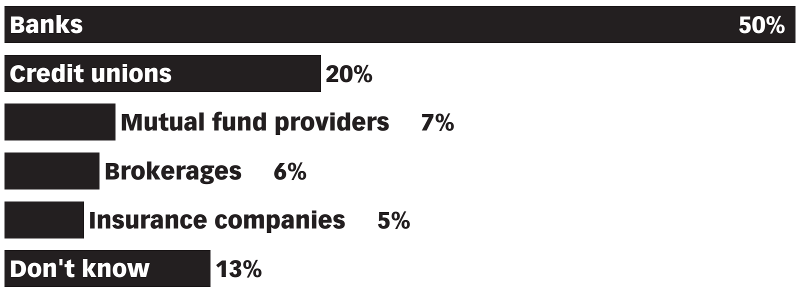
(That nearly 62% of respondents to the same survey expressed concern that their primary financial institution might release personal data to other companies without their permission is surely not good news.)

Privacy and security issues become even more pronounced as banks diversify their product lines, move into new geographies, and launch cross-selling campaigns. In that regard, banks are asking for more from their customers. In return, "if customers are not convinced that their transactions will be handled securely and privately, they will not trust the organization and will go elsewhere," as Cap Gemini puts it.

Services such as account aggregation emphasize privacy concerns, since then banks can know about their consumers' entire financial picture. An institution like J.P. Morgan Chase deals with the potential problem by first asking customers for permission to look at their data from other firms, and only then using the full range of data for financial advice services.

By asking first, an opt-in technique, Chase contributes to the kind of results seen in the American Bankers Association survey from last year, which indicated that US consumers believe banks—more than any other type of financial institution—are best at keeping personal records confidential.

Type of Financial Institution US Consumers See As Best at Keeping Personal Records Confidential, 2001 (as a % of respondents)



Note: n=1,000; adults age 20+ who have an account or financial dealings with a bank
Source: American Bankers Association/Mathew Greenwald & Associates, September 2001

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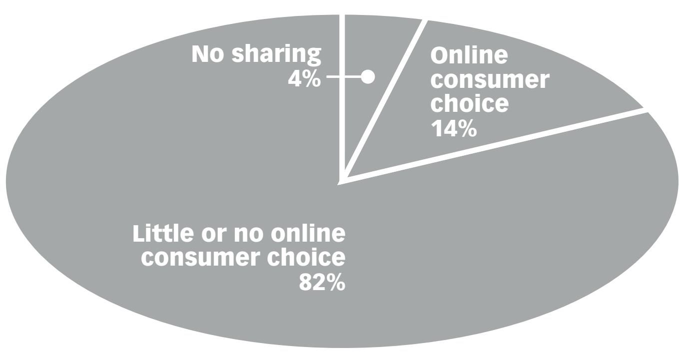
Still, since GLB does not force banks to ask first before sharing customer information internally or with affiliates, only a small minority of 14% of US financial institutions give the consumer a choice online before sharing that kind of data, at least as of July 2001. According to a study by the Center for Democracy & Technology, the most common model is to give the consumer little or no choice, as with 82% of the companies.

US Financial Institutions' Policies Regarding Sharing Customer Information Internally or with Affiliates, 2001



Note: study conducted between 1 and 22 July 2001, examined privacy policies of 100 financial institutions with an internet component
Source: Center for Democracy and Technology, August 2001

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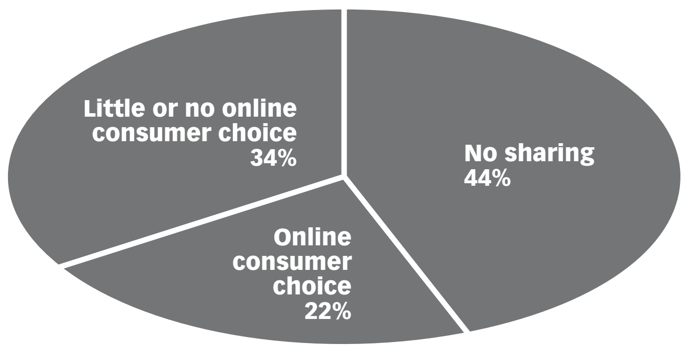
When it comes to sharing customer information with unaffiliated third parties, GLB says that banks must offer consumers an opt-out provision. While 44% of the financial institutions surveyed by the Center for Democracy & Technology follow the spirit of the law by not sharing private data at all, and 22% follow the letter of the law, a startling 34% of companies give the consumer little or no choice—at least through the online channel.

US Financial Institutions" Policies Regarding Sharing Customer Information with Unaffiliated Third Parties, 2001



Note: study conducted between 1 and 22 July 2001, examined privacy policies of 100 financial institutions with an internet component
Source: Center for Democracy and Technology, August 2001

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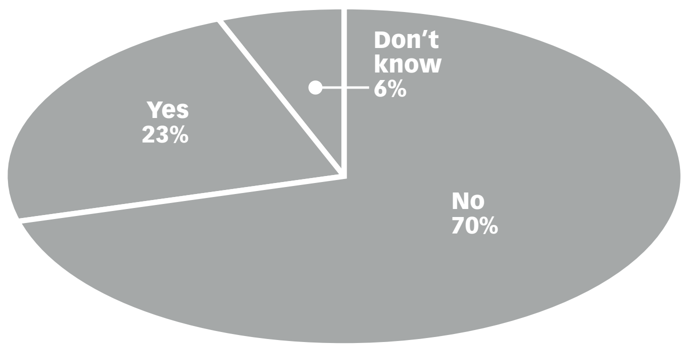
This is not good. While from the half-glass-full perspective the 70% of US consumers who told the *American Banker*/Gallup survey that a bank has not violated their privacy is positive news, the half-glass-empty point of view shows that nearly one-in-four consumers believe a bank has messed with their privacy.

However, that 23% figure is suspect, at least to some in the banking industry. As the chief privacy officer for Comerica, the Detroit-based bank, told *American Banker*, "That one in four believe a violation has occurred doesn't mean it has."

US Consumers Who Feel a Bank Has Violated Their Privacy, 2002 (as a % of respondents)



Note: n=1,000; figures do not equal 100% due to rounding
Source: American Banker/Gallup Organization, July 2002

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Still, while some might say it's "only" 23% who feel a bank has violating their privacy, note that the number rises to 29% among the most-wanted customers: those with annual household incomes above $75,000.

The consumer concerns about privacy are a multiple threat: online security issues, banks manipulating and selling their personal data, companies sharing information across private networks. Some banks, however, see all these concerns as an avenue for gaining "a competitive advantage by fostering the perception that [they are] scrupulous about customer privacy," according to *American Banker*.

"Some companies are going beyond Gramm-Leach-Bliley. They're trying to get ahead of the trend."

– Steven Roberts, principal partner of the national regulatory practice, KPMG

Bank of America is one financial institution that looks to leverage the law into customer loyalty. For example, after sending out its first batch of GLB privacy notices in July 2001, the bank "held focus groups that led to the crafting of notices that use crisper language and include a worksheet to help customers understand the choices available to them," reports *American Banker*. Even before then, BofA "announced three years ago that it would not share information with third-party marketers." And this past March, the bank's chairman and CEO, Kenneth D. Lewis, "came out in favor of a Federal Trade Commission proposal to create a national do-not-call list."

Robin Warren, the bank's chief privacy officer, believes that privacy cannot be "some stand-alone thing. It need[s] to be integrated into business-as-usual." Therefore, according to *American Banker*, "employees have been trained to discuss privacy issues with consumers, and BofA's website does not pass 'cookie' files to third parties or let outsiders monitor customers who use the site."

"BofA is being far more proactive about privacy than are many of its peers."
– Rob Leathern, analyst, Jupiter Research

When customers want to indicate their privacy preferences, the bank offers them multiple channels: online, telephone or at a branch. Jupiter calls this "a best practice in its competitive set."

As banks "recognize that they can make points with consumers by advertising their concern for privacy," as *American Banker* puts it, perhaps the more cynical might say it doesn't really matter. That thought comes to mind when you hear what John Perry Barlow recently told *Bank Technology News*. As a co-founder of the Electronic Frontier Foundation, a San Francisco-based group advocating civil liberties and free speech issues on the internet, Barlow is not cynical on the topic of privacy—and yet even he says: "People are not, in practice, as concerned with security and privacy as they say they are. Given the choice between maintaining privacy and having convenience, people are generally inclined to stick with convenience."

B. Trust & Relationships: Who Manages Things?

One gift banks hold in the realm of privacy is trust—a concept so intrinsic to banking that even the word has been a traditional part of many bank's names. So when it comes to consumer concerns about privacy matters, banks are positioned well, as long as they don't blow it.

For now, an overwhelming major of US bank customers trust banks more than or the same as every other type of financial institution, according to *American Banker*/Gallup.

US Bank Customers Compare Their Trust and Confidence with Other Financial Institutions, 2001 & 2002 (as a % of respondents)

	Banks better	Banks same	Banks worse
Finance company			
2001	43%	27%	22%
2002	52%	21%	20%
Insurance company			
2001	41%	35%	21%
2002	48%	30%	20%
Online brokerage			
2001	47%	35%	9%
2002	56%	23%	13%
Stock brokerage			
2001	38%	35%	22%
2002	43%	30%	23%
Mortgage company			
2001	40%	36%	19%
2002	43%	35%	18%
Savings institution			
2001	33%	48%	14%
2002	38%	41%	15%
Mutual fund company			
2001	38%	34%	22%
2002	44%	28%	25%
Credit union			
2001	35%	34%	27%
2002	40%	30%	26%

Note: n=1,000; answers of "don't know" not shown
Source: American Banker/Gallup Organization, July 2002

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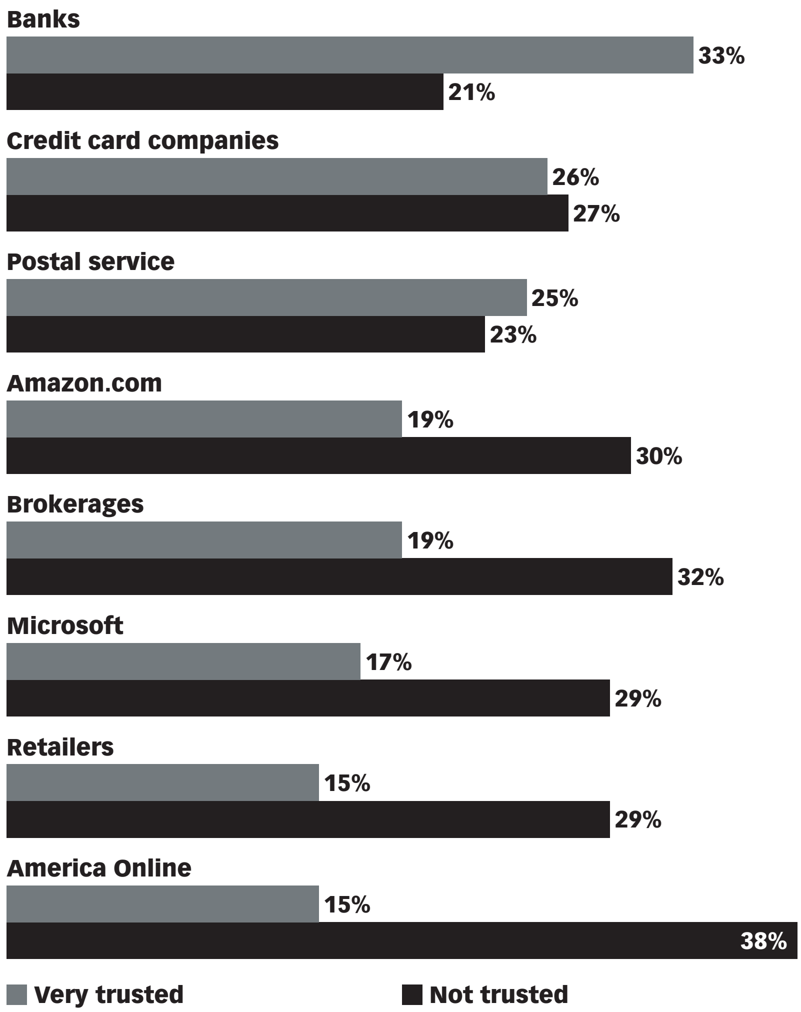
A parallel take on the subject from Gartner, in a survey last year asking US consumers who they trust with their personal and financial data, shows banks with the greatest number of respondents in the "very trusted" category and the fewest in the "not trusted" category.

Who US Consumers Trust with Their Personal and Financial Data, 2001 (as a % of respondents)



Source: Gartner, August 2001

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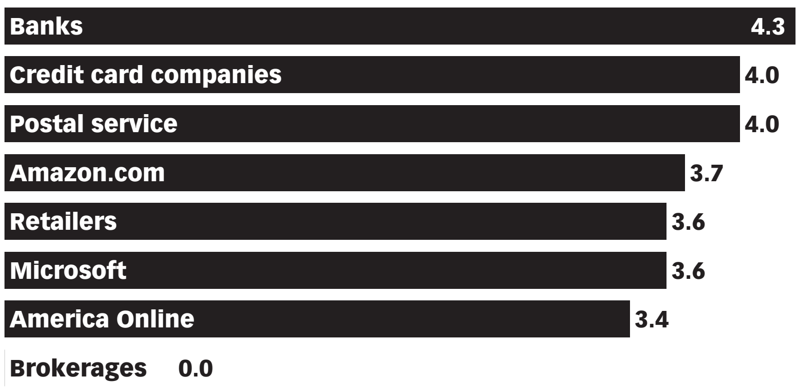
The same Gartner survey, positioned by mean rating scores instead of percentages of respondents, again shows banks as most trusted.

Who US Consumers Trust with Their Personal and Financial Data, 2001 (on a scale from 1 to 7*)



*Note: *rated from 1 (not trusted) to 7 (very trusted); mean rating shown*
Source: Gartner, August 2001

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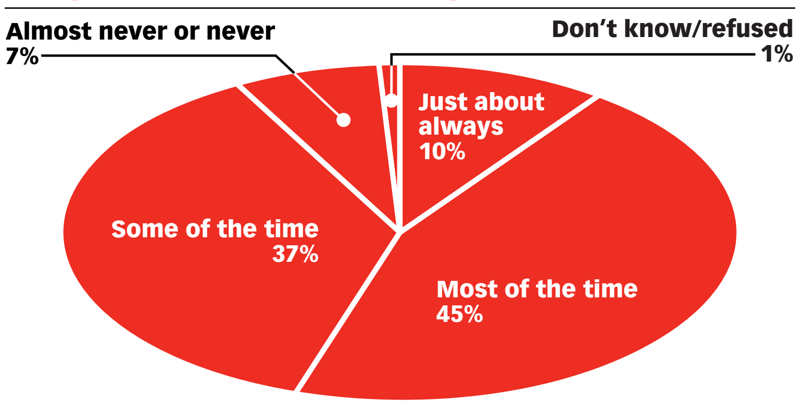
Trust of financial-service firms in general is further indicated in a Consumer WebWatch survey of US internet users earlier this year. Combining two categories below, and you can see that 55% of respondents trust financial companies either just about always or most of the time.

How Often US Internet Users Trust Financial Companies, 2002 (as a % of respondents)



Note: Financial companies include banks, brokers and insurance companies
Source: Princeton Survey Research Associates for Consumer WebWatch, January 2002

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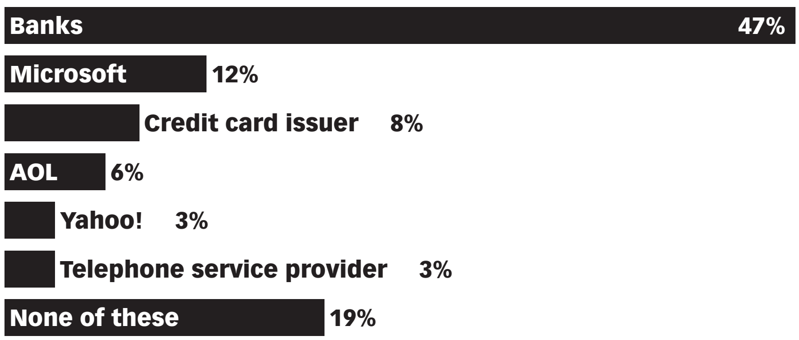
In the internet realm specifically, looking at online ID or electronic wallet services, Gartner found once more that banks are trusted most by US consumers—even more than credit card issuers, who not only might be seen as a natural institution for running an e-wallet service, but who also are in many cases are banks.

Institution Trusted Most by US Consumers to Run Online ID or E-Wallet Services, 2002 (as a % of respondents)



Source: Gartner , April 2002

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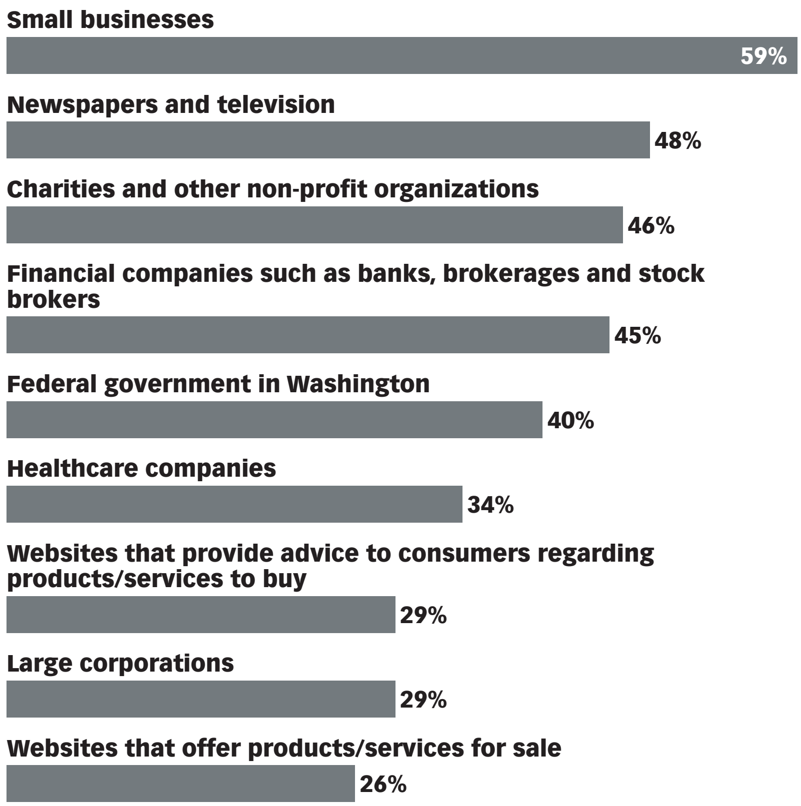
One fascinating perspective to come out of the same Consumer WebWatch survey cited above shows a trust-comparison among selected organizations. As you can see, 45% of respondents trust financial companies most of the time, in contrast with 29% who feel the same level of trust for large corporations.

US Internet Users Who Trust Selected Organizations "Most of the Time", January 2002 (as a % of respondents)



Note: n=1,500
Source: Princeton Survey Research Associates for Consumer WebWatch, January 2002

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But what are banks and other financial-service firms but large corporations? This distinction that the internet users made in the January 2002 survey points to the special place banks have in the minds of consumers. Therefore, in today's environment where US residents have lost trust with many types of large institutions, banks must make certain not to squander that singular trust.

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Banks are banks. But community banks prove that size matters. Not size as in bigger is better, but in the same way that internet users trust small businesses—as in the Consumer WebWatch chart directly above—more often than any other type of organization. As the term implies, community banks are part of their locales, typically owned and operated by neighbors, and as such approach online banking differently than their larger cousins.

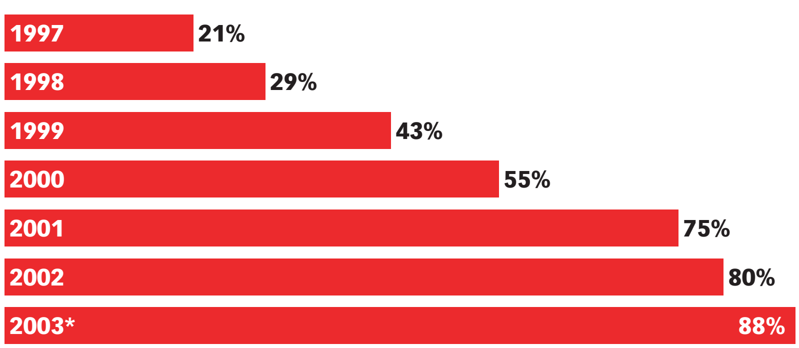
According to the Independent Community Bankers of America (ICBA)—a Washington, DC-based national trade association—the universe of community banks is delineated as:

- Independent, locally owned and operated institutions with assets ranging from less than $10 million to a few billion dollars.
- There are more than 8,300 community banks, including both commercial banks and savings and loans, with 36,803 locations throughout the US.

A. Size & Scale

Putting small scale and banking services together produces, in many cases, a large degree of customer loyalty. Despite that devotion, community banks have seen over the past seven years that they, too, need to compete in the online channel to retain their customer base. That's why the "Ninth Annual Survey of Community Bank Executives" from Grant Thornton—a Chicago-based accounting and management consulting firm—shows that 75% of community banks had websites in 2001, a sharp increase from 55% the year before. And by next year, bankers estimate that 88% of community banks will have a website.

US Community Banks with Websites, 1997-2003 (as a % of respondents)



*Note: n=429; *bankers' estimate*
Source: Grant Thornton LLP, March 2002

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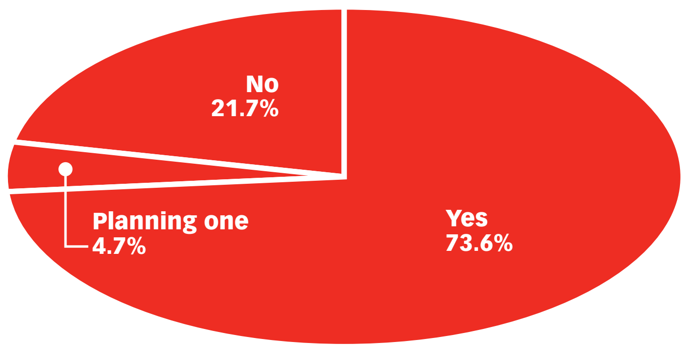
With 73.6% of community banks in 2001 saying they have a website, data from the sixth annual "Community Bank Competitiveness Survey" conducted by *ABA Banking Journal* nearly matches Grant Thornton's figures.

What appears baffling is how over 20% of the 921 respondents—from banks with an average asset size of $176 million—said they have no website and indicated no plans to build one. These banks may be small, but isn't the internet just the leverage smaller institutions often need?

US Community Banks with Websites, 2001 (as a % of respondents)



Source: ABA Banking Journal, March 2002

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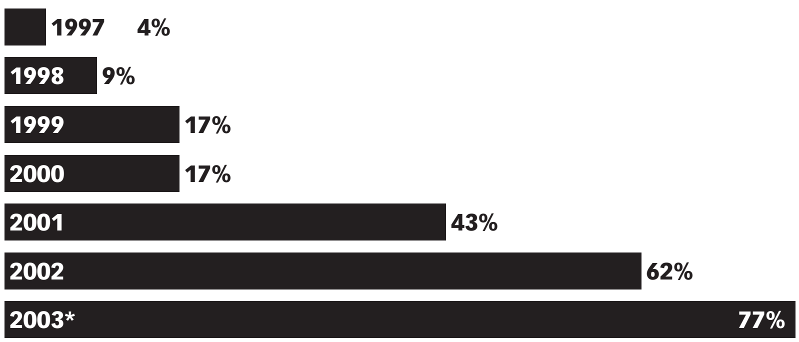
However, not all community bank websites are transactional; that is, offering internet banking services. Match up the figures from this chart below and the Grant Thornton one above: While 80% of community banks have a website in 2002, only 62% of them have a transactional site.

That means 18% of community bank websites—nearly one in five—are still of the old-fashioned brochureware school, something that most companies fled by the late 1990s. Undoubtedly, that's a factor of size and, perhaps, the smaller institutions being even more conservative than larger banks.

US Community Banks with Online Banking Services, 1997-2003 (as a % of all community banks)



*Note: n=429; *bankers' estimate*
Source: Grant Thornton LLP, March 2002

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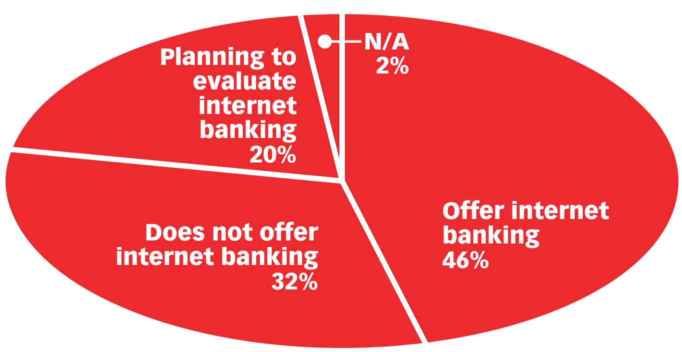
Figures from a nationwide survey conducted late last year fall in line with the Grant Thornton research, showing 46% of community banks offer internet banking in 2001. In addition, this ICBA study shows a large proportion of banks, 32%, neither offering nor planning to offer internet banking.

Percentage of US Community Banks Offering Internet Banking, 2001 (as a % of respondents)



Source: Independent Community Bankers of America (ICBA), InFinet Resources, December 2001

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Logic fell into place when the *ABA Banking Journal* looked at the community banks websites by assets. Simply put, the larger the bank, the more likely its site is transactional (defined here, at minimum, as secure access to account data and statements and internal funds transferring).

US Community Bank Websites that are Transactional Sites*, by Bank Size, 2001

*Note: *"Transactional Site" at a minimum permits secure access to data, viewing statements, and internal funds transfers*
Source: ABA Banking Journal, March 2002

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When transactional sites are compared by type of community, logic again rules...pretty much. The greater the population, such as in urban/suburban regions, the more likely the website is transactional. A rural-based community bank, then, is less likely to have a transactional site.

"Fifteen years ago, people wanted to know if the bank had an ATM machine. Now, they want to know if the bank has online banking and bill paying. They are an absolute requirement to compete. Technology these days is the great equalizer. There is virtually nothing a large bank can do that a community bank can't do."

– Francis Wiatr, chairman, president and CEO, NewMil Bank (Connecticut)

The mild surprise is how urban community bank websites are slightly less likely (at 4.3 points) to be transactional than ones based in mixed urban and suburban regions. That's probably due to some urban community banks being in poorer areas.

US Community Bank Websites that are Transactional Sites*, by Community Type, 2001

*Note: *"Transactional Site" at a minimum permits secure access to data, viewing statements, and internal funds transfers*
Source: ABA Banking Journal, March 2002

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The third comparison of transactional community banks websites is by type of bank, and again, what you see is what you expect. That is, a general type of community bank is most likely to offer transactions on its website, and a farmer's community bank is least likely.

(Actually, that might be what you expect in clichéd terms; today's farmers are often avid users of computer technology and might find online banking an important time-saver.)

US Community Bank Websites that are Transactional Sites*, by Bank Type, 2001

*Note: *"Transactional Site" at a minimum permits secure access to data, viewing statements, and internal funds transfers*
Source: ABA Banking Journal, March 2002

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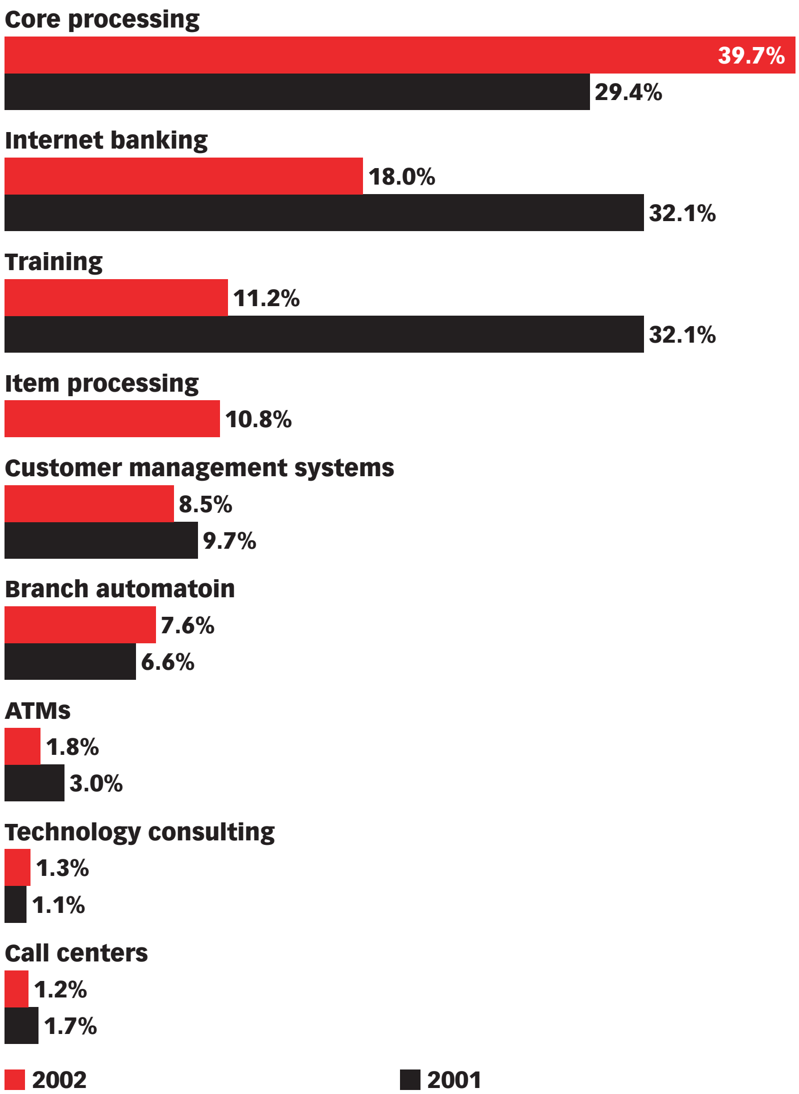
In 2002, technology spending on core processing is the prime priority for community banks, at 39.7% of respondents to the *ABA Banking Journal*. While online banking comes next, at 18.0%, that figure is a sharp drop-off from 2001's priority list, when 32.1% of respondents cited the internet as a technology priority.

Technology Spending Priorities* of Community Banks in the US, 2001 & 2002



*Note: *percentage of banks selecting each category as top priority*
Source: ABA Banking Journal, February 2002

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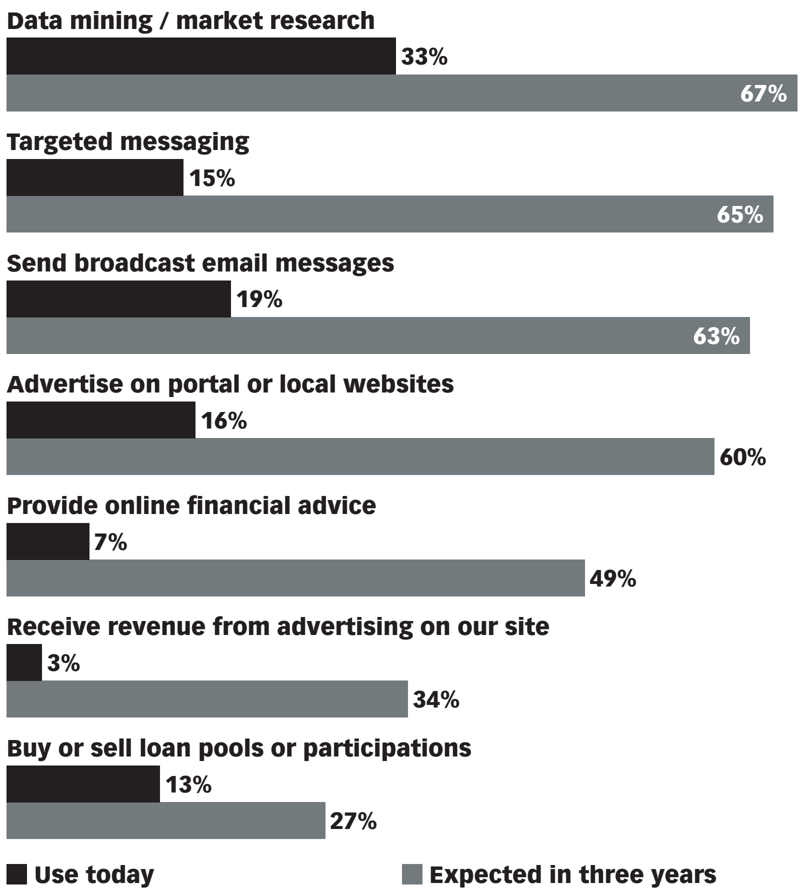
Those community banks with active websites are discovering certain key benefits for marketing and operations. For example, while 33% of respondents to a Grant Thornton survey performed data mining and market research in 2001, 67% expect to do that by 2004. Similarly, by that year 65% expect to use the internet for targeted messaging, 63% for broadcast e-mail, and 60% plan to advertise on a portal or local website.

Internet Usage by Community Banks: Currently and in Three Years, 2001



Source: Grant Thornton, 2001

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B. Customer Base

When you view community bank websites not by bank, but by customer, the numbers don't line up as logically. Take the *ABA Banking Journal* chart below, which shows what percent of an average community bank's customer base uses online banking. In fact, the smallest banks, those with assets of under $100 million, had the largest penetration rate in 2001—that of 9.7%.

Those results get undercut slightly when you read the chart's note, which points out that 37.2% of respondents could not even offer a figure about their customer base.

Percent of Total US Community Bank Customer Base that Uses Online Banking, by Bank Size, 2001

Note: Results based on the 62.8% of respondents who could give a figure
Source: ABA Banking Journal, March 2002

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However, that 9.7% represents a shift from the *ABA Banking Journal* research the prior year, when the largest size community banks had the largest penetration rate. In all three cases, however, the rates are slightly higher.

Percent of Total US Community Bank Customer Base that Uses Online Banking, by Bank Size, 2000 (in millions)

Source: ABA Banking Journal; ABA Community Bankers Council, April 2001

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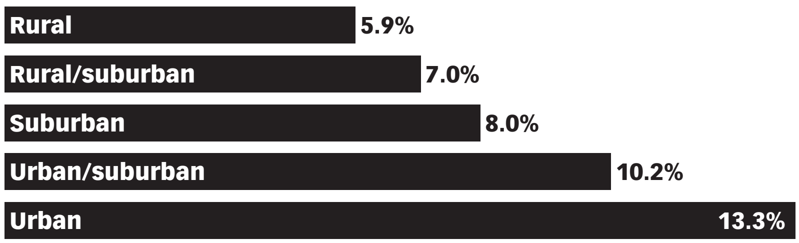
The online customer penetration rate travels upward as the type of region grows in population, according to *ABA Banking Journal* figures from 2000. That is, rural community banks had 5.9% of their customers using internet banking, while urban banks were at 13.3%.

Percent of Total US Community Bank Customer Base that Uses Online Banking, by Community Type, 2000



Source: ABA Banking Journal; ABA Community Bankers Council, April 2001

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When it comes to specific services, customers at mid- and large-size community banks are more likely to sign up for bill-pay services than those at smaller banks. Again, we're back at logical conclusions.

Percent of US Community Bank Online Banking Customer Base that Uses Bill Payment Services, by Bank Size, 2001

Note: Results based on the 60.3% of respondents who could give a figure
Source: ABA Banking Journal, March 2002

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In contrast with the *ABA Banking Journal* data, figures from RSM McGladrey show a much lower percentage, 2.5%, using bill-payment services. However, in the chart below, community banks are defined as having less than $3 million in total assets—the smallest of the small.

Average Percent of US Community Bank Customers Registered for Online Banking and Bill Payment Services, 2001

Source: RSM McGladrey, 2001

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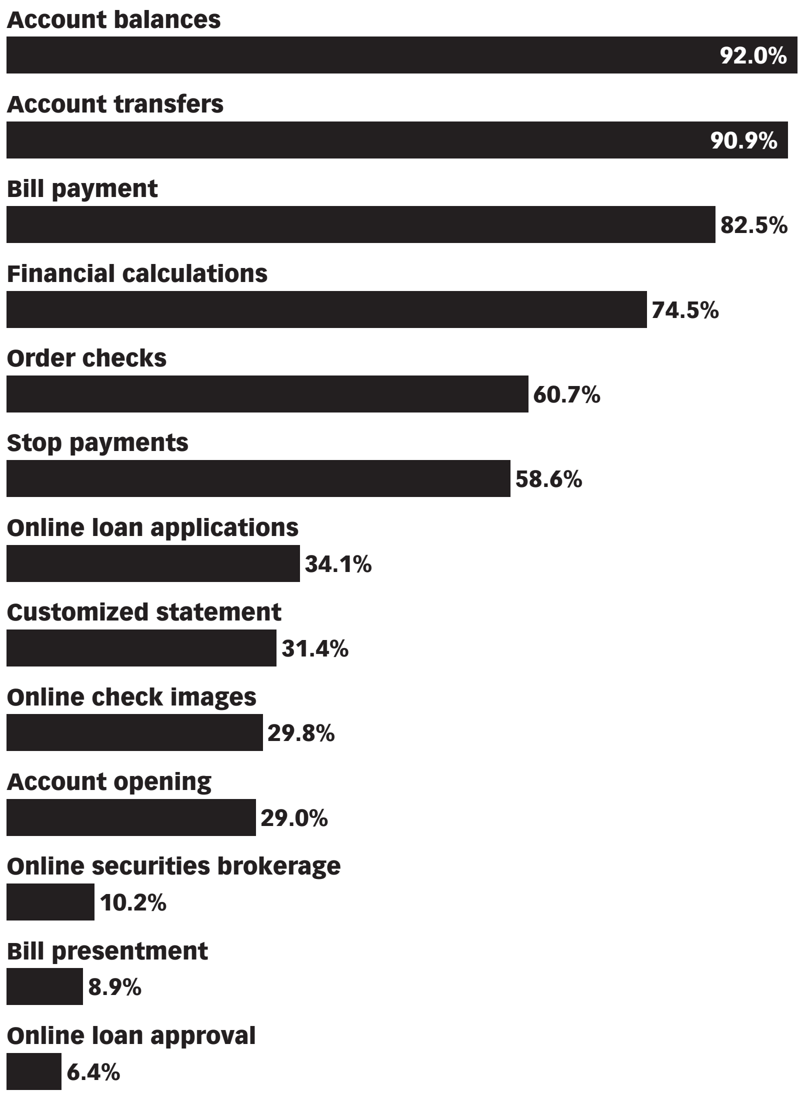
C. Services Now and To Come

Besides the most common types of online banking services—such as transferring funds between accounts—note how 82.5% of transactional community bank websites offer bill payment services. That deep penetration speaks to the importance of online bill payment. Note, too, how 29.8% of community banks offer online check images, another type of service that's rarely or never offered through other popular banking channels, such as the ATM and telephone.

It's services like check images that will make online banking stand out from other channels. That nearly one-third of community banks offer it indicates how online banking is becoming established at all levels.

Services Offered at Transactional* Websites by US Community Banks, 2001



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*Note: *"Transactional Site" at a minimum permits secure access to data, viewing statements, and internal funds transfers*
Source: ABA Banking Journal, March 2002

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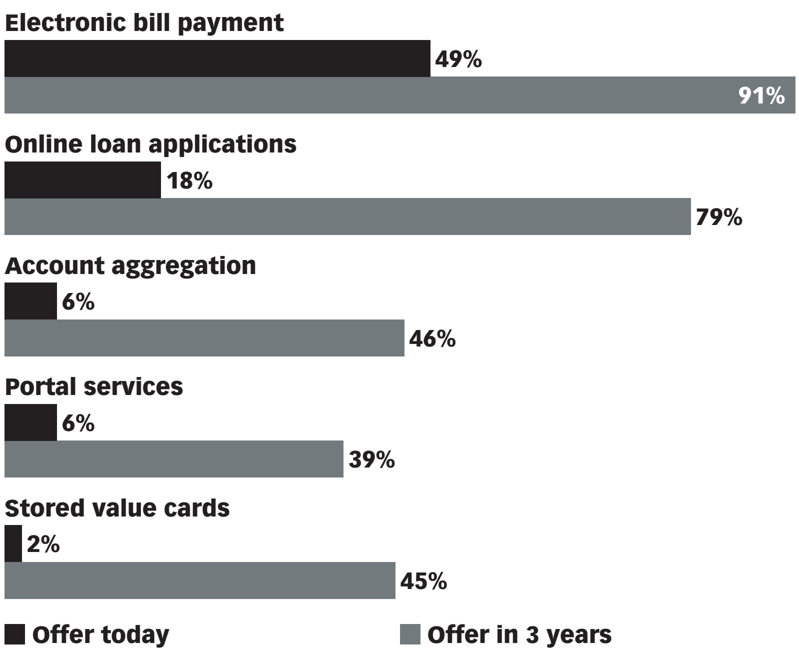
According to Grant Thornton, the specific online services community banks offer might be the same, but the figures vary. Take bill payment, which only 49% offer today in the chart below, or online loan applications, which 34.1% of community banks offer in the *ABA Banking Journal* chart above, but only 18% offer in the chart below.

Electronic Products and Services Offered by US Community Banks, 2001 & 2004 (as a % of respondents)



Note: n=429
Source: Grant Thornton LLP, March 2002

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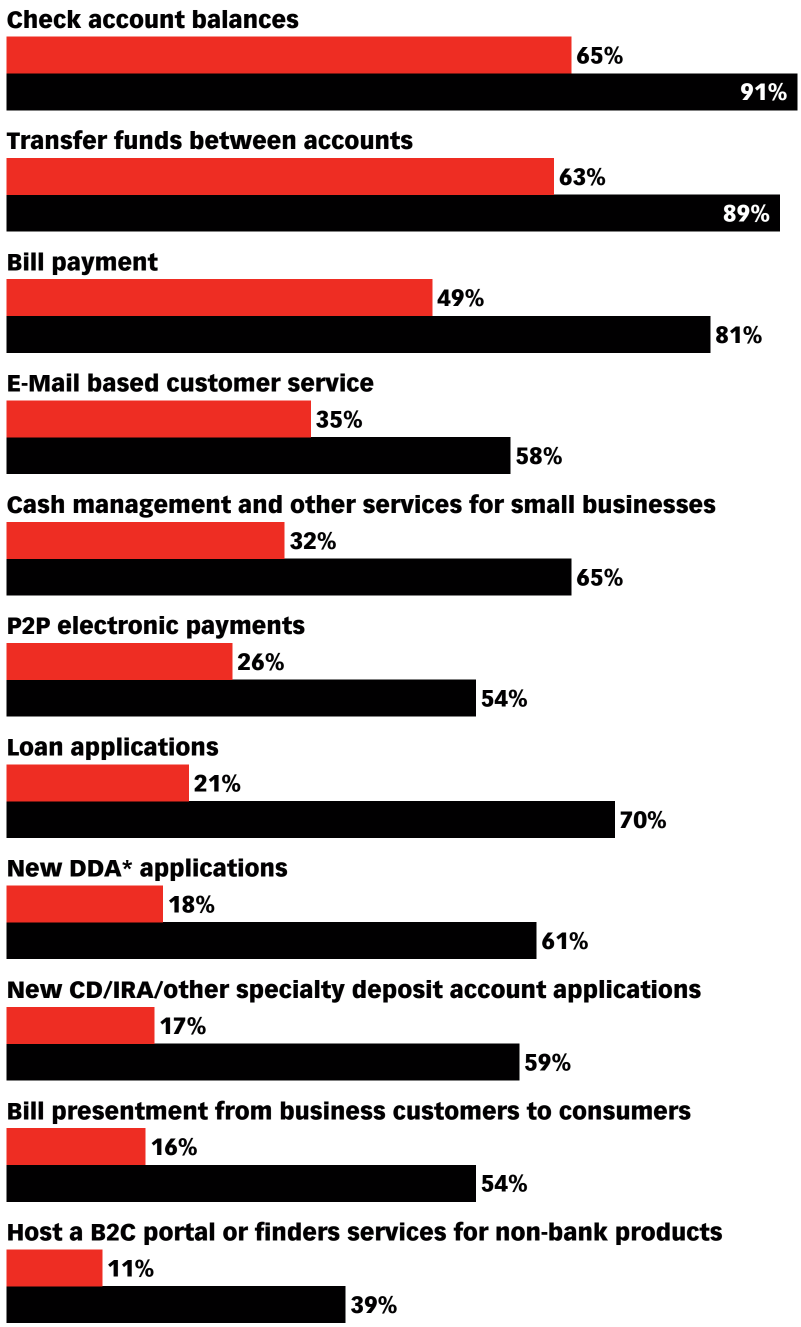
A more extensive look from Grant Thornton at internet banking services offered by US community banks points to the strong growth in functionality planned by 2004. For instance, 81% will offer bill payment and 54% will offer bill presentment.

Online Banking Services Offered by US Community Banks, 2001 & 2004 (as a % of respondents)



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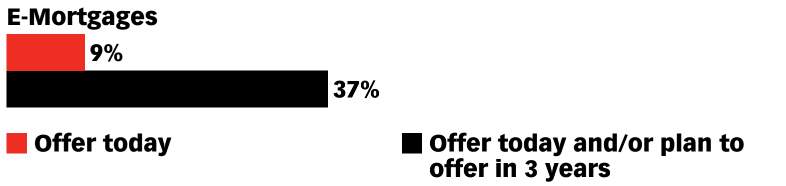

*Note: n=429; *demand deposit account, which is usually, but not always, a checking account*
Source: Grant Thornton LLP, March 2002

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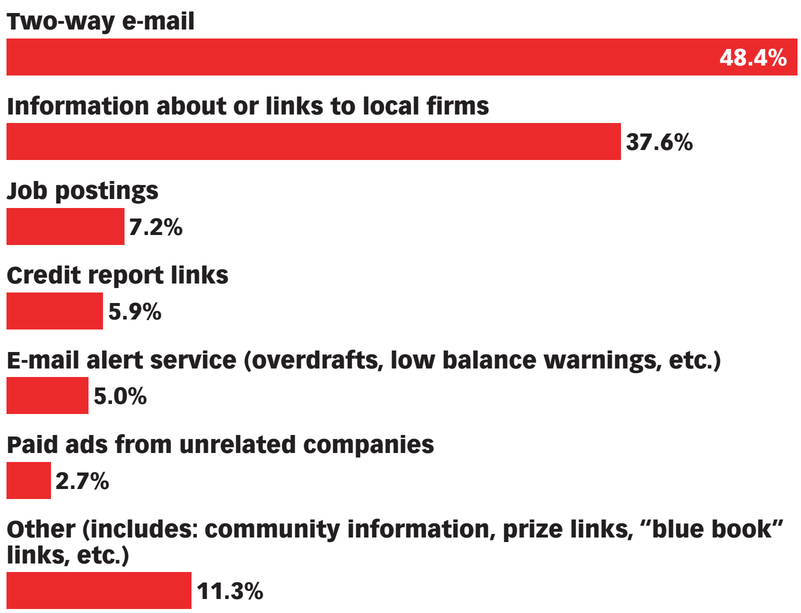
Some of the non-transactional services community banks offer point to their unique place among US banks, where 37.6% publish information about, or links to, local firms. This is bank as local trading post.

Nontransactional Services Offered by US Community Bank Websites, 2001



Source: ABA Banking Journal, March 2002

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The priority list for online services top-rank the basics of access to bank and investment accounts, at 46% of respondents. Online loan applications are another service US community bankers call "very important," according to Grant Thornton.

Electronic Services Offered to Retail Customers Considered "Very Important" by US Community Banks, 2001 (as a % of respondents)

Note: n=429
Source: Grant Thornton LLP, March 2002

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For online loans to become fully electronic, banks need to offer digital signatures. A strong base of 23.5% of community banks told the *ABA Banking Journal* that they're interested in the technology, or in helping customers use it.

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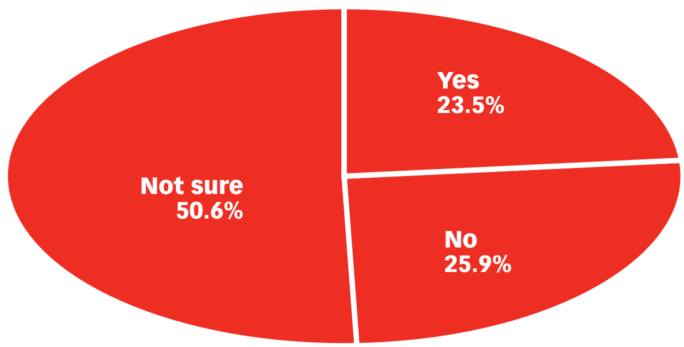
In fact, the small size of community banks means smaller staffs. Therefore, moving products such as loans as much to electronic channels as possible presents potential cost-savings for institutions that really can use it.

US Community Banks Interested in Digital Signature Technology or Assisting Customers to Use it, 2001 (as a % of respondents)



Source: ABA Banking Journal, March 2002

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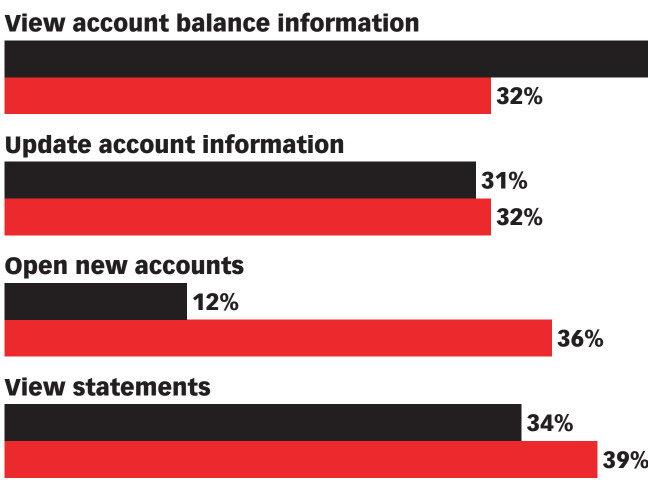
The ICBA survey shows fewer community banks offering the range of services. Take the 47% who current allow customers to view account balances. That compares to 65% from Grant Thornton and 92% from the *ABA Banking Journal*. Perhaps these percentages are apples and oranges, in that the ICBA's figures measure all community bank websites, where the ABA figures measure just sites that are already transactional.

Services US Community Banks Provide or Plan to Evaluate on Their Websites in the Next 12-18 Months, December 2001 (as a % of respondents)



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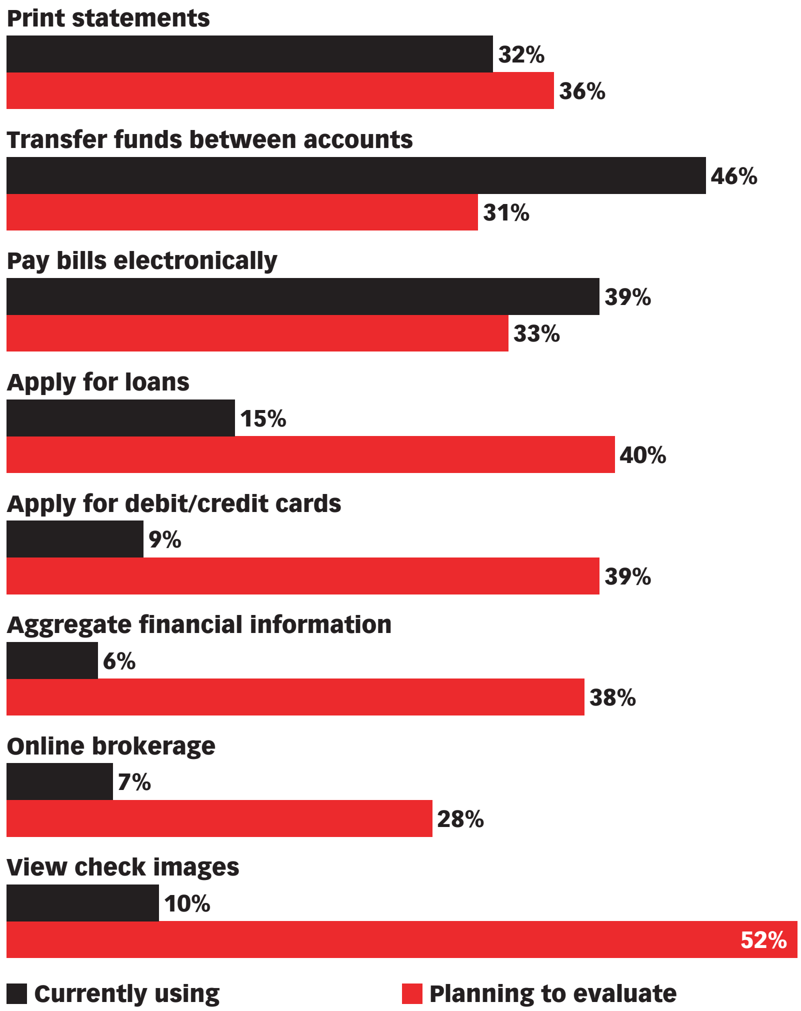

Source: Independent Community Bankers of America (ICBA), InFinet Resources, December 2001

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Incentives are not a big part of US community bank websites, according to the *ABA Banking Journal*, since only 7.5% offer special higher rates on deposits and only 4.3% offer lower rates on online originated loans. Whether or not these numbers will need to increase, as community banks seek to migrate more customers online, is still not clear.

US Community Bank Websites that Offer Pricing or Deals not Otherwise Available, 2001 (as a % of respondents)

Source: ABA Banking Journal, March 2002

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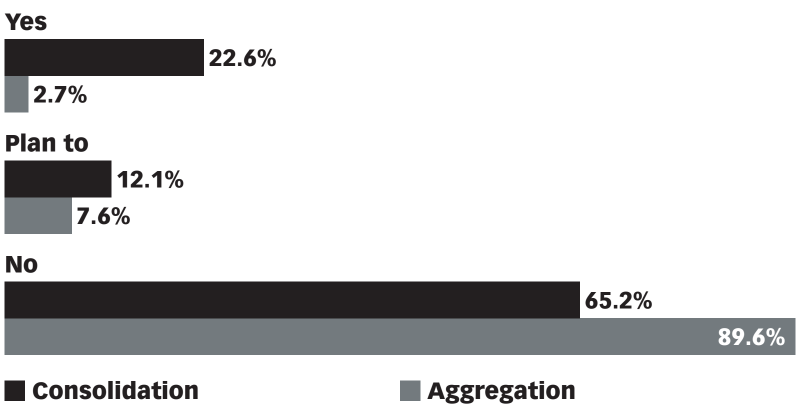
Look at aggregation, one service that gets a good amount of attention in the world of commercial banks. For community banks, you can see that it's low on the priority list, with 89.6% of banks saying they don't offer aggregation and have no plan to.

Percent of US Community Banks that Provide Web-based Account Consolidation* and Aggregation**, 2001



*Note: *Information about all of a customer's relationships at customer's bank; **Information about a customer's relationship at multiple firms*
Source: ABA Banking Journal, March 2002

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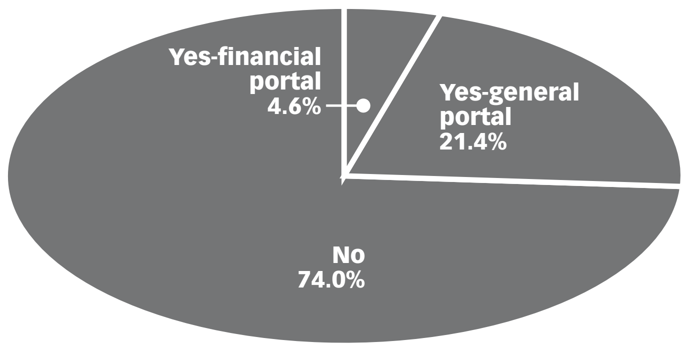
Finally, if you read the small section above on portal services from banks, you saw how outmoded the concept is for banking. Well, just as a substantial proportion of community banks live in slow internet time—and still don't have transactional websites, and pooh-pooh services such as aggregation—so do a fair share (21.4%) still offer general portal services.

US Community Bank Websites that Serve as Portals*, 2001 (as a % of respondents)



*Note: *Portal: a multi-function site featuring community news, financial developments, sports, weather and other information. A "financial portal" would feature mostly financial data such as stock prices*
Source: ABA Banking Journal, March 2002

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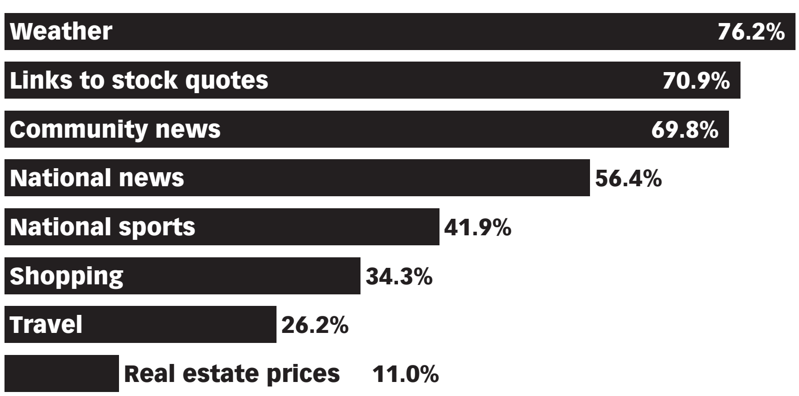
According to the *ABA Banking Journal*, these portal services include the classics: weather, local news, national news and sports.

Portal Services Provided by US Community Banks , 2001



Source: ABA Banking Journal, March 2002

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As might be expected, community banks in regions that tend to have a lower population density, such as the Southeast and Midwest, are more likely to offer general portal services than those banks in more populated regions, such as the Northeast.

US Community Bank Websites that Serve as Portals*, by US Region, 2001

	General	Financial
Northeast	15.2%	3.0%
Southeast	23.9%	2.7%
Central	18.9%	7.1%
Midwest	26.5%	3.0%
Southwest	21.8%	10.3%
West	12.1%	3.0%

*Note: *Portal: a multi-function site featuring community news, financial developments, sports, weather and other information. A "financial portal" would feature mostly financial data such as stock prices*
Source: ABA Banking Journal, March 2002

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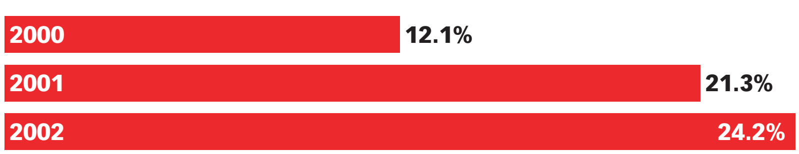
Small Businesses, Small Banks

Community banks and small businesses are a natural combination, with many local firms preferring their local bank, since the business owners believe they can get better service for essential items like loans and cash management.

That's why in 2002, nearly one-quarter (24.2%) of community banks offer small-business services online, according to the *ABA Banking Journal*.

US Community Banks that Offer Special Online Services to Small-Business Customers, 2000-2002 (as a % of respondents)



Source: ABA Banking Journal, March 2002

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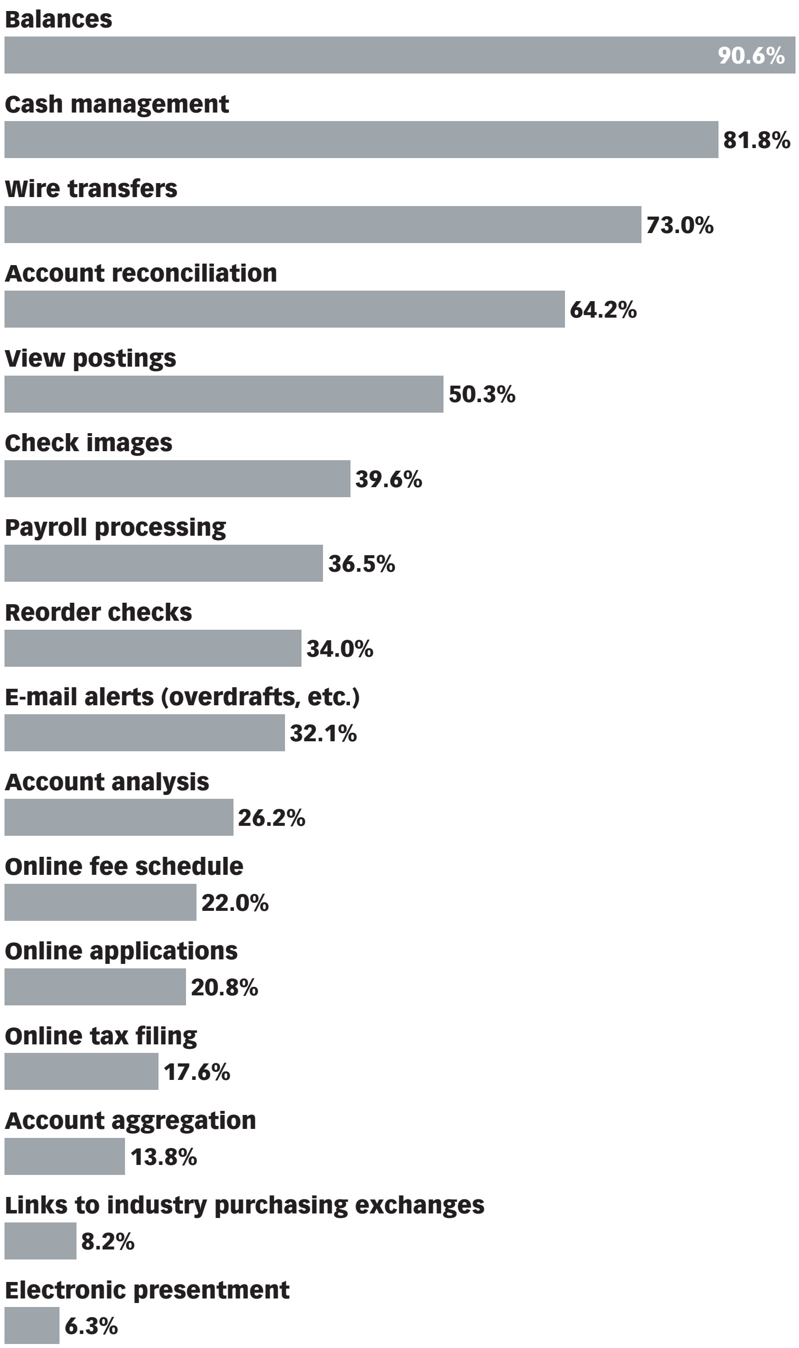
The sorts of services those 24.2% of community banks offer are ones much needed by small-business owners. These include cash management (at 81.8%), wire transfers (at 73.0%) and payroll processing (at 36.5%).

Special Online Services Offered to Small-Business Customers by US Community Banks, 2001 (as a % of respondents)



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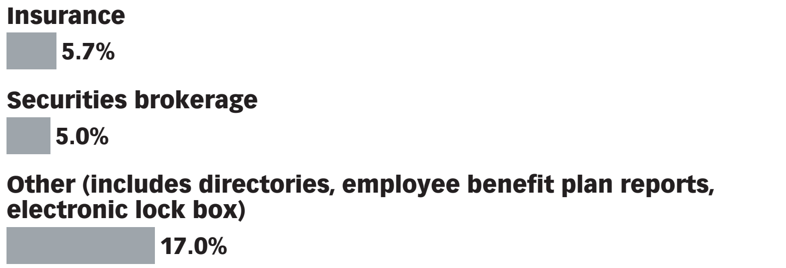

Source: ABA Banking Journal, March 2002

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The priority list of small-business services deemed "very important" by respondents to the Grant Thornton survey include cash management (at 52%) and account aggregation (at 40%). That latter figure appears higher when the service is for small-business customers than when offered to consumers.

Electronic Services Offered to Commercial Customers Considered "Very Important" by US Community Banks, 2001 (as a % of respondents)

Note: n=429
Source: Grant Thornton LLP, March 2002

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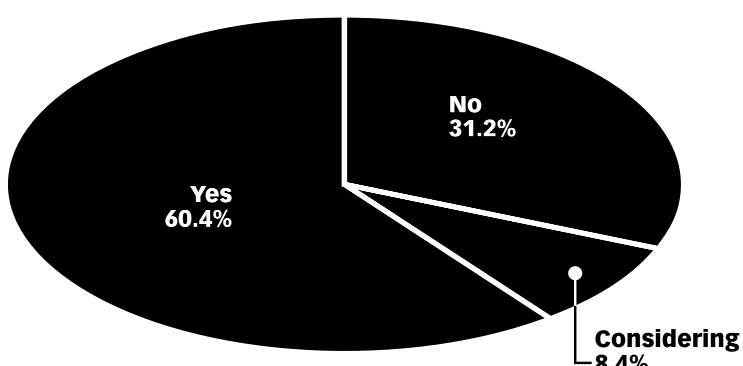
Small-business owners also represent important revenue streams to community banks. That's why 60.4% of bankers say they charge special fees for business web services.

US Community Banks that Charge Special Fees for Business Web Service, 2001 (as a % of respondents)



Source: ABA Banking Journal, March 2002

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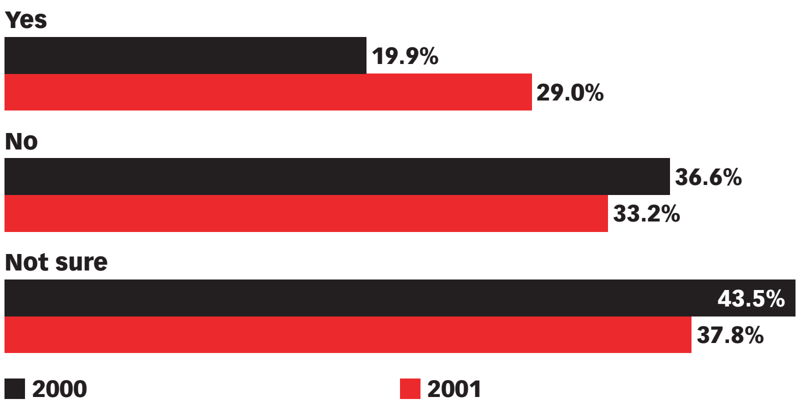
D. Community Banking's Website Attitudes

How important is the internet for community banks? When the *ABA Banking Journal* asked bankers if their website produced business they would not have obtained otherwise, the percentage replying "yes" increased by 9.1 points, from 19.9% in 2000 to 29.0% in 2001.

Note, too, that the dominant group—those who say they're "not sure"—at least decreased from year to year.

US Community Banks' Opinions Regarding Whether Their Website Has Produced Business They Would Not Have Obtained Otherwise, 2000 & 2001 (as a % of respondents)



Source: ABA Banking Journal, April 2001 & March 2002

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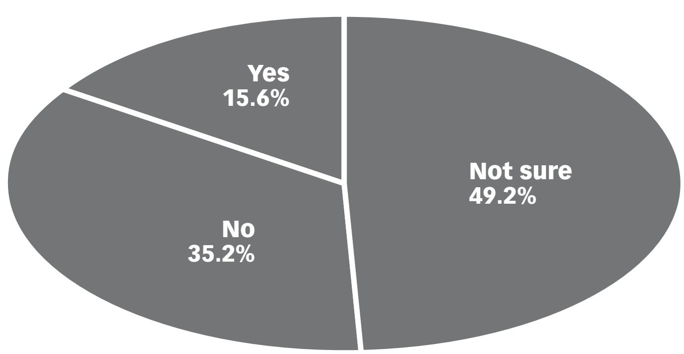
Still, 35.2% of community bankers believe the internet is not a less costly channel for meeting the needs of retail customers. And again, at 49.2%, the uncertainty regarding the web and its place received the most responses.

US Community Banks' Attitudes Regarding the Web as a Cheaper Means of Meeting Retail Customer Needs, 2001 (as a % of respondents)



Source: ABA Banking Journal, March 2002

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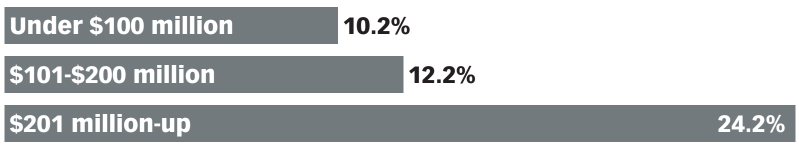
From the small 15.6% of community bank respondents who believe the web is a cheaper channel to serve customers, the numbers shake out by bank size, with the larger institutions more likely to think the internet saves money. (As you probably remember, those same larger community banks are also more likely to employ the web for offering more banking services.)

US Community Banks that Believe the Web is a Cheaper Means of Meeting Retail Customer Needs, by Bank Size, 2001



Source: ABA Banking Journal, March 2002

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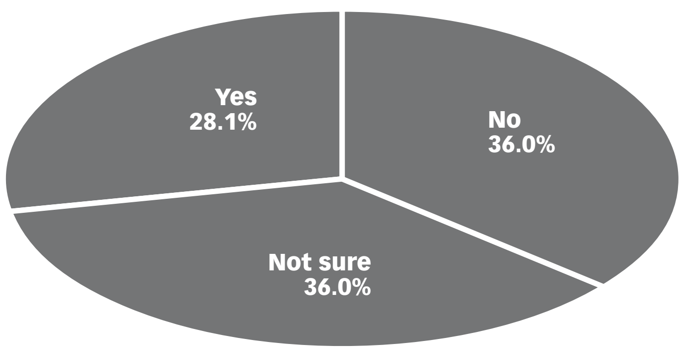
One way the internet channel saves money for banks is moving customers away from call centers, which tend to cost more. In that light, 28.1% of community bank respondents feel the internet is doing a good job shifting customer inquiries.

US Community Banks' Opinions Regarding Whether Having a Website Has Reduced Customer's Telephone Inquiries, 2001 (as a % of respondents)



Source: ABA Banking Journal, March 2002

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In the end, community banks appear to be finding out what most larger banks already know: while the internet is a valuable channel for retaining customers and cross-selling, and while online banking is a channel that must be integrated with other channels, it's probably not a profit center by itself.

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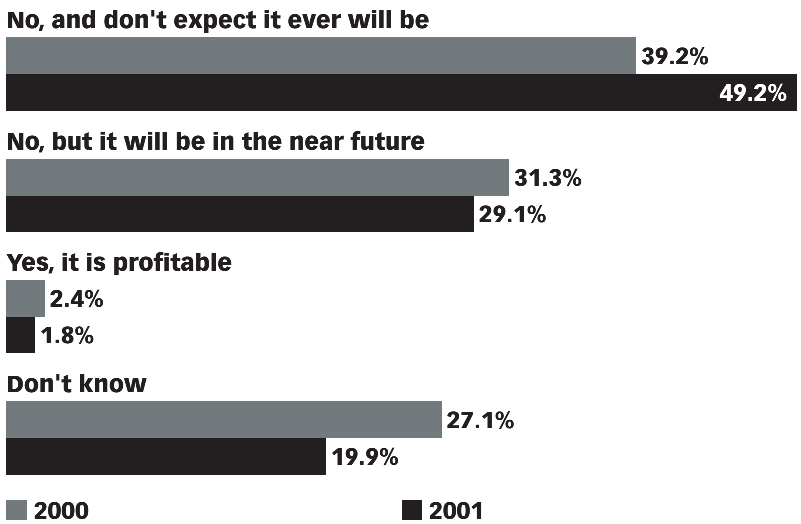
In 2001, 49.2% of community banks told the *ABA Banking Journal* survey that their website is not profitable, and they don't expect it ever will be. That's a 10-point drop from 2000's figure. And that's community banks' reality—for now.

US Community Banks' Attitudes Regarding the Profitability of Their Websites, 2000 & 2001 (as a % of respondents)



Source: ABA Banking Journal, April 2001 & March 2002

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While many, if not most, consumers stay with their primary financial institution when they want to bank online, some shop around. Other consumers might already be dissatisfied with their current bank's internet offerings and are looking to switch.

Two research firms, Gomez and Jupiter, periodically put together rankings of US banks and their web-based channels. Here's what they think—and why.

A. Gomez

Gomez Inc., a research firm and provider of internet measurement services, regularly ranks banks and other financial-service firms and products for consumers. The evaluation tools Gomez uses include a site's ease of use, customer confidence and overall cost. The data is gathered through a blend of methods, from the company opening test accounts to consumer feedback.

To qualify for the Gomez scorecard, "banks must first meet minimum criteria [which] consist of firm strength, firm size, and web functionality."

- For firm strength, banks must have an independent FDIC charter and a rating of 3.5 or higher by Bauer Financial.
- For firm size, brick-and-mortar banks must have a minimum of $3.5 billion FDIC-insured deposits in accounts under $100,000, and internet-only banks must have at least $100 million.
- Web functionality must include the ability to view balances and pay bills with only one log-in, transfer funds, view transactions online, submit a complete checking account application and enroll in web banking.

Banks meeting the minimum criteria are then rated against one another on the quality of their internet delivery of banking and related services.

With those metrics in mind, the latest rankings of US online banks, from the 1st quarter of 2002, show high rankings for three of the five largest banks: Citibank, Wells Fargo, and Bank of America. But with the competitive emphasis on online functionality, internet-only banks such as First Internet Bank of Indiana can compete with the Citibanks of this world, displaying an overall score nearly as high as the biggest bank in the country.

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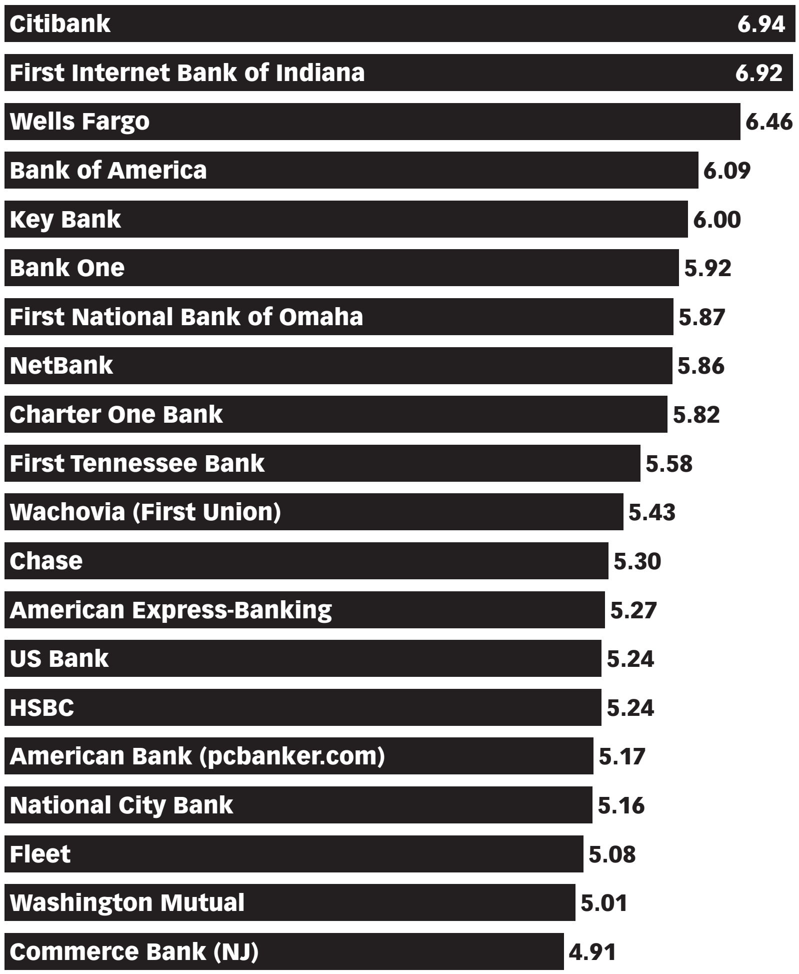
Or regional banks such as First National Bank of Omaha and First Tennessee Bank—which are considerably smaller than the major institutions—can outrank behemoths like Chase, Fleet, and Washington Mutual.

Top US Online Banking Sites, Ranked by Overall Score, Q1 2002



Note: Highest possible score is 10; the evaluation categories that contribute to overall score are ease of use, customer confidence, on-site resources, relationship services and overall cost; according to Gomez, "Scorecard rankings comprise a set of 150 or more criteria for which Gomez collects data. The data collection process typically requires visiting numerous sites in each market segment, opening accounts, transacting, contacting customer service, and monitoring the performance of these sites every few minutes of every day…consumer research, customer feedback and Gomez research are used to modify the criteria"
Source: Gomez, Inc., April 2002

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In this light, the internet is still an enabler for smaller companies, leveling the playing field. The Gomez scorecard, then, can be useful for those consumers who are ready to bank outside of their geographic area or who are looking for the best online bank in their area. And for the banks, the top-ranked ones, the Gomez scorecard becomes a marketing tool for gaining new customers.

B. Jupiter

While the Gomez rankings are intended for consumers, the CORE ranking system from Jupiter Media Metrix is aimed at the banking industry and other interested professional parties. The Jupiter rankings are based on its own method, called the CORE Index, for "composite rating of online effectiveness."

The index is made up of individual scores relating to number of unique visitors, amount of time users spend on the site, number of visits per month per customer, and the firm's ability to migrate offline customers online. Financial institutions that achieve the highest combination of consumers' attention, unique visitors' traffic and online transition of their total customer base will attain the highest level in the CORE ranking system,

With this system, do the Jupiter criteria mean only bigger banks will prevail?

With that question in mind, note that not only are several of the largest banks—such as Wells Fargo, BofA and Bank One—in the top rankings, but so is the relatively small Navy Federal Credit Union, along with two regional institutions: Union Bank of California and AmSouth Bank.

Top US Online Banking Institutions, Ranked by Composite Rating of Online Effectiveness (CORE) Index*, 2002

Wells Fargo Bank	100.00
Bank of America	97.53
Navy Federal Credit Union	82.16
Bank One	78.63
Union Bank of California	78.09
Citigroup Banking	75.35
AmSouth Bank	74.84
Fleet Bank	67.38
First Union (Wachovia)**	66.21
HSBC Bank	65.40
BB&T	61.91
Wachovia (First Union)**	61.66
PNC Bank	59.96
Key Bank	59.21
Washington Mutual	57.35
Fifth Third Bank	57.13
JP Morgan Chase	56.00
Huntington National Bank	51.14
US Bancorp.	50.17
SunTrust Bank	49.18
Net Bank	48.63
People's Bank	43.09
First National Bank of Omaha	0.00

*Note: *The Jupiter Research CORE (Composite Rating of Online Effectiveness) Index is made up of individual scores relating to number of unique visitors, usage intensity (amount of time spent), usage frequency (number of visits per month) and customer loyalty or transition (the ability to migrate off-line customers online); financial institutions that achieve the highest combination of consumers' attention, unique visitors' traffic and online transition of their total customer base will attain the highest level in the CORE ranking system; ** First Union and Wachovia merged in September 2001*
Source: Jupiter Media Metrix, Inc., May 2002

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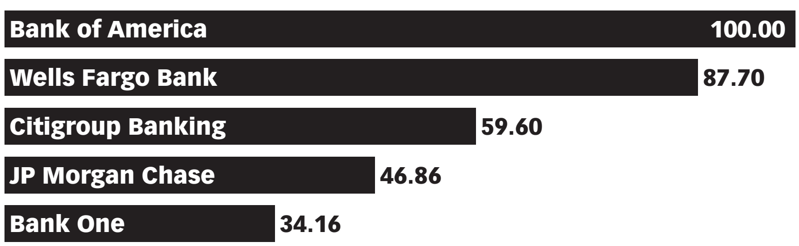
Meanwhile, underlying the overall rankings shown above, Jupiter further graded online banks by five specific characteristics:

- number of unique visitors
- amount of time spent on the site (called "stickiness")
- frequency of use
- the ability to migrate customers online (called "transition")
- customer loyalty

It's no surprise that, in general, the larger banks—who have the most customers as well as the most assets—rank in the top five by unique visitors. The five institutions shown in the chart below are in the top six of banks measured by total assets; only Wachovia (the former First Union) is missing from this list.

Top Five US Online Banking Institutions, Ranked by Unique Visitors, 2002



Note: Based on individual scores relating to number of unique visitors
Source: Jupiter Media Metrix, Inc., May 2002

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The amount of time a consumer spends on a bank's website is called, by most internet observers, stickiness. In this context, Jupiter also calls it "intensity." By that light, some of the regional banks do well, by offering their customers more services to keep them around. That includes Union Bank of California, AmSouth Bank and Huntington National Bank.

Top Five US Online Banking Institutions, Ranked by Stickiness, 2002

*Note: Stickiness defined as amount of time spent on website (which Jupiter also calls "intensity"); *tied for fifth place*
Source: Jupiter Media Metrix, Inc., May 2002

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That the top-ranked bank by frequency of use—defined by Jupiter as number of visits per month—is an internet-only bank, NetBank, probably is an historically based phenomenon. That is, as one of the earliest online banks, NetBank has a goodly share of customers who have been banking on the internet longer than most online banking customers. Therefore, as experienced internet users, the NetBank customers tend to spend more time at the bank.

That's one theory at least.

Top Five US Online Banking Institutions, Ranked by Frequency of Use, 2002

Note: Frequency of use defined as number of visits per month
Source: Jupiter Media Metrix, Inc., May 2002

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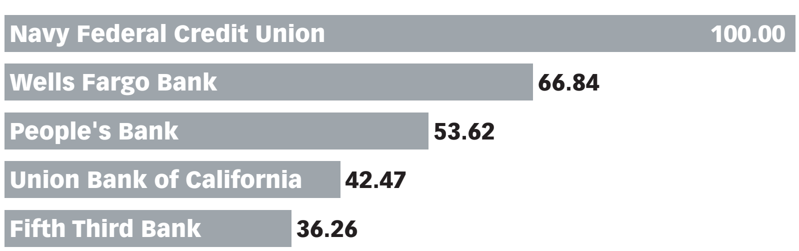
In Jupiter's rankings by transition—defined as the ability to migrate offline customers online—you can see why the Navy Federal Credit Union is ranked third overall. With a large lead of 33.16 points over Wells Fargo, the second ranked below, the Merrifield, VA-based credit union is far better at convincing customers to bank online than any other financial-service firm.

Perhaps with a customer base that travels regularly—Navy personnel and families—the appeal of online banking is clearer than for a commercial bank like the others shown below.

Top Five US Online Banking Institutions, Ranked by Transition, 2002



Note: Transition defined as the ability to migrate offline customers online
Source: Jupiter Media Metrix, Inc., May 2002

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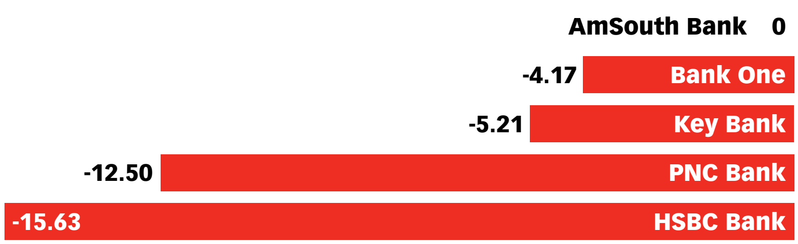
Finally, an oddity in the Jupiter CORE method are the loyalty rankings—defined as customers least likely to visit other banks' websites—odd because in this case, unlike the other four categories and the overall rankings, the lower the score, the higher the rank.

Why just visiting another bank's website would matter that much in the rankings isn't entirely clear; stealing customers from other banks would mean more, it would seem.

Top Five US Online Banking Institutions, Ranked by Loyalty, 2002



Note: Loyalty defined as customers least likely to visit other banks' websites
Source: Jupiter Media Metrix, Inc., May 2002

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But who said any researcher's rankings, from Jupiter or Gomez or any other firm, are an exact science? This kind of subjective ranking is useful, however, for a bank to better understand what its strengths are in the online channel and how it can improve retail delivery on the internet.

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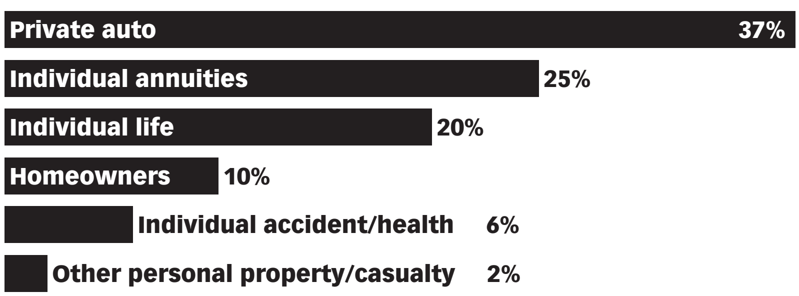
Online insurance means different things at different times to different people. Does it refer to the entire process of automating policy sales, from shopping to closing, including the required digital signature? Or is the internet mainly a marketing channel for insurance companies to gather leads? Also, how much of the online insurance game is part of the banking industry, with its desire to diversify product offerings and create one-stop shopping? Or, instead, how much is the insurance industry finding its own place on the internet?

These questions get to the heart of the matter: insurance across the internet appears fragmented, as a process and as a product. How it's being done, and who is doing it, are both in the chrysalis stage—and have not yet taken wing.

A. The Market

The total US insurance market, both consumer and business, offline and online, is estimated at $1 trillion by Celent Communications. Approximately 55% of that amount, or $550 billion, comes from various personal lines insurance. The top three types are auto at 37%, annuities at 25% and life at 20%.

US Personal Lines Insurance, 2002 (as a % of total market)



Note: at $550 billion, personal lines insurance is approximately 55% of the total $1 trillion US market
Source: Celent Communications, February 2002

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Work out the Celent figures for life insurance, and 20% of $550 billion equals $110 billion. Add to that the 6% for accident and health insurance, which equals $33 billion, and you get a total of $143 billion for the two personal lines of insurance.

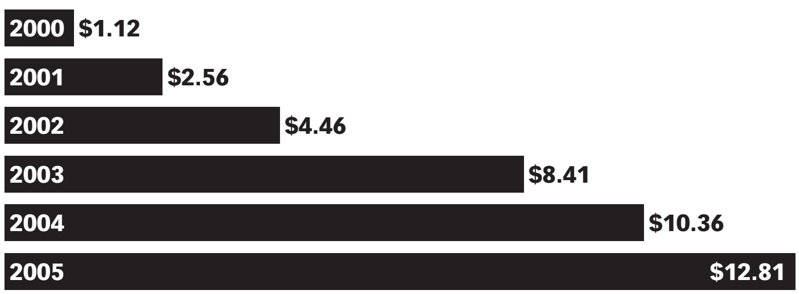
"The insurance industry is thought to be a little bit slow in terms of its technical innovation, and that's particularly true when it comes to online initiatives. Everyone looks at brokerage firms [as] being leaders, and banks to a lesser extent."

– Ian Rubin, director of online financial services research, IDC

Now look at the IDC estimates for US online life and health insurance sales for 2002, which will be $4.46 billion. Accepting for the moment that mixing figures from two different research firms may be suspect, but that shows the online proportion of life and health insurance is a minuscule 3.4% of the market.

More so, when you examine the IDC projections for those two lines, it appears online sales will grow by a healthy 187.2% from 2002 to 2005's $12.81 billion in premiums.

US Online Life and Health Insurance Sales, 2000-2005 (premiums in billions)



Source: International Data Corporation (IDC), May 2001

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In order to reach such solid growth rates, more US consumers will need to shop for insurance on the internet. According to Celent, online insurance shoppers currently account for 19% of total personal line premiums, with predictions of growth to 37% by 2005.

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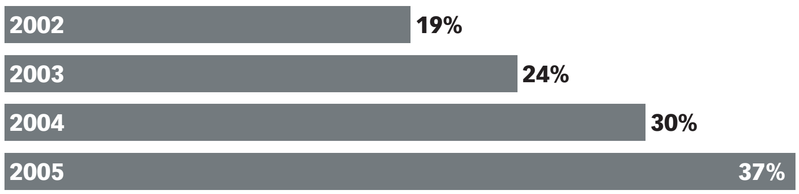
It's just that the term "shoppers" in this context gets back to the questions that introduced this chapter, pointing to the fact that while the initial insurance shopping may occur online, the close will often take place in-person, with an agent.

Premiums for Personal Lines Insurance Shopped for Online in the US, 2002-2005 (as a % of total market)



Note: personal lines insurance includes life, annuities, accident/health and property/casualty
Source: Celent Communications, February 2002

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While insurance products offered to the consumer include life, auto, health and property and casualty (P&C), the intertwined nature of company and agent has made both the move to the internet, and even more the convergence of insurance and banking, slower paced than some in either industry have hoped for. The question here is: who owns the customer?

"In the insurance industry, in particular, a lot of the customer data resides with the agent rather than with the company," according to *Insurance Networking* magazine. "And agents will share data only if it's in their best interest to do so."

In trying to cross-sell other types of financial-service products, the agent's role is central. "Getting the agent sensitized to the opportunities to attempt the cross-sell—and to make the pitch—is critical," according to Deloitte Consulting. "But how do you get an agent who is used to selling me life insurance policies to try to take me somewhere else in that relationship?"

The convergence of insurance and banking met a major test late in 2001 when Citicorp announced that it would spin-off its Travelers Property and Casualty group, bought only three years before. The decision to jettison the P&C unit came with the admission that "cross-selling was proving harder than Citigroup had anticipated," according to *American Banker*. Did the divestiture signal a letdown for banking and insurance convergence?

"There's been some disappointment around convergence. There was the feeling that convergence was going to be a revolutionary change, and we don't have a revolution on our hands. It's moving slowly."

– Ken Porello, leader North American insurance practice, Deloitte Consulting

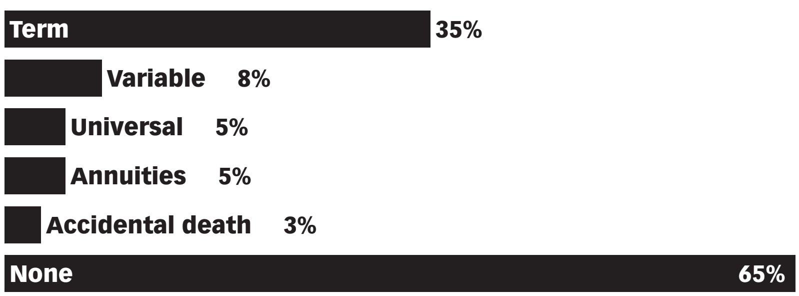
Actually not, according to several analysts. Conning & Co., for one, believes that Citicorp's move just indicates that "the P&C business won't figure prominently in convergence—at least not for large conglomerates with aggressive growth targets," reports *Insurance Networking*.

Note that Citigroup retained Travelers' life and annuity divisions, which offer a better blend with banking. "There's a logical fit between banking and life insurance," according to Conning, a Hartford, CT-based asset manager and researcher for the insurance industry. "The two sectors have similar products and cultures, and a focus on wealth accumulation."

In addition, life insurance is often part of financial planning. That points to favorable demographics for life insurance and annuities.

How much the insurance industry is offering life policies online is another story. When Forrester Research surveyed 40 life insurance executives, 65% said they sold no life policies on the internet. Of those who do sell, term life is the most popular type, according to 35% of respondents.

Life Insurance Offerings Online in the US, 2001 (as a % of respondents)



Note: n=40 life-insurance executives; multiple responses allowed
Source: Forrester Research, December 2001

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The convergence in financial services is turning into a two-way street, with insurance companies moving into banking as well. For example, State Farm Mutual and Allstate Insurance "both began offering mutual funds and banking products in the last two years," reports *Insurance Networking*, "although [those] operations currently represent a small portion of each carriers' revenues."

In fact, insurance companies such as "State Farm and Allstate—with prominent local agents—may be successful in cross-selling bank products and mutual funds to their customers, particularly in small towns where a local bank may have been acquired by a larger bank," according to EDS, a Plano, TX-based IT services company.

Banks tend to have the advantage in convergence games, however. Since most consumers contact their bank far more often than they do their insurance company, that relationship more lends itself to banks pitching policies than insurance carriers selling banking products. "Many banks are betting on that logic," according to *Insurance Networking*. For example, Wells Fargo "reported insurance revenues of $263 million during the first three months of 2002, up 123% from the previous year."

"How many times do we go to our insurance contracts in a year? You have a much more frequent relationship with the bank than you do with an insurer."

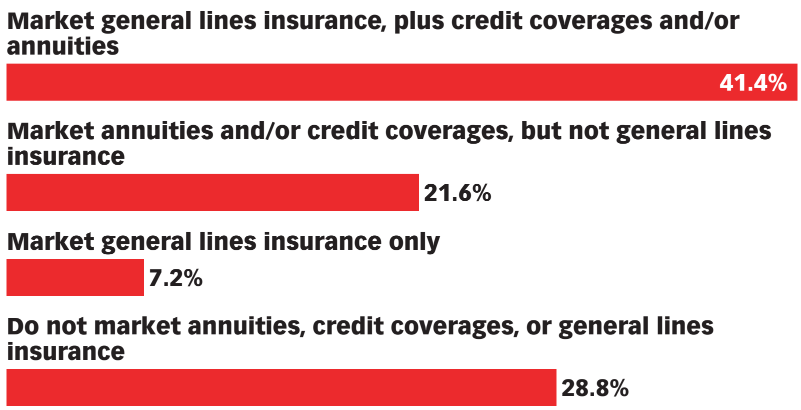
– Faith Trapp, managing director of the global insurance industry, EDS

Banks and insurance carriers also appear to be taking on separate roles as distributors and manufacturers, respectively, especially with P&C products. That way, the insurers create the policies and the banks sell them. "If you look at it, banks don't really need to take on the underwriting risk of a property and casualty insurer," notes EDS. "They can get that by buying up distribution. And most [carriers are] becoming more focused on being excellent product manufacturers."

That logic points to another trend: banks have been buying up insurance agencies much more than insurance companies. According to a study by the American Bankers Insurance Association (ABIA), a Washington, DC-based group for bank insurance interests, "an acquired agency is the dominant distribution platform for banks currently marketing both commercial and personal property and casualty products."

Research from Conning & Co. shows that while 28.8% of banks sell no insurance, the largest segment of 41.4% markets not only general lines insurance, but also credit coverages and/or annuities.

US Banks that Sell Insurance, 2002 (as a % of respondents)



Note: n=366 banks
Source: Conning & Co., 2002; Insurance Networking, June 2002

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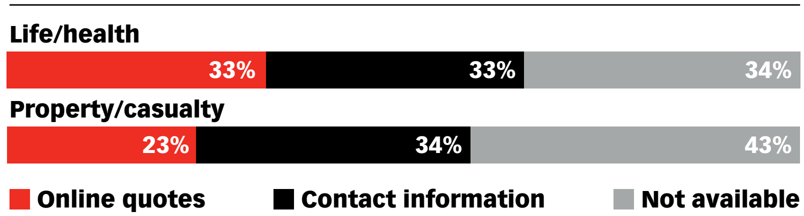
As banks move more insurance sales online, the dominant model consists of quotes and contact information—and not the full process, according to Celent. In fact, among the top 75 US online banks, 34% do not sell life or health insurance over the internet, and 43% do not sell P&C policies online.

Online Personal Insurance Services at the Top 75 Online Banks in the US, 2002 (as a % of respondents)



Source: Celent Communications, February 2002

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"There was probably more hype about consumers wanting one-stop financial services in the past than is reality today."

– Faith Trapp, managing director of the global insurance industry, EDS

How much the link of banking and life insurance will create full-fledged one-stop shopping, and how much consumers want that, is still up in the air, however. Surveys conducted by Synergistics Research reveal that

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consumers prefer to buy insurance from a traditional insurance agent rather than a bank. Consumers recognize that buying insurance through their bank might be less expensive and more convenient, the research firm notes, "but they look to a traditional agency for things like relationship, knowledge and experience, which are weightier in the consumer's mind. [They want to know] who can give [them] the best product, best service, best knowledge and the best price. And typically that's the specialists, not generalists who do a little of everything."

"They [consumers] look to a traditional agency for things like relationship, knowledge and experience, which are weightier in the consumer's mind."
–William McCracken, CEO, Synergistics Research

Details from the Synergistics study back up that specialist focus, with 60% of consumer respondents failing to be impressed by one-stop shopping for financial services, saying they could find better prices, rates and services by shopping around. Furthermore, privacy issues may block convergence among financial products, since 55% are concerned about all financial services tied to one institution.

US Consumers' Attitudes toward One-Stop Shopping for Financial Services, 2002 (as a % of respondents)

Note: n=1,000
Source: Synergistics Research Corp., 2002; Insurance Networking, June 2002

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How long it will take for the full insurance process to move entirely online for a goodly portion of policies is also up in the air. According to Forrester Research, completing an application online is so difficult that "a consumer almost has to default to a call center or to a traditional agent. But "carriers realize these limitations," reports *Bank Technology News*, "and they are using their online apps as a way to gather data at this point, knowing that the fulfillment will go through another channel."

Consumers seem to have no problem with cross-channel insurance sales, according to Gomez. While only 19.4% who go online to buy auto insurance intend to purchase a policy entirely electronically, 80% are "looking for a hybrid online/offline interaction."

As the insurance industry constructs its online components, this channel mix is suiting it well. Leading carriers such as John Hancock are using the "internet to collect data, provide quotes, and then close sales through call center representatives," according to *Insurance Networking*. Used for sales of term life, the company increased close rates by 300% in 2000. "Allstate became the first auto insurer to try a similar approach, committing in 2000 to spend $1 billion to integrate the internet with its call centers and agent force."

While Celent expects that auto insurance will remain the "most shopped" online insurance segment, one-third of individual life insurance sales over the next three years will "touch" the online channel, mainly at the front-end research stage.

"Online quoting systems typically ask a series of questions and provide consumers with a premium figure, usually the lowest quote possible, based on the information gathered," according to Celent. "But often, applicants are surprised to find they must pay a higher rate once they fill out a detailed questionnaire."

This causes problems. It's nearly akin to shopping on Amazon.com, seeing a discounted price for an item, and then paying 15% more when you get to the online checkout. No good. And it's one reason why *Insurance Networking* called life insurance the "poster child" for all that was unfulfilling with online insurance programs.

Aside from these issues, "many carriers have watched online life programs remain unfulfilled because many are wary of channel conflict when selling life products online," reports *Insurance Networking*. Again, the traditional connection between agent and company is a barrier for the development of insurance online.

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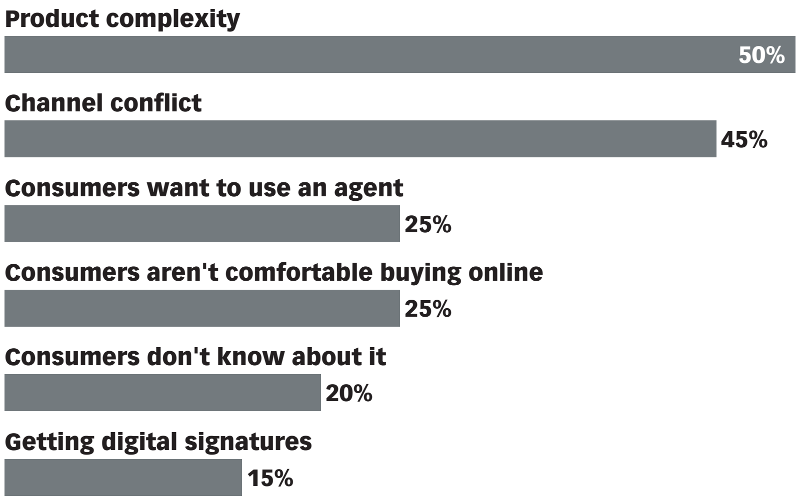
A survey of life insurance executives by Forrester Research points to product complexity and channel conflict as the two top barriers to selling life policies online.

Barriers to Selling Life Insurance Online in the US, 2001 (as a % of respondents)



Note: n=40 life-insurance executives; multiple responses allowed
Source: Forrester Research, December 2001

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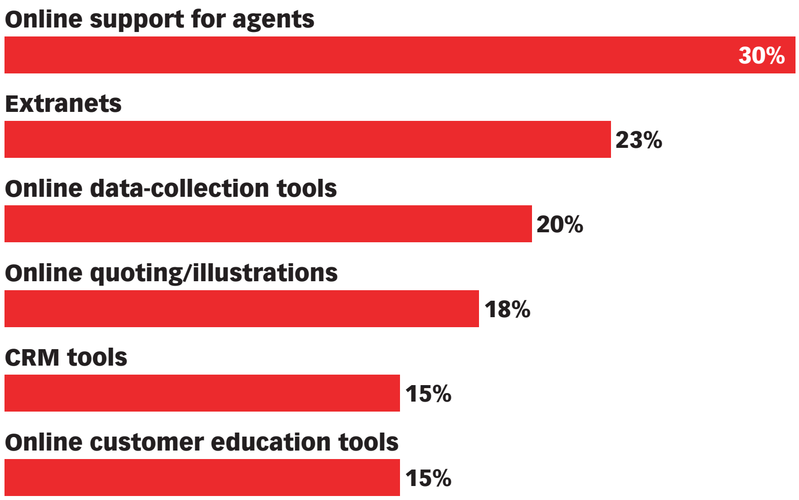
Also, as a means to reduce conflict with agents, insurance companies are introducing more online support and tools. That way, the sale still takes place in a hybrid environment, but the agents feel the company is behind them instead. According to Forrester, 30% of insurance companies are creating online support for agents, along with other means of digitizing the whole process.

Online Life Insurance Support and Tools Offered in the US, 2001 (as a % of respondents)



Note: n=40 life-insurance executives; multiple responses allowed
Source: Forrester Research, December 2001

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Another way that insurance companies are looking to move more customers online—and away from the agent blockade—is by "creating lower-price products that go online," according to Gartner. Analysis from IDC concurs, saying that insurers are "creating a whole new type of policy that can only be purchased online—policies with different characteristics, pricing and rate tables. So, in a sense, they are not competing with the agent one-on-one any longer; there's a special policy that's just for people who use the internet because they fit a certain profile."

As an example of an online insurance marketplace, InsWeb illustrates a key way that consumers shop for insurance—not directly at the insurer but through an online consolidator. This channel appears to be succeeding, if you examine two lines in the chart below. While the percentage of completed sessions has grown from 20.8% in Q3 2001 to 23.9% in Q2 2002, the marketing costs per completed session has dropped from $6.30 to $3.31 in the same period.

Marketing Metrics for InsWeb, Q3 2001-Q2 2002

	Q2 2002	Q1 2002	Q4 2001	Q3 2001
Consumer quotes presented*	3,537	3,685	3,197	3,509
Completed shopping sessions*	847	893	738	731
Percent of completed sessions	23.9%	24.2%	23.1%	20.8%
Direct marketing costs*	$2,803	$2,871	$3,442	$4,602
Marketing costs per completed session	$3.31	$3.22	$4.66	$6.30

*Note: *in thousands*
Source: InsWeb, July 2002

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"Consumers will come to the web to sift for life insurance information. If they go to an e-marketplace site and seek a particular carrier's product, it behooves that carrier to be there to meet them."

– Matthew Josefowicz, senior analyst, Celent Communications

The demographics of online insurance shoppers—this time for auto and term life—lean far more to males than females. For example, 71% of term life shoppers in Q3 2001 were males.

In addition, the 25-to-40 year old segment represents the biggest group of shoppers for both types of policies.

InsWeb Customer Demographics for Auto and Term Life Insurance, Q3 1999 & Q3 2001

	Auto Q3 1999	Auto Q3 2001	Term life Q3 1999	Term life Q3 2001
Male	63%	57%	74%	71%
Female	37%	43%	26%	29%
<25	33%	24%	6.6% (approx.)	6.6%
25 -40	45%	46%	48.4% (approx.)	48.4%
40+	22%	30%	45% (approx.)	45%
Homeowner	less than 40%	47%	–	–

Source: InsWeb, 2001; Celent Communications, February 2002

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In order to make the internet channel fully capable of selling insurance policies, the establishment of digital signatures must take place. However, according to a report from Celent Communications, "E-Signatures in U.S. Insurance: Overview, Issues & Case Studies," despite a "green light from most state regulators and the maturation of e-signature technologies," and despite the potential of reduced "cycle times and lower process costs using e-signatures," carriers have been slow to take advantage of e-signature opportunities.

"Carriers are hesitant to go down the e-signature path because they perceive it to be risky. But the reality is that carriers using e-signatures today have found ways to mitigate the risk. And their efforts are reaping tangible rewards."

– Craig Weber, analyst, Celent Communications

That's why Celent predicts that the percentage of carriers making substantial use of e-signatures will reach only low double digits over the next 18 months. Should insurance companies adopt digital signatures to a greater extent, it would make the most sense "in relatively low-risk processes like taking applications for health and auto insurance." That way, insurance can better "meet customer expectations of convenience and speed," more like banking and brokerage have already done online.

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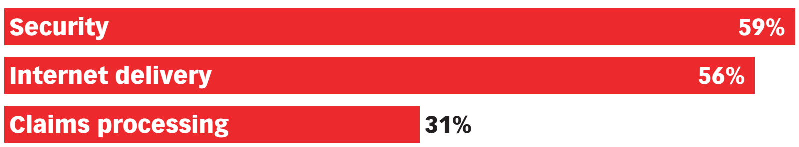
B. Insurance IT Spending

Whether for making the online component a mainstream insurance channel, or for other processing needs, analysts predict that insurance industry will increase technology spending. For example, while IDC's 2000 estimates indicate that insurance companies invested 16% of their total IT spending budget on internet initiatives, the research firm expects that share to reach 33% by 2005.

According to an *Insurance Networking* magazine survey early this year, 56% of insurance executives are planning to increase their spending this year on internet delivery—nearly as many as those focused on security matters and more than for claims processing.

US Insurance Executives' Plans to Increase IT Spending, by Purpose, 2002 (as a % of respondents)



Note: multiple responses allowed
Source: Insurance Networking, February 2002

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Estimates from a recent Celent Communications report—"IT Spending in US Insurance"—indicate that total IT spending by US insurance companies will reach $18 billion in 2002 "despite the general, economy-wide pullback in IT spending since 2000 and 2001 and the many financial challenges faced by the insurance industry in particular."

IT Spending in the US Insurance Industry, 2001-2005 (in billions)

Source: Celent Communications, June 2002

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The IT spending figure for 2002 represents a 7.1% increase from the prior year, and Celent predicts steady growth for the next two years, declining by 2005.

IT Spending in the US Insurance Industry, 2002-2005 (as a % increase vs. prior year)

Source: Celent Communications, June 2002; eMarketer calculations, September 2002

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The Celent research also shows that the average US insurance carrier spends 12% of its non-commission operating expenses on IT, with 35% of its IT budget devoted to new projects and initiatives. “Insurance carriers are primarily focusing their new project IT spending on improving customer service, increasing delivery speeds and cutting costs, in that order. Increasing flexibility to enter new markets and introduce new products is also important, but not as high on the priority list as the first three goals.”

“There is a renewed focus within insurance IT spending on short-term, demonstrable ROI.”

– Matthew Josefowicz, senior analyst, Celent Communications

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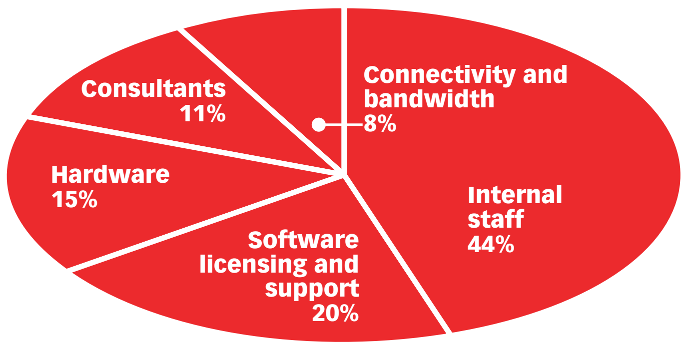
Within IT budgets, expenditures on internal staff consume the lion's share, according to Celent—roughly 44% on average, with another 11% going to consultants. Software licensing and support forms the next largest block, with a 20% share, followed by hardware with 15%. Connectivity and bandwidth, in an increasingly networked industry, consume about 8% of overall budgets.

IT Budgets in the US Insurance Industry, 2002



Source: Celent Communications, June 2002

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Drilling down to specific carriers, Celent shows AIG as the biggest IT spender in 2002, at $446 million, with State Farm close behind at $413 million.

Projected IT Spending at US Insurers, 2002 (in millions)

Source: Celent Communications, June 2002

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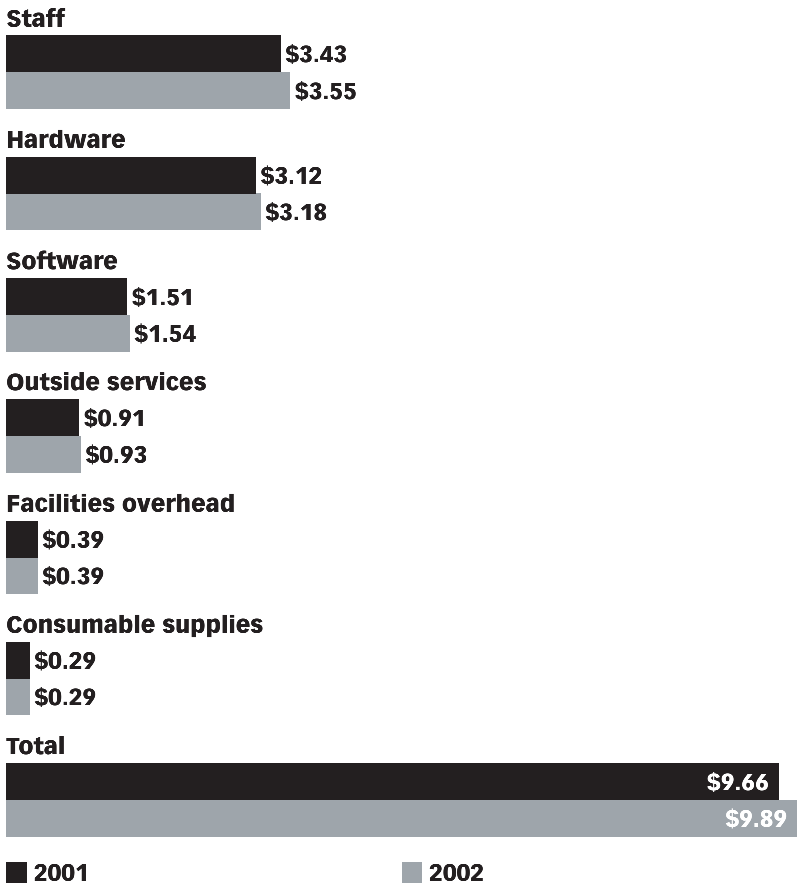
Celent attached a bottom-line warning to this report, saying that even though the current industry IT concentration on ROI offers value, it can be shortsighted. "While it is of critical importance to set clear, measurable goals and manage projects diligently, an exclusive focus on short-term ROI can discourage carriers from undertaking much-needed but longer-term and more systemic improvements."

Another look at 2002 IT spending in the US insurance industry comes from Computer Economics, which estimates that companies will spend $9.89 billion this year on various technology expenses, up from $9.66 billion in 2001. Note how that 2002 figure is only a little more than half of Celent's projection above.

US Insurance Industry IT Spending, by Category, 2001 & 2002 (in billions)



Note: numbers may not add to total due to rounding
Source: Computer Economics, 2002

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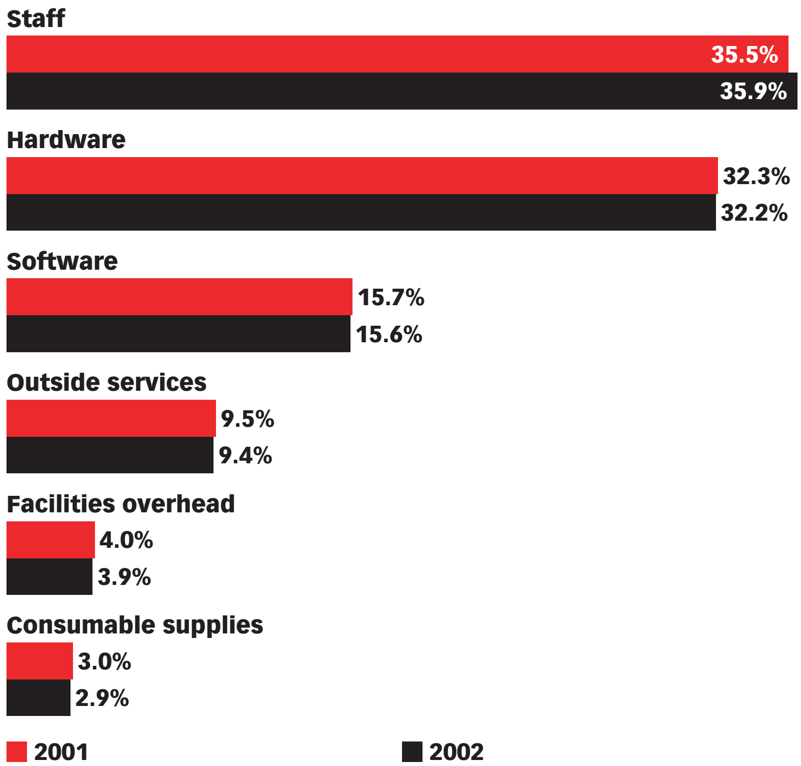
Viewed as percentages, the numbers also diverge substantially from Celent's. Take 2002 alone. Hardware, which is 32.2% of IT budgets according to Computer Economics, is only 11% according to Celent. Or staff, which is the big item in both forecasts, plays out to 35.9% for Computer Economics and 44% for Celent.

US Insurance Industry IT Spending, by Category, 2001 & 2002 (as a % of total*)



*Note: *total IT spending in 2001=$9.66, in 2002=$9.89*
Source: Computer Economics, 2002

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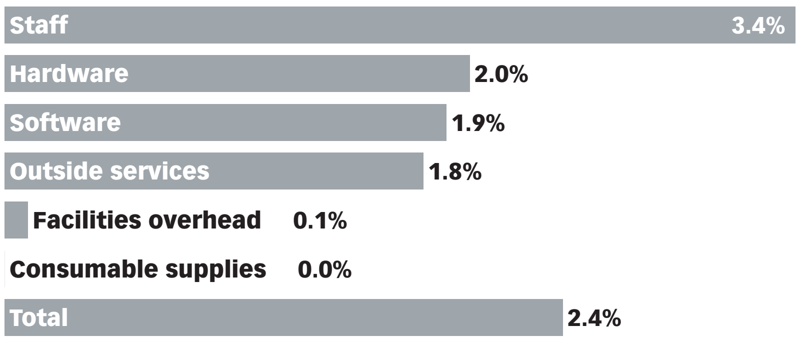
The third Computer Economics chart shows growth rates by IT category for 2002. The research firm expects a 2.4% increase, which contrasts to Celent's 7.1% figure for the same year.

US Insurance Industry IT Spending, by Category, 2002 (as a % increase vs. prior year)



*Note: *total IT spending in 2001=$9.66, in 2002=$9.89*
Source: Computer Economics, 2002

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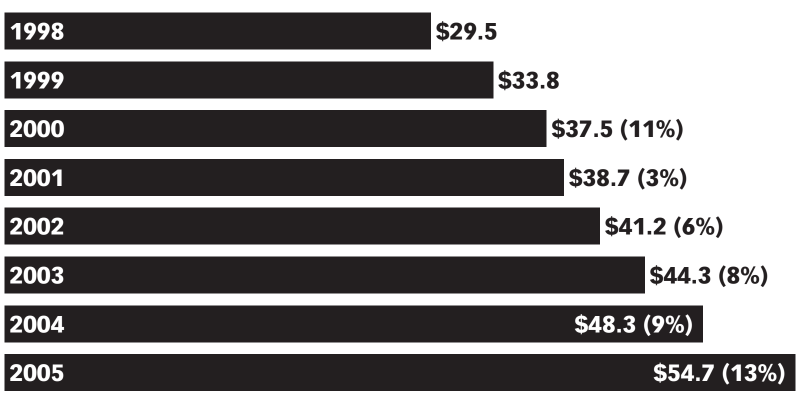
Still further divergence appears in estimates from Gartner Dataquest. Again, looking at just 2002, the US insurance industry will spend $41.2 billion on IT matters. Again, Celent comes in at $18 billion and Computer Economics at $9.89. Gartner, however, shows similar growth rates to Celent's estimates.

US Insurance Industry Spending on Information Technology , 1998-2005 (in billions and spending growth*)



*Note: *CAPG 2000-2005 = 13%*
Source: Gartner Dataquest, 2002

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With insurance industry IT spending numbers all over the map, what gives? Of the three research firms, each is undoubtedly making different assumptions not only about how dollars will be spent but what constitutes the insurance IT universe.

Just as in the banking industry, insurance is finding large benefits in CRM. That's why Meridien Research predicts that worldwide spending on CRM projects will grow from $1.6 billion in 2001 to $2.5 billion by 2006.

Insurance Provider Spending on Customer Relationship Management (CRM) Projects Worldwide, 2001-2006 (in billions)

Source: Meridien Research, April 2002

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And also like banks, insurance companies need outsourcing to manage complex IT endeavors. According to Gartner, 51% of life and health insurers outsourced at least one business process in 2001, while 48% of P&C did the same.

Insurance Carriers in the US that Outsourced at Least One Business Process, 2001 (as a % of respondents*)

*Note: *n=114 organizations that have written net premiums of $100 million or more*
Source: Gartner, March 2002

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One technology banks are not embracing is wireless. The same is true for insurance—if that means for the customer. But for the agents, some companies are finding wireless to be a useful, cost-saving tool. Take Jefferson Pilot Benefits Partners, a Greensboro, NC-based division of the Jefferson Pilot Financial insurance carrier.

According to *Insurance Networking*, Benefit Partners "equipped its 74 sales and management associates with BlackBerry Wireless handheld devices in February 2002 for mobile access to corporate data and e-mail communications. Investing about $450 to $500 per unit (plus another $50 per month per account to establish individual wireless accounts), Benefit Partners will realize a return on its investment in less than one year. Furthermore, the carrier estimates that using wireless devices enables its field reps to save at least 30 minutes a day eliminating extraneous tasks from their schedules."

"Carriers are making lists and ranking their spending priorities. They're asking, 'What do we need to survive IT-wise?' Wireless is not necessary to survive, and I'm afraid this trend isn't going to change soon."

– Kimberly Harris, senior research analyst, Gartner

Just as with the internet, which is being used as an agent's tool, this IT trend focuses on the company's employees, to help them help the customer. Otherwise, as Gartner indicates, wireless spending is being cut by insurance firms.

As a baseline to gauge the target audience for online banking, let's look at the worldwide collection of internet users. In 2002, there are 565.7 million people going online. The majority is found in three regions: Asia-Pacific, Europe and North America, in that order. By 2004, the worldwide figure is projected to increase to 724.9 million, and the compound annual growth rate for the five years shown will be 17.2%.

Since the vast majority of internet users are not impoverished, they are likely to have bank accounts and are potential customers for the online channel.

Internet Users Worldwide, by Region, 2000-2004 (in millions)

	2000*	2001*	2002	2003	2004	CAGR 2000-2004
North America**	136.7	156.3	167.7	179.8	196.3	9.5%
Europe	108.3	144.4	175.7	196.2	221.1	19.5%
Asia-Pacific	115.9	165.0	181.5	205.0	235.8	19.4%
Latin America	19.3	26.2	33.1	43.4	60.6	33.1%
Africa	4.6	6.7	7.7	9.2	11.1	24.6%
Total Worldwide	**384.8**	**498.7**	**565.7**	**633.6**	**724.9**	**17.2%**

*Note: *eMarketer's year 2000 and 2001 baselines are from the International Telecommunication Union's estimate of internet users aged 2 years and older, who have accessed the internet within the previous 30 days; **North America includes the US and Canada. Mexico is included in Latin America*
Source: eMarketer, May 2002

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A. Worldwide Spends & Trends

Before focusing on specific regions, there's a slew of global data on internet banking that gives a useful overview.

Start with the customers. According to Meridien Research, there were 23 million internet users worldwide actively banking online in 2001, with projections to 32 million by 2003—mainly in the US and Scandinavia. Those estimates represent a strong 39% growth rate.

Active Internet Banking Users Worldwide, 2001 & 2003 (in millions of users)

Note: Most Internet banking users are in the US and Scandinavia
Source: Meridien Research, June 2001

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A 2001 study from Euro RSCG Worldwide indicates that 48% of global urban households bank online. While the highest penetration rate is in Latin America, at 63%, nearly half or more of urban households in the US and Europe also bank on the internet.

The data is based on responses from 1,830 residents of the following cities: Amsterdam, Berlin, Budapest, Helsinki, Hong Kong, London, Mexico City, Milan, Paris, Prague, San Francisco, Sao Paulo, Shanghai, Singapore, Sidney, Tel Aviv, Tokyo and Warsaw.

Global Urban Household Adoption of Internet Financial Services, 2001

	Europe/ Middle East	Asia/ Pacific	United States	Latin America	Global
Internet banking	49%	41%	54%	63%	48%
Internet investing	13%	16%	38%	9%	17%

Source: Euro RSCG Worldwide, 2001

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The same study points to distinct variations in some selected cities. Where nearly 60% or more of households in London, Amsterdam, and Sydney bank online, only 17% of Tokyo's citizens do. The disparity is undoubtedly due to cultural approaches to banking, preferring the branch or ATM, since Tokyo's population is certainly tech savvy.

Household Adoption of Internet Financial Services in Selected Cities Worldwide, 2001

	London	Amsterdam	Sydney	Tokyo
Internet banking	59%	63%	63%	17%
Internet investing	16%	19%	26%	8%

Source: Euro RSCG Worldwide, 2001

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Global IT spending at financial-service institutions will take a straight upward path, according to Meridien. For example, it projects $229.8 billion in spending this year, jumping by nearly $30 billion to $258.9 billion by 2004.

These estimates represent annual increases in the 4.3% to 6.5% range, with a total growth rate of 23.7% for the five years shown.

Global IT Spending at Financial Services Institutions, 2000-2004 (in billions)

Source: Meridien Research, December 2001

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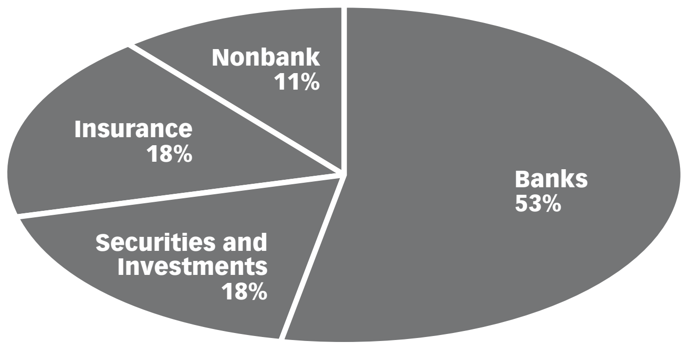
The same Meridien study shows that in 2002, banks will dominate global IT spending at 53% of the total, with securities and insurance firms tied at 18%.

Strategic IT Spending at Retail Financial Institutions Worldwide, by Segment, 2002



Source: Meridien Research, December 2001

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A slightly more recent projection from Gartner Dataquest, also on global IT spending in financial services, shows figures more than 50% higher than Meridien's. Take 2002, where Gartner expects $350.0 billion in IT spending, in contrast to $229.8 from Meridien.

Part of the difference is due to Gartner expecting higher growth rates, as the note in the chart below indicates. But are both firms including the same elements when looking at tech spending, for instance outsourcing and staff as well as hardware and software? And are both firms looking at both retail and corporate financial services, and their sometimes different IT needs?

Worldwide IT Spending for the Financial Services Industry, 2001, 2002 & 2005 (in billions)

Note: 2001-2002 increase of 7.3%
Source: Gartner Dataquest, May 2002

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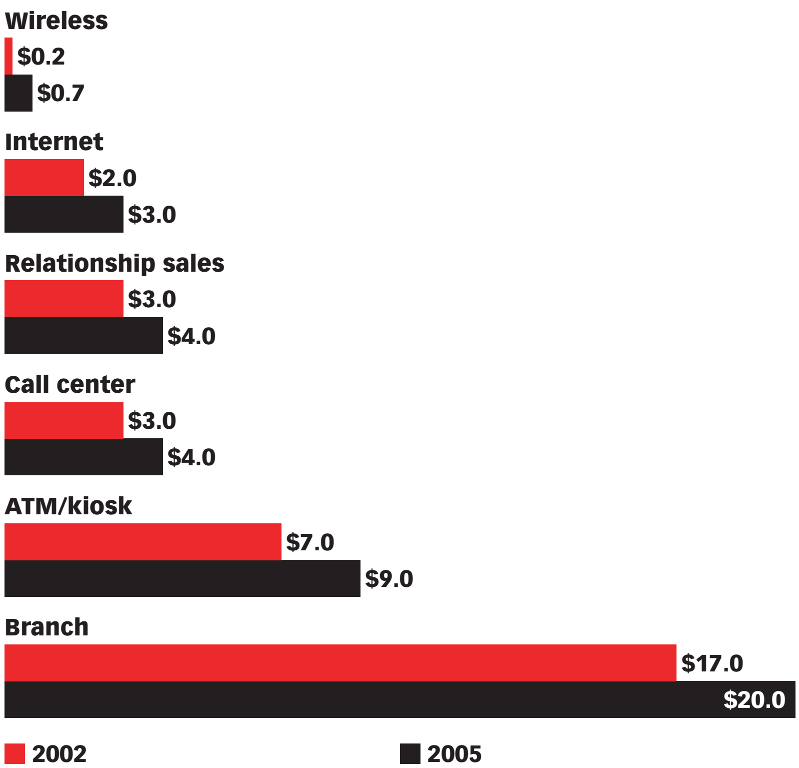
Turning the attention to banks alone, and their retail delivery channels worldwide, TowerGroup expects that the majority of IT spending will be devoted to the branch. That 2002 figure of $17.0 billion represents 52.8% of the $32.2 billion total, while the 2005 figure of $20.0 billion is 49.1% of that year's $40.7 billion total. And Tower expects total IT spending worldwide for retail delivery to grow by more than 26% in the four-year span shown.

In contrast, the internet's share of global IT spending by banks will increase from 6.2% to 7.4% from 2002 to 2005.

IT Spending for Banks Worldwide, by Retail Delivery Channel, 2002 & 2005 (in billions)



Source: TowerGroup, December 2001; American Banker, March 2002

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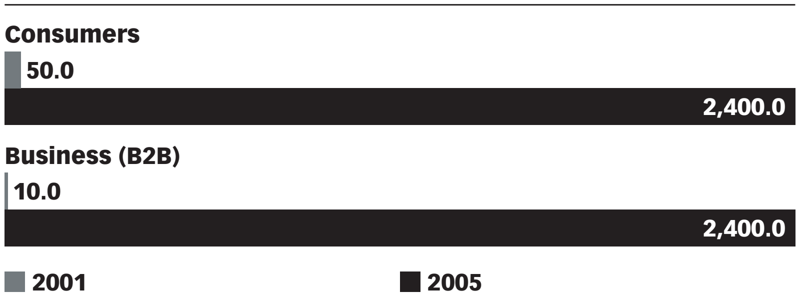
Tower's estimates for bills and invoices received via EBPP shows a sharper increase among business invoices than consumer bills. While in 2001, there were five times as many bills presented as invoices, the two should be equal by 2005.

Bills and Invoices Received via Electronic Bill Presentment and Payment (EBPP) Worldwide, 2001 & 2005 (in millions)



Source: TowerGroup, January 2002

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In fact, Celent Communications agrees with Tower, finding that the potential for cost savings in the B2B market is more significant than B2C. That's why Celent projects a sharp increase in worldwide bank spending on B2B bill presentment technology, jumping from $49 million this year to $108 million in 2005.

Bank Spending on B2B EBPP Solutions Worldwide, 2000-2005 (in millions)

Source: Celent Communications, June 2001

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Spending on privacy management technology is another area that researchers expect to grow worldwide. According to Meridien, concerns about privacy will force financial institutions to jump spending on middleware from $25.1 million in 2002 to $167.5 million by 2006. This large growth points to the increasing focus on privacy in nearly every region, especially the EU and the US.

Financial Institutions' Spending on Privacy Management Middleware* Worldwide, 2002 & 2006 (in millions)

*Note: *serves to route data between different computer systems to comply with privacy laws*
Source: Meridien Research, January 2002

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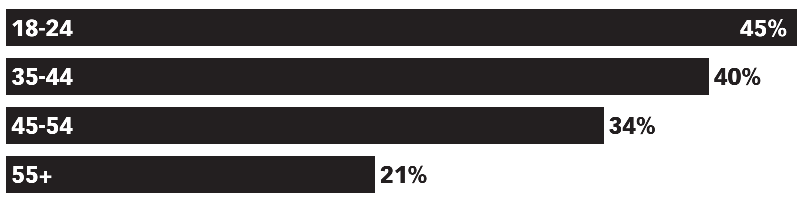
B. Canada

According to Statistics Canada, a government agency. In 2001, 82.0% of the financial and insurance industry used the internet, 47.8% had a website and 9.6% used the internet to sell goods and services. That compares with lesser 2000 figures of 75.9%, 34.4% and 7.3%, respectively.

Then, recent research from the Canadian Bankers Association—a professional industry association for the chartered banks of Canada—shows a classic age distribution for online banking customers. That is, the younger the segment, the higher percentage who bank on the internet. This is classic because, in general, younger people take up web-based activities more than older people do.

Canadians Who Bank Online, by Age, 2002 (as a % of respondents in each age group)



Source: Canadian Bankers Association (CBA), July 2002

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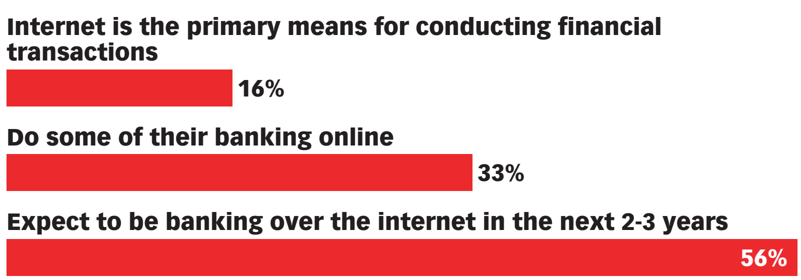
Further CBA research shows that while 33% of the 1,200 respondents do some of their banking online, 56% expect that internet banking will be one of their channels over the next two to three years.

Online Banking in Canada, 2002 (as a % of respondents)



Note: n=1,200
Source: Canadian Bankers Association (CBA), July 2002

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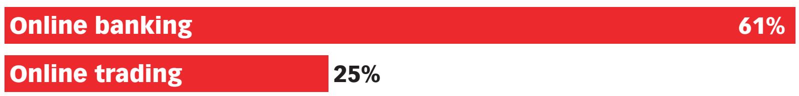
Looked at as a whole, the NFO CFgroup found that 61% of Canadians bank online weekly—a much higher figure than any of the CBA data above.

Weekly Online Banking and Trading Account Users in Canada, October 2001 (as a % of respondents)



Source: NFO CFgroup, December 2001

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According to Web Mystery Shoppers—an Edmonton, Alberta-based internet research firm—five of the six most commonly used online banking services among Canadian consumers are various views of financial information, such as accounts, transactions, loans, and investments.

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The most popular active service, used by 36.3% of respondents, is paying other banks' credit card bills.

Online Banking Services Used Currently by Canadian Consumers, 2002 (as a % of respondents)

Note: n=262 (all do some or all of their banking online); multiple reponses allowed
Source: Web Mystery Shoppers, June 2002

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The same survey found that, in addition to viewing information, consumers most want the following services at their primary bank's website: pay another bank's credit card bills, file personal taxes, apply for a loan and make payments to people who hold accounts at different banks.

Most Desired Online Banking Services among Canadian Consumers, 2002 (on a scale of 1 to 5*)

View details of checking or savings accounts	4.5
View details of credit card account	4.3
Pay another bank's credit card bills from main bank's website	4.1
View details of loans	3.9
File personal taxes	3.9
View details of mortgage	3.7
Apply for a loan	3.7
View and use accounts at other financial institutions from main bank's website (aggregation)	3.7
Make payments to people who hold accounts at different banks	3.7
Apply for or increase credit line	3.6
Apply for or increase overdraft protection	3.5
Make payments to people who hold accounts at same bank	3.5
Receive bills online	3.5
View details of mutual funds	3.5
View details of business bank accounts	3.3
File business taxes	3.1
View details of discount brokerage accounts	3.0
View details of full-service brokerage accounts	2.9

*Note: n=350 (262 do some or all of their banking online); *mean score, where 1=lowest and 5=highest*
Source: Web Mystery Shoppers, June 2002

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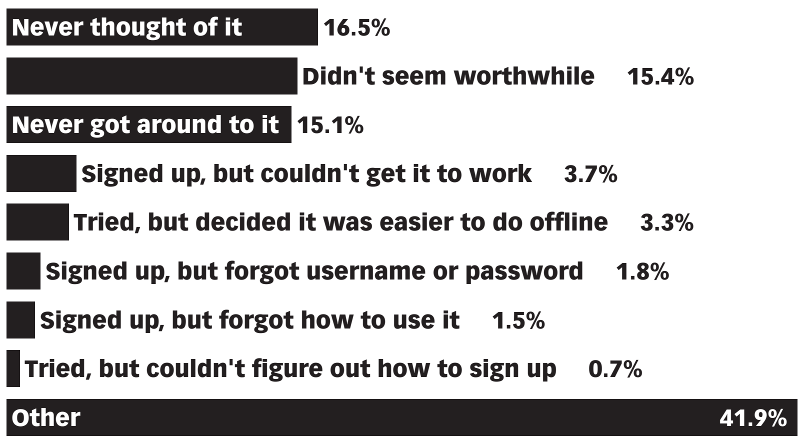
Among those Canadians who do not bank online, the three most cited specific reasons sound like a litany of excuses: "Never thought of it." "Didn't seem worthwhile." "Never got around to it."

That trio of reasons points to marketing by banks that would not only remind consumers about the online channel, but would demonstrate the benefits in an attractive manner.

Reasons Canadian Consumers Do Not Bank Online, 2002 (as a % of respondents)



Note: n=350 (262 do some or all of their banking online); the total exceeds the number who do not bank online anywhere, as many Canadians hold multiple banks accounts and were asked about reasons for not banking online at any bank where they held an account but did not bank online
Source: Web Mystery Shoppers, June 2002

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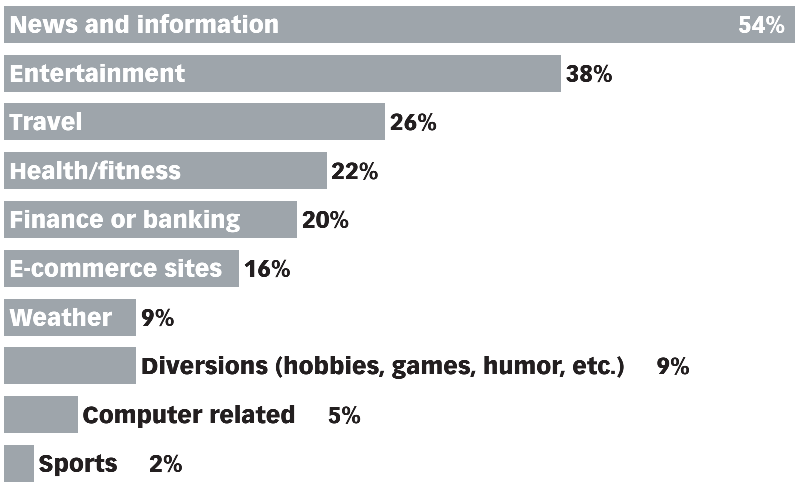
Are consumers open to bank marketing? Well, while the top four types of e-mail marketing campaigns Canadians have registered for are all forms of pleasure (in most cases), the fifth ranked is finance or banking, at 20% of respondents. That implies a readiness to receive communications from a bank.

E-Mail Marketing Campaigns Canadians Have Ever Registered to Receive, 2002 (as a % of respondents)



Note: n=808
Source: Ipsos-Reid , March 2002

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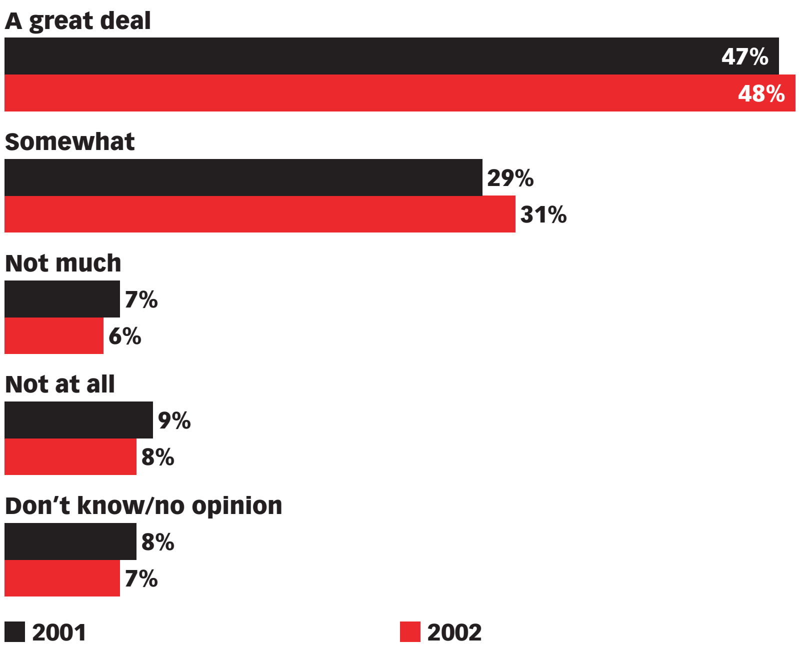
Further customer attitudes come from the recent CBA survey. In the first chart below, 48% of Canadians in 2002 said that the ability to conduct transactions online or by telephone has improved banking a great deal.

Canadians' Opinions Regarding Improvement in Banking Due to the Ability to Conduct Transactions Online or by Telephone, 2001 & 2002 (as a % of respondents)



Note: n=1,200
Source: Canadian Bankers Association (CBA), July 2002

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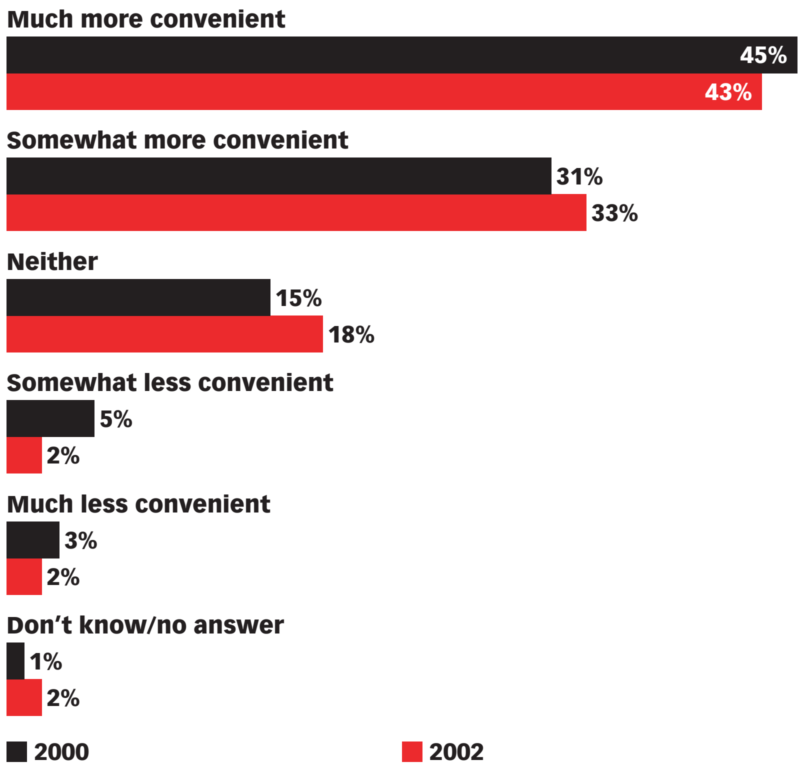
And 43% of respondents said that available technologies have made banking much more convenient. Note, though, that figure is a small, 2-point drop from 2000's results.

Canadians' Opinions Regarding the Convenience of Personal Banking Due to Available Technologies, 2000 & 2002 (as a % of respondents)



Source: Canadian Bankers Association (CBA), July 2002

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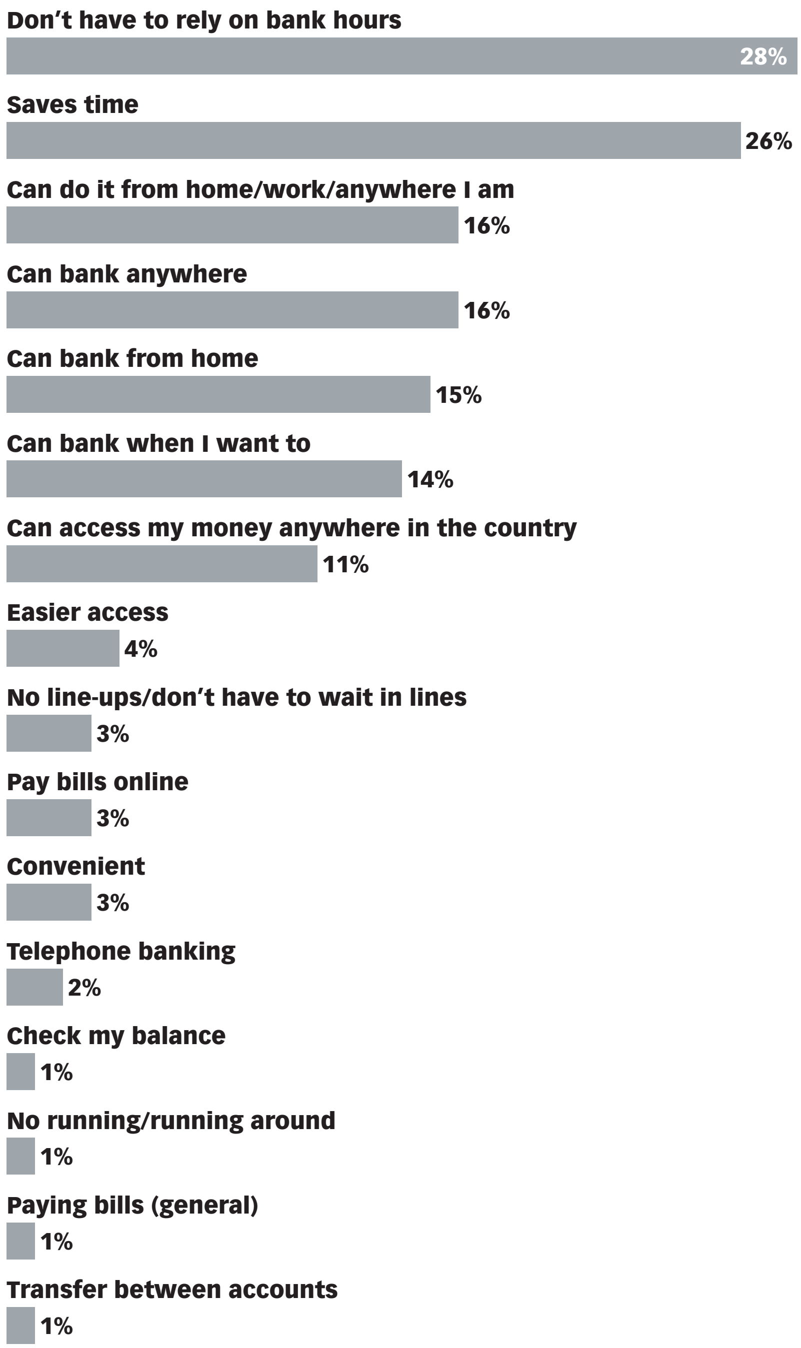
The specifics of that convenience among consumers range from not having to keep banker's hours (28% of respondents) and saving time (26%) to the ability to bank where and when they want (14% to 16%).

How Banking Technologies Have Made Personal Banking More Convenient in Canada, 2002 (as a % of respondents)



Note: among respondents who say that banking has technology has made banking "much more/somewhat more" convenient; multiple responses allowed
Source: Canadian Bankers Association (CBA), July 2002

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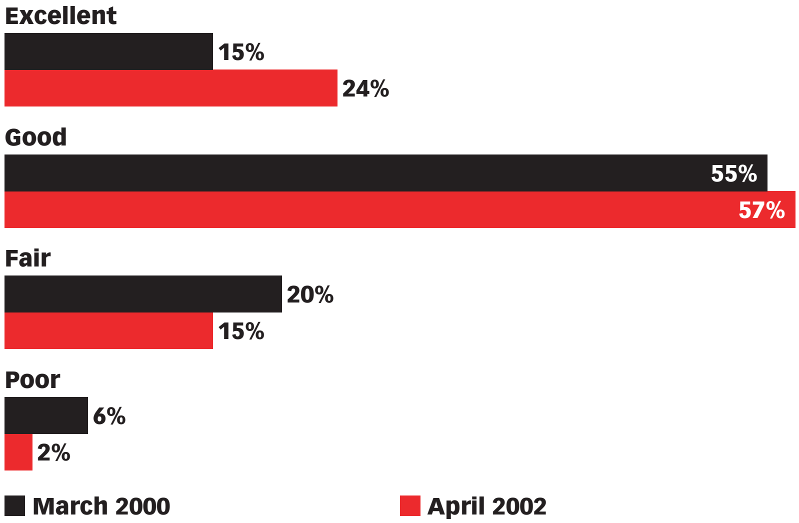
And most Canadian consumers feel that the nation's major banks have been either excellent (24%) or good (57%) at introducing technologies.

Canadians' Opinions Regarding the Performance of Canada's Major Banks in Introducing Technologies in the Past Five Years, March 2000 & April 2002 (as a % of respondents)



Note: n=1,200
Source: Canadian Bankers Association (CBA), July 2002

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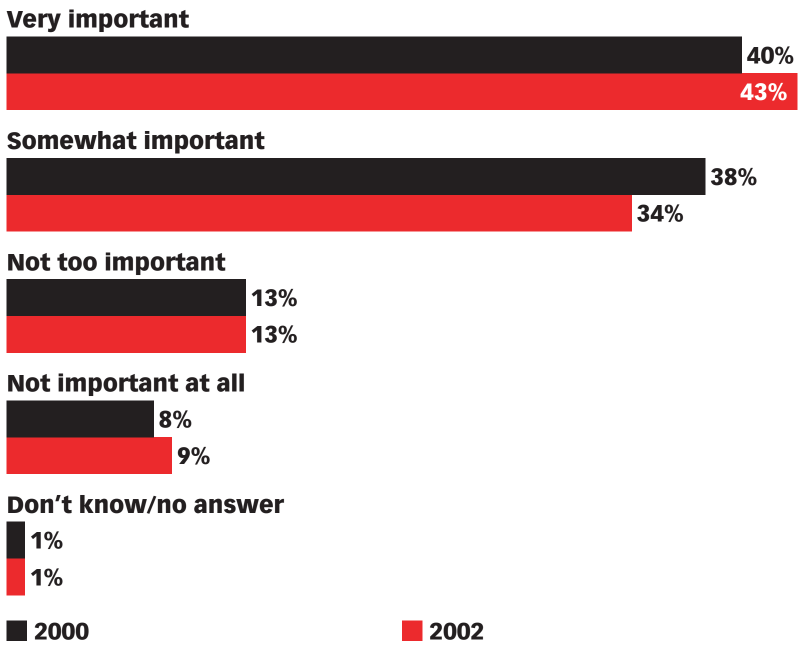
The final CBA consumer-attitude chart shows that Canadians are ready to embrace tech-based solutions for personal financial planning, with 43% of respondents in 2002 saying that technology is very important for such tasks.

Canadians' Opinions Regarding the Importance of Understanding Technologies and Technology-Based Services for Personal Financial Planning, 2000 & 2002 (as a % of respondents)



Note: n=1,200
Source: Canadian Bankers Association (CBA), July 2002

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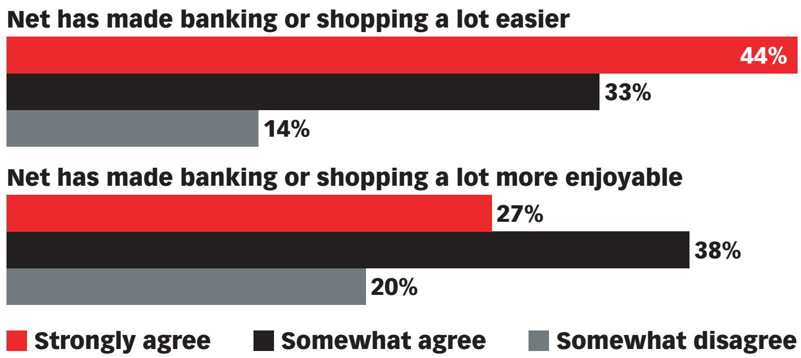
All five CBA charts directly above indicate a generally positive take on the deployment of technology channels and solutions. As a kind of backup, the chart below from Ipsos-Reid and the Royal Bank of Canada Financial Group shows that 44% of Canadians strongly agree with the statement that the internet has made banking easier.

Canadians' Attitudes toward Online Purchasing and Banking, September-October 2001 (as a % of households*)



*Note: *households that bank online and/or have made purchases online*
Source: Ipsos-Reid/RBC Financial Group, January 2002

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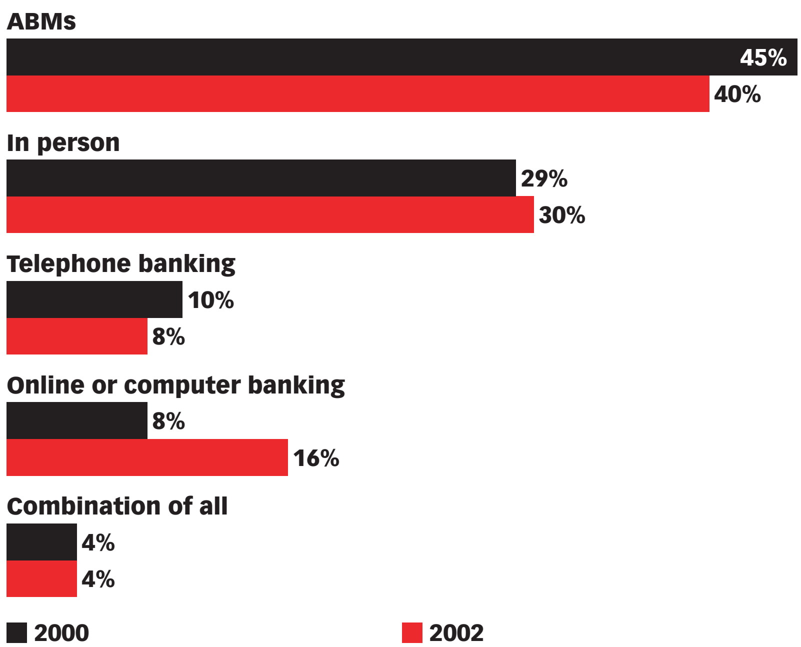
Canadians may call them ABMs (automated bank machines) rather than ATMs, but just as in the US, those ubiquitous devices are the most popular channel for banking, with 40% of the responses to the CBA survey. In-person at the branch comes next, at 30%.

Most revealing, however, is that the online banking channel doubled from 8% in 2000 to 16% in 2002. The opening is there as consumers see the anytime/anywhere benefits.

Banking Transactions in Canada, by Channel, 2000 & 2002 (as a % of respondents)



Note: n=1,200
Source: Canadian Bankers Association (CBA), July 2002

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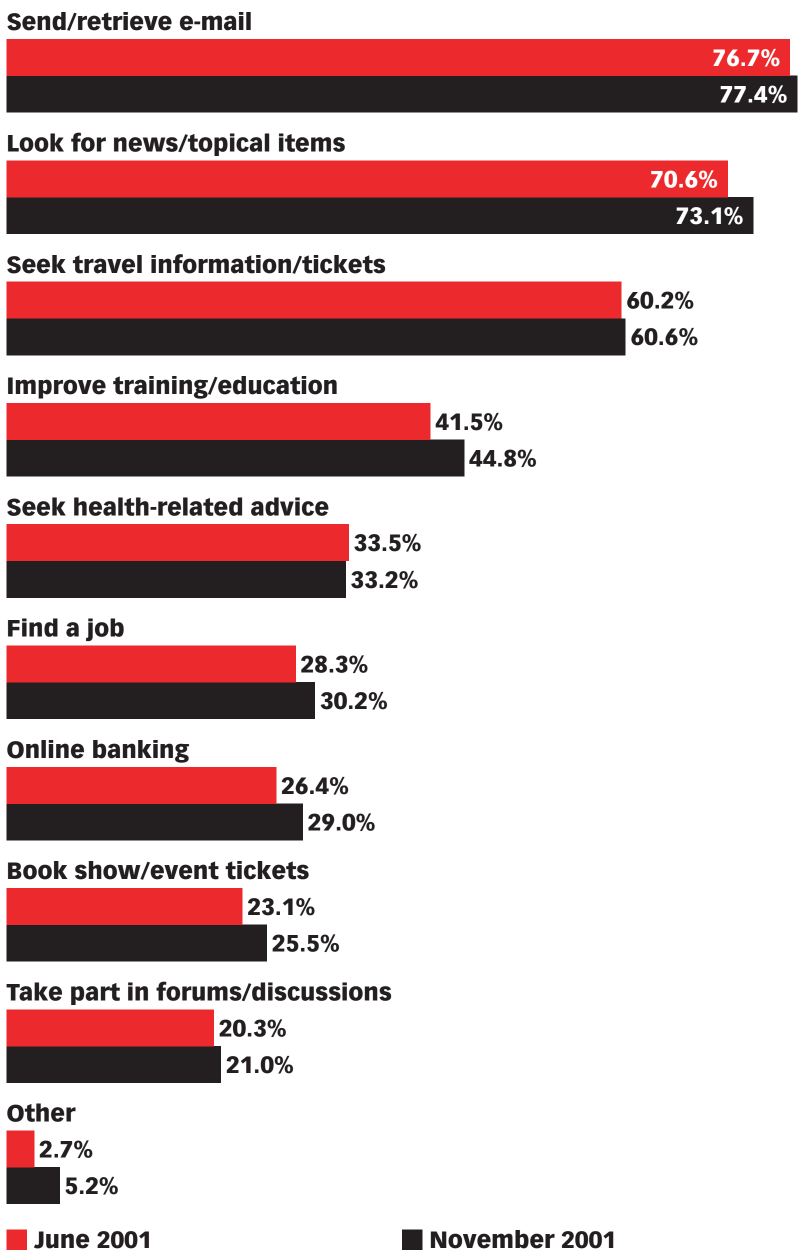
C. Europe

Even with the further establishment of the European Union (EU), each nation presents a varying picture when the attention turns to interactive banking. The basics show that among the varying tasks done on the internet in the EU, online banking increased from 26.4% of users in June 2001 to 29.0% only five months later.

Internet Usage in the EU, June & November 2001



Source: Flash Eurobarometer #112, January 2002

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The same Flash Eurobarometer survey shows that the two prime age segments for online banking are 25-to-39 year olds (at 35.8% penetration) and 40-to-54 years olds (32.1%).

Internet Usage in the EU, by Age, November 2001

	15-24	25-39	40-54	55+
Send/retrieve e-mail	79.7%	78.4%	76.2%	71.4%
Look for news/topical items	79.2%	74.9%	70.3%	58.6%
Seek travel information/tickets	51.8%	64.9%	63.5%	60.9%
Improve training/education	56.3%	44.4%	40.4%	28.6%
Seek health-related advice	26.2%	36.0%	37.3%	31.5%
Find a job	34.1%	37.1%	25.2%	9.8%
Online banking	18.4%	35.8%	32.1%	25.3%
Book show/event tickets	23.4%	28.6%	25.9%	19.6%
Take part in forums/discussions	38.6%	18.4%	11.9%	8.1%
Other	4.8%	5.3%	5.2%	5.6%

Source: Flash Eurobarometer #112, January 2002

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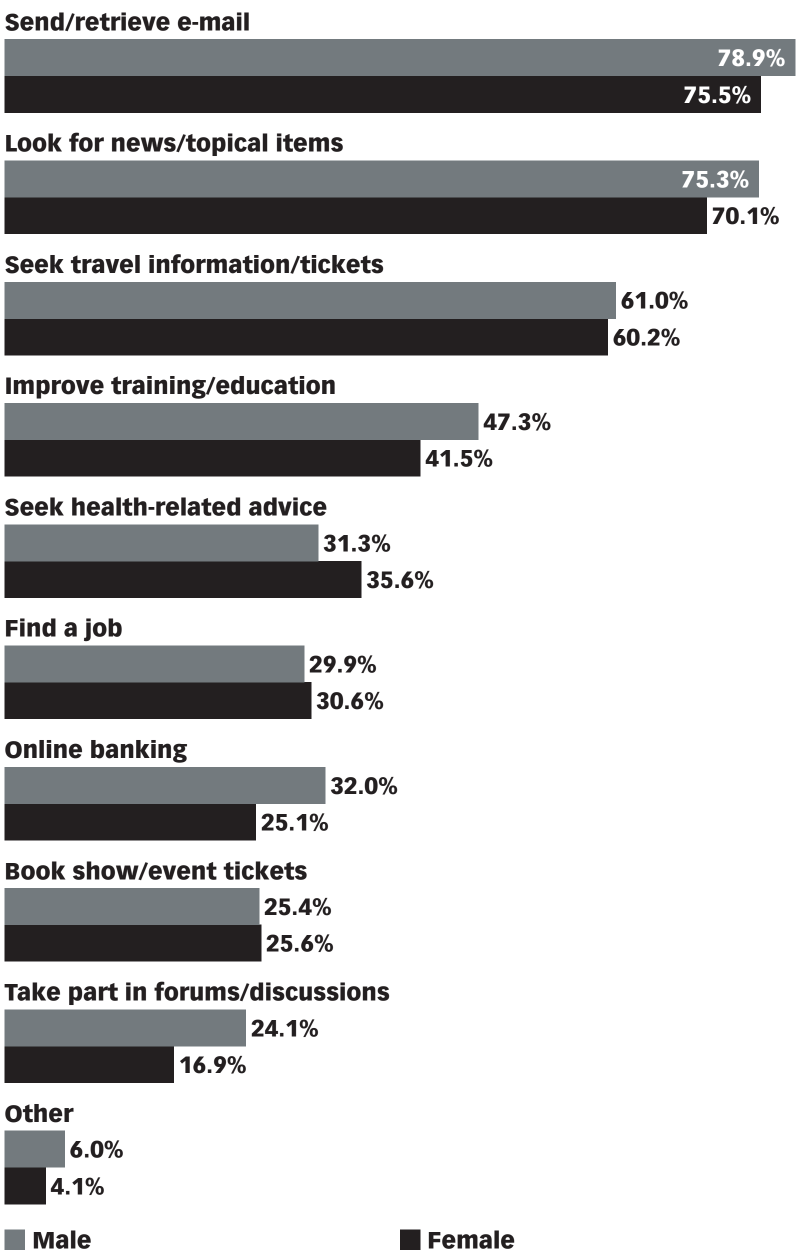
And, as in most regions of the world, males take up most online activities more than females do. For online banking, that amounts to 32.0% male in November 2001, but only 25.1% of online females.

Internet Usage in the EU, by Gender, November 2001



Source: Flash Eurobarometer #112, January 2002

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Datamonitor expects online banking users in Europe to soar from 7.52 million in 2001 to 57.7 million by 2005. That translates to an astounding 6,670% growth rate, but is based on data from only six nations (shown in the chart's note).

Online Banking Users in Europe*, 2001 & 2005 (in millions)

*Note: *based on data from France, Germany, Italy, Spain, Sweden and the UK*
Source: Datamonitor, November 2001

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Note, too, how earlier estimates from Datamonitor showed substantially higher figures. It was a more optimistic time.

Online Banking Customers in Europe, 2000 & 2005 (in millions)

Source: Datamonitor, 2001

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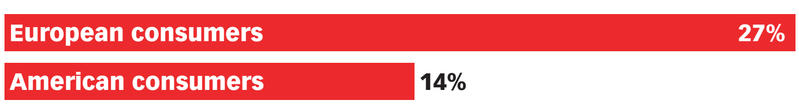
Viewed penetration rates among consumers, it appears that Europeans are about twice as likely to bank online as US residents—27% versus 14%, respectively, in 2001, according to a survey by AOL Europe and Roper Starch Worldwide.

Online Banking: Europe vs. the US, 2001 (% saying they regularly bank online)



Source: AOL Europe, Roper Starch Worldwide, May 2001

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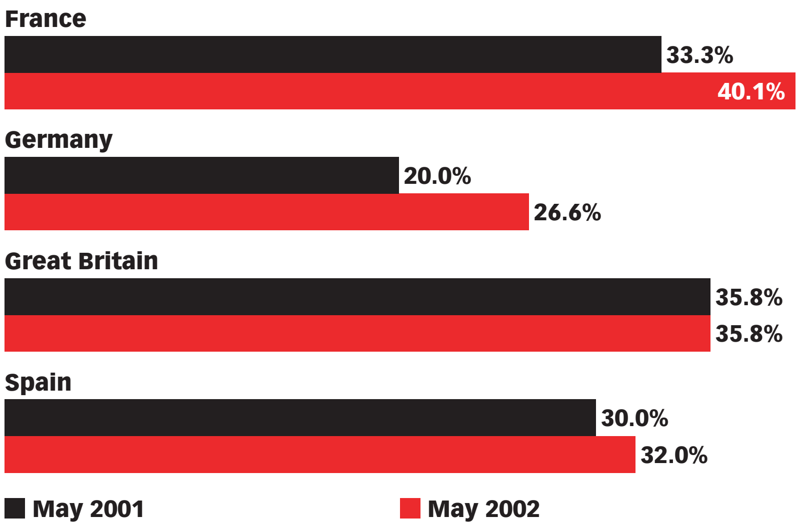
Narrowing the group from European consumers in general to internet users, and from the continent as a whole to specific nations, and most of the penetration rates for online banking turn higher than the 27% figure above. That's true for France, Great Britain and Spain—both in May 2001 and May 2002—while Germans banking online in 2002 track at the Euro average.

Percent of Internet Users Banking Online in Selected Countries in Europe, May 2001 & May 2002



Source: NetValue, July 2002

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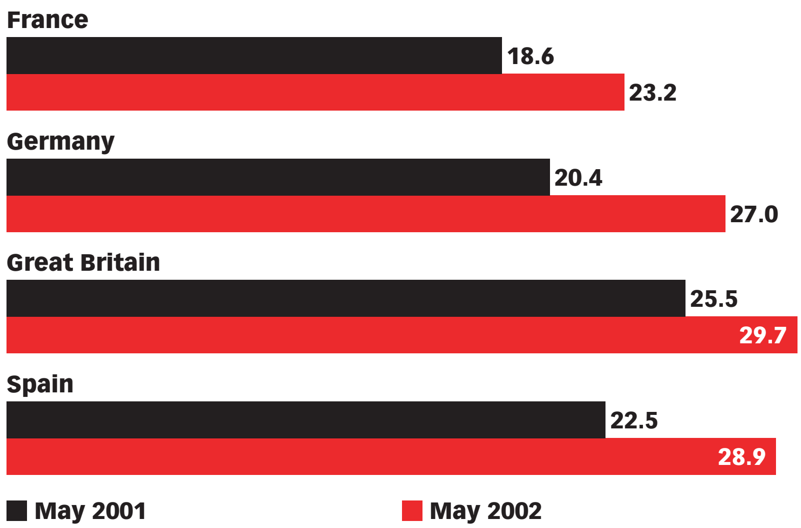
But in all four nations shown in the NetValue survey, the time spent monthly banking online grew from year to year, reaching a peak of 29.7 minutes in Great Britain in 2002.

Time Spent Banking Online in Selected Countries in Europe, May 2001 & 2002 (in minutes)



Source: NetValue, July 2002

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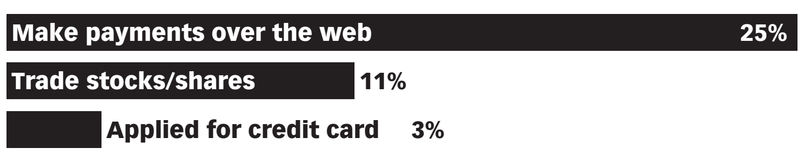
Looking at selected activities, Datamonitor found that 25% of European users from six nations practiced bill payment online in 2001.

Online Banking Activities of European* Users during the Last Year, 2001 (as a % of respondents)



*Note: *based on data from France, Germany, Italy, Spain, Sweden and the UK*
Source: Datamonitor, November 2001

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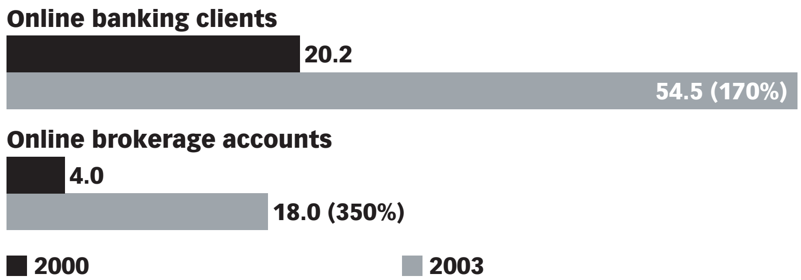
In Europe just as much as in the US (and undoubtedly in every other region as well), the emerging mass affluent market is a valuable target for financial-service firms.

According to *Private Banker International*—which defines "mass affluent" as those having between €82,000 and €580,000 in financial assets—online banking among well-to-do Europeans will reach 54.5 million by 2003. That translates to a 170% increase from 2000's figures.

Online Brokerage and Banking Market among "Mass Affluent"* Customers in Western Europe, 2000 & 2003 (in millions and as a % increase)



*Note: *"Mass affluent" defined as those having between €82,000 and €580,000 in financial assets; seven European nations included are UK, Germany, Spain, France, Sweden, Italy and Switzerland*
Source: Private Banker International, August 2001

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Breaking down those figures by nation shows Germany with the highest absolute figure for online banking clients by 2003—15.5 million, regardless of affluence. However, as a percentage of customers banking online who are well-to-do, the highest penetration rates will be found in Sweden (50%) and Switzerland (36%).

Online Brokerage and Banking Market among "Mass Affluent"* Customers for Selected Countries in Western Europe, 2000 & 2003 (in millions and as a % of online totals**)

	2000		2003	
	Online banking clients	**Online broker clients**	**Online banking clients**	**Online broker clients**
UK	4.5 (10%)	0.5 (4%)	10.0 (22%)	2.7 (17%)
Germany	7.0 (12%)	1.7 (24%)	15.5 (25%)	5.2 (43%)
Spain	1.7 (6%)	0.2 (10%)	4.5 (15%)	1.6 (52%)
France	2.0 (4%)	0.5 (8%)	9.5 (21%)	2.5 (38%)
Sweden	1.8 (26%)	0.5 (11%)	3.5 (50%)	1.8 (38%)
Italy	1.2 (3%)	0.3 (7%)	7.0 (16%)	2.1 (33%)
Switzerland	1.0 (19%)	0.1 (10%)	2.0 (36%)	0.7 (54%)

*Note: *"Mass affluent" defined as those having between €82,000 and €580,000 in financial assets; **percentages of online banking clients and shareholders using online brokers, respectively*
Source: Private Banker International, August 2001

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Forrester Research recently ranked the top 20 banks in Europe by online penetration rates. Based on locale, some interesting stats show up.

Take Lloyds, the largest bank (by retail customer) listed with 11.7 million clients. With only 1.8 million online clients, however, it's mid-pack with a 15% penetration. Meanwhile, two other British-based banks, Abbey National and Barclays, hit the top of the list in online penetration, at 28% and 21%, respectively.

It is also worth noting that the second largest bank (by retail customer) listed is Milan, Italy-based Intesa BCI, with 9.0 million clients. Yet it has the lowest penetration rate, at only 4%. That low figure reflects the mass affluent chart above, which shows a 3% penetration rate among the Italian well-to-do in 2000. Clearly, the Italian market is weaker for online banking than other large European nations.

Online Penetration Rate of the Top 20 Banks in Europe, 2002

	Retail clients (in millions)	Online clients (in millions)	Online penetration
Abbey National	3.2	0.9	28%
Barclays	9.0	1.9	21%
Deutsche Bank	7.8	1.6	20%
Halifax	3.7	0.7	19%
BNP Paribas	6.0	1.1	18%
Fortis Bank	4.0	0.7	18%
Credit Suisse	2.0	0.3	16%
UBS	3.3	0.5	16%
Commerzbank	2.6	0.4	15%
Dresdner Bank	4.1	0.6	15%
Lloyds TSB	11.7	1.8	15%
ING Postbank	6.9	1.0	14%
HSBC Bank	6.0	0.8	13%
HypoVereinsbank	3.5	0.4	13%
ABN AMRO	4.5	0.4	10%
NatWest	7.3	0.7	10%
Societe Generale	6.4	0.4	7%
SCH	8.4	0.5	6%
San Paolo IMI	3.6	0.2	5%
Intesa BCI	9.0	0.4	4%

Note: estimates of online and offline customers are based on the number of customers, accounts and users published by banks
Source: Forrester Research, July 2002

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With the focus on specific channels, Datamonitor research indicates a clear preference for branch banking among Europeans, with 79% of respondents. Phone comes next, at 11%, and online is small, at 4%.

Where the ATM—beloved by both US and Canadian consumers—fits into this European channel listing is not clear.

Banking Preferences of Europeans*, 2001 (as a % of respondents)

*Note: *based on data from France, Germany, Italy, Spain, Sweden and the UK*
Source: Datamonitor, November 2001

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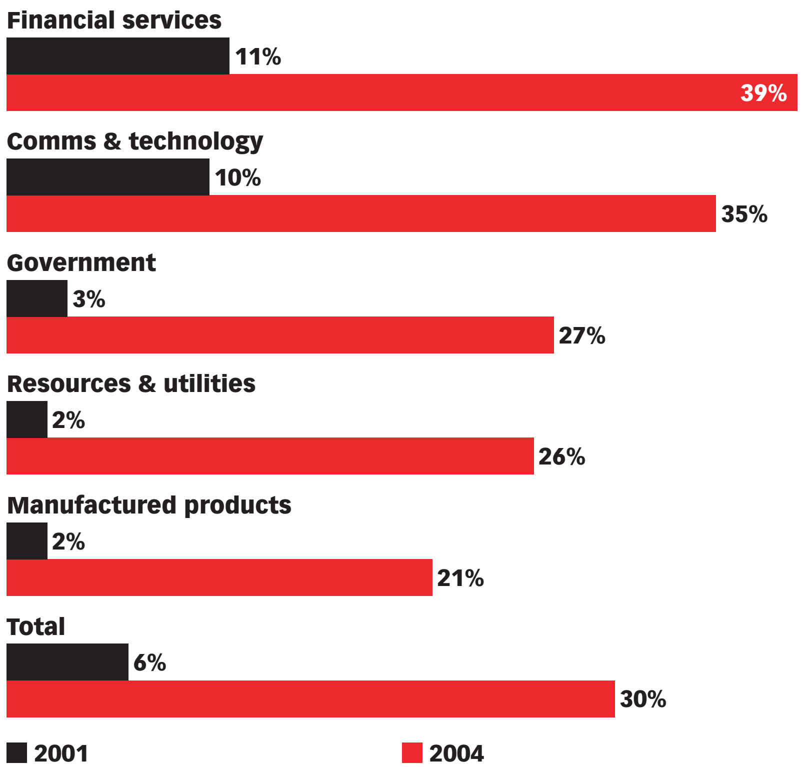
Much of today's phone-based banking, both in the US and Europe, is automated with IVR (interactive voice response) technology. According to Accenture's "The Unexpected eEurope" study, financial-service firms use automated voice systems more than the government or any other industry. That's true in 2001 for 11% of financial services firms, and in 2004 as well, when 39% of financial firms will use such systems.

European Companies Using and Expecting to Use Automated Voice Commerce, by Industry, 2001 & 2004



Note: Comms & technology includes companies in telecom, media and entertainment. Resources & utilities includes natural resouces, energy and chemicals. Manufactured products includes manufacturing, retail, transportation and pharmaceuticals
Source: Accenture, March 2002

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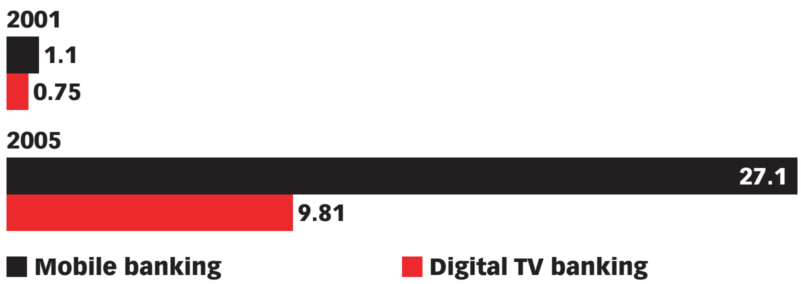
Two other electronic banking channels expected to see sharp growth over the next few years are mobile (such as cell phones and PDAs) and digital TV. According to Datamonitor, mobile will be the stronger channel of the two, reaching 27.1 million banking customers in Europe by 2005, compared to 9.81 million for digital TV.

Mobile and Digital TV Banking Users in Europe, 2001 & 2005 (in millions)



Source: Datamonitor, November 2001

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Third generation (3G) wireless will be a world of mobile high-speed data and voice services. Among desired 3G applications, banking online ranks in the middle of Western European users (3.5) and Eastern European users (3.4)—both higher ratings than by US users (3.2).

But note that banking is more desired than even shopping and reservations in all three regions. This points to the viability of the wireless channel for banking, more so in Europe than in the US.

3G Applications Desired by Internet Users and Mobile Phone Owners in the US and Europe, 2002 (based on a six-point scale where 6 is highest level of interest)

	US	Western Europe	Eastern Europe
E-Mails	4.3	4.5	4.7
City maps/directions	4.2	4.3	4.2
Latest news	4.0	4.0	4.4
Authorize/enable payment	3.0	3.4	3.8
Banking/trading online	3.2	3.5	3.4
Downloading music	3.2	3.1	3.4
Shopping/reservations	2.9	3.0	3.1
Animated images	2.6	2.4	2.7
Chat rooms, forums	2.2	2.3	2.9
Interactive games	2.4	2.0	2.2
Games for money	1.8	1.8	1.8

Source: Taylor Nelson Sofres, May 2002

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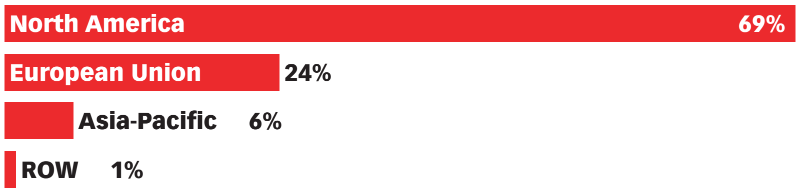
In the world of e-payments, TowerGroup sees the greatest activity ahead in North America. However, the research firm expects 24% of EBPP to take place in Europe by 2005.

Electronic Bill Presentment and Payment (EBPP) Volume Worldwide, by Region, 2005 (as a % of global EBPP activity)



Source: TowerGroup, January 2002

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One key opening in Europe for e-payments is the reliance on direct debit and credit. Research from Celent Communications indicates that 90% of all remote retail payments in Europe are direct, with checks being a minority player at only 10%. (These figures nearly reverse the US proportions.)

Remote Retail Payments in the US vs. Europe, by Type, 2002

Source: Celent Communications, March 2002

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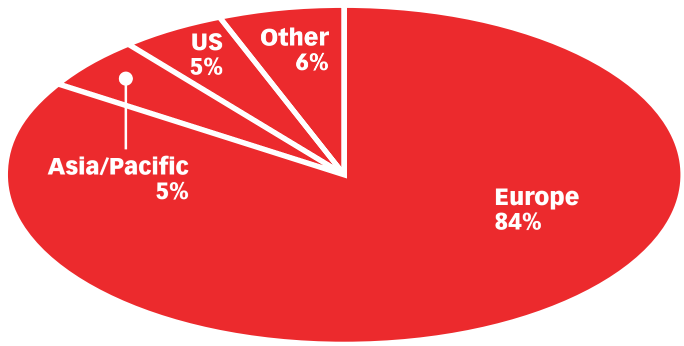
Another e-payment area that Europe leads the States in is smart cards. According to Celent, with 84% of bank smart cards in Europe as of 2001, the applications for that technology are better created for that market.

Percentage of Bank Smart Cards Worldwide, by Region, 2001



Note: Total number of bank smart cards: 233 million
Source: Celent Communications, October 2001

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In a report earlier this year on IT spending, Datamonitor predicted that European retail banks would increase various sides of their technology budgets. For instance, the research firm expects outsourcing expenditures to grow from $2.6 billion in 2001 to $3.8 billion in 2005, when almost 11% of IT budgets among European retail banks will go toward outsourcing.

The spending devoted to CRM will also increase, going from $2.4 billion in 2001 to $3 billion in 2004. Along with the extra spending will be a shift from operational CRM towards analytical CRM. “This shift has been driven by the realization that the main purpose behind CRM is to make the customer pay,” reports *Bank Technology News*. In fact, many banking customers offer no profits or are even loss-making for the institution.

According to *BTN*, here’s how the two CRM approaches differ:

- Operational CRM includes sales, marketing and services automation; front-end applications for traditional channels; campaign management; and eCRM, such as e-marketing and e-service. It also encompasses contact centers, web enablement technologies, and e-mail management.
- Analytical CRM takes the concept further. It covers data warehousing, as well as data mining tools such as profitability analysis, customer segmentation and churn analysis.

“For an effective solution, retail banks should aim at the integration of operational and analytical CRM.”

The Datamonitor report points to Scandinavia, the United Kingdom and the Benelux nations as leaders in the analytical use of CRM, while Germany, Italy and Switzerland will still spend more on operational CRM. And lagging behind in all CRM areas are banks in France and Spain, where "infrastructural and operational CRM will continue to take up the greatest proportion of CRM spending," reports *BTN.*

As an IT whole, but for online banking alone, Datamonitor estimates a higher growth rate of 36% in 2001 versus 6% in 2002.

Online Banking Technology Spending Growth in Europe, 2000-2002

Source: Datamonitor, April 2002

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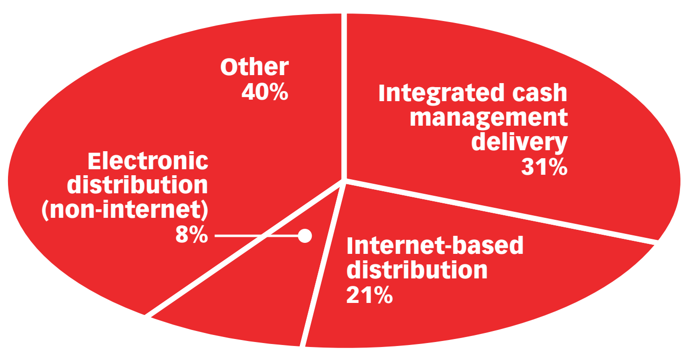
When it comes to corporate banking in Europe, the most important IT factor is integrated cash management delivery, according to 31% of the respondents to a Datamonitor survey. Next most vital is internet-based distribution, at 21%, as more and more corporations shift at least some of their banking to the online channel.

Key Success Factors in Corporate Banking among IT and Business Decision Makers in Europe, 2002 (as a % of respondents)



Source: Datamonitor, May 2002

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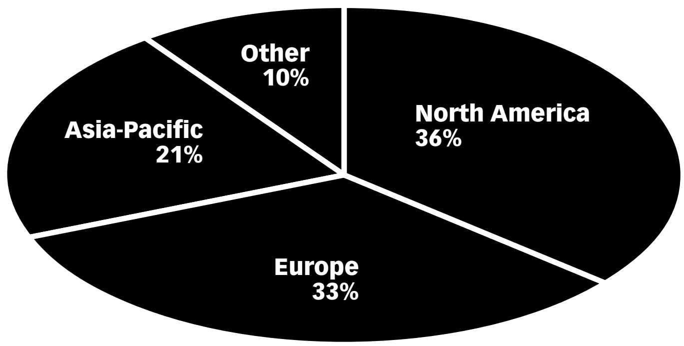
Finally, in Meridien Research's annual report, "Top Ten Strategic IT Initiatives in Retail Financial Services," the firm predicts of total strategic IT spending at retail financial institutions, 33% will come from the European market—nearly as much as from North America.

Strategic IT Spending at Retail Financial Institutions, by Region, 2002



Source: Meridien Research, December 2001

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United Kingdom

With an active core of internet users in the United Kingdom, researchers such as the Office for National Statistics is finding an increase in all online activities. Take the category of personal banking and other financial matters. While 23% of the entire adult population spent time doing that activity in January 2001, the number increased to 28% in February 2002.

Online Activities of Adults in the UK, January 2001 & February 2002 (as a % of the population)

	January 2001	February 2002
Finding information about goods/services	67%	74%
E-Mail	65%	73%
General surfing or browsing	54%	56%
Buying or ordering tickets/ goods/services	30%	42%
Finding information related to education	28%	36%
Personal banking/financial/ investment activities	23%	28%
Downloading software (including games)	20%	22%
Looking for work	18%	21%
Using or accessing government/ official services	18%	19%
Playing or downloading music	15%	18%
Using chat rooms or sites	13%	14%
Other	5%	3%

Source: Office for National Statistics - UK, April 2002

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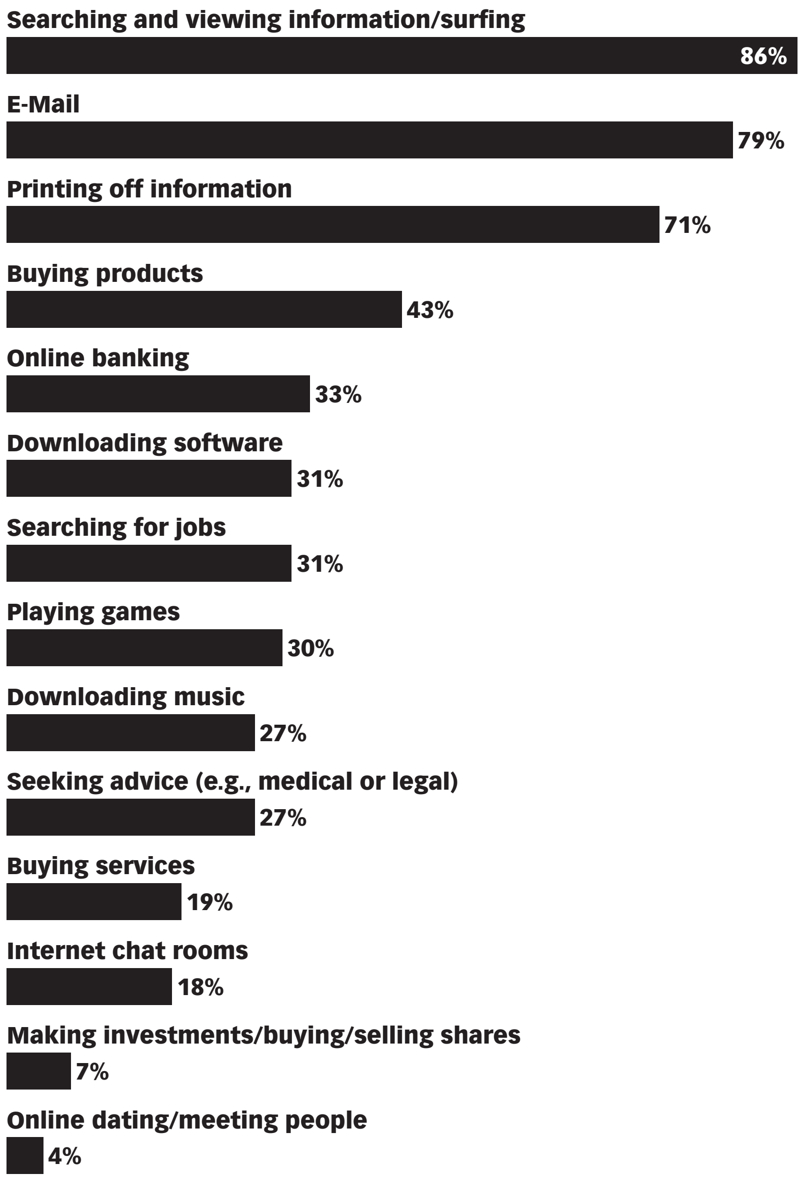
February 2002 research sponsored by Egg, the online UK bank, indicated that 33% of online adults bank online, a healthy penetration rate.

Uses of the Internet by Adult Internet Users in the UK, February 2002



Note: Base: All using the internet for personal use - n=787
Source: Egg, Market & Opinion Research International (MORI), March 2002

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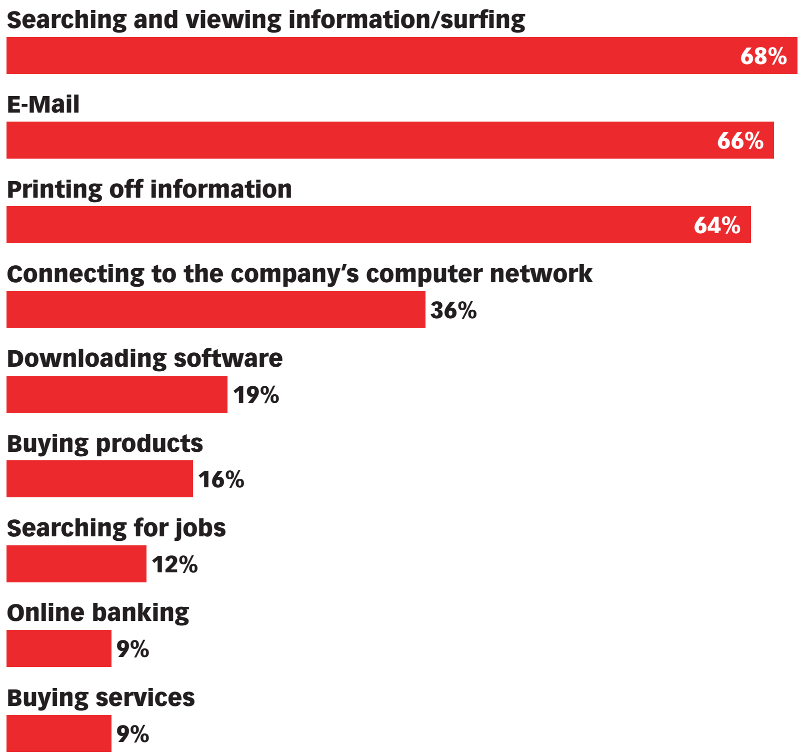
Somewhat surprisingly, when that same Egg survey focused on just at-work use by the same group of online adults during the same month, the share of those banking online dropped to 9%.

Uses of the Internet at Work by Adult Internet Users in the UK, February 2002



Note: Base: All full or parttime workers using the internet for work use - n=329
Source: Egg, Market & Opinion Research International (MORI), March 2002

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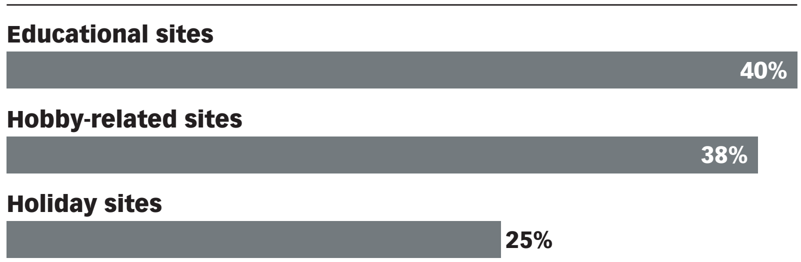
And Which? Online, a British consumers site, did its own survey of the types of websites most visited by internet users in 2002. Among the most popular are banking and personal financial, according to 19% of respondents.

Types of Websites Visited by British Internet Users, April 2002



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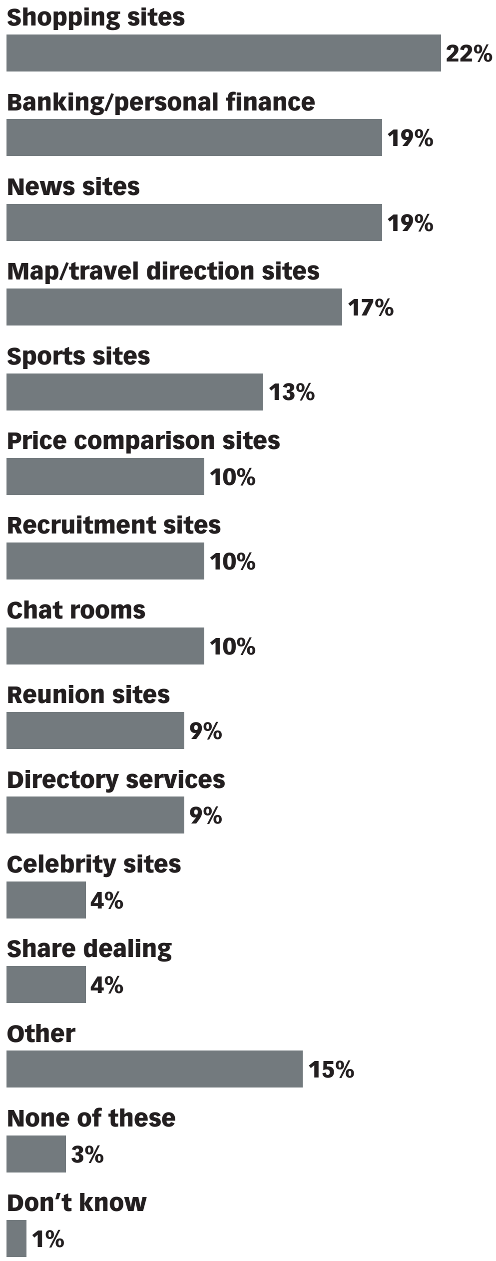

Note: n=777
Source: Which? Online, July 2002

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The top five online banks visited in February 2002 by UK internet users who are 55 years old or more are topped by Egg, with an 8.0% home reach, according to NetValue

Top Five Online Banks Visited by UK Internet Users Aged 55+, February 2002

Domain	Unique visitors in thousands)	UK home reach
1. egg.com	169	8.0%
2. lloydstsb.com	166	7.9%
3. nationet.com	92	4.4%
4. barclays.co.uk	86	4.1%
5. nationwide.co.uk	72	3.4%

Source: NetValue, March 2002

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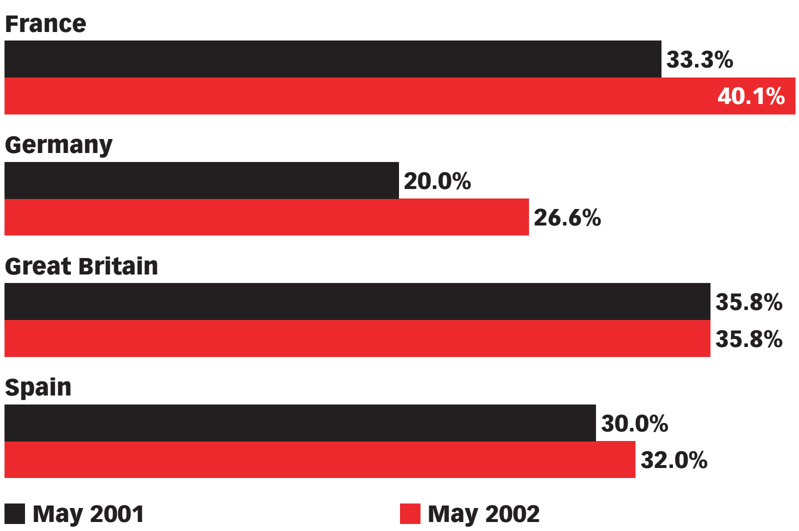
Let's return to the NetValue chart showing the percentage of internet users banking online. Interestingly, the figures for Great Britain did not shift from 2001 to 2002, remaining at 35.8%. However, by the latter year, only France had a higher penetration rate among users.

Percent of Internet Users Banking Online in Selected Countries in Europe, May 2001 & May 2002



Source: NetValue, July 2002

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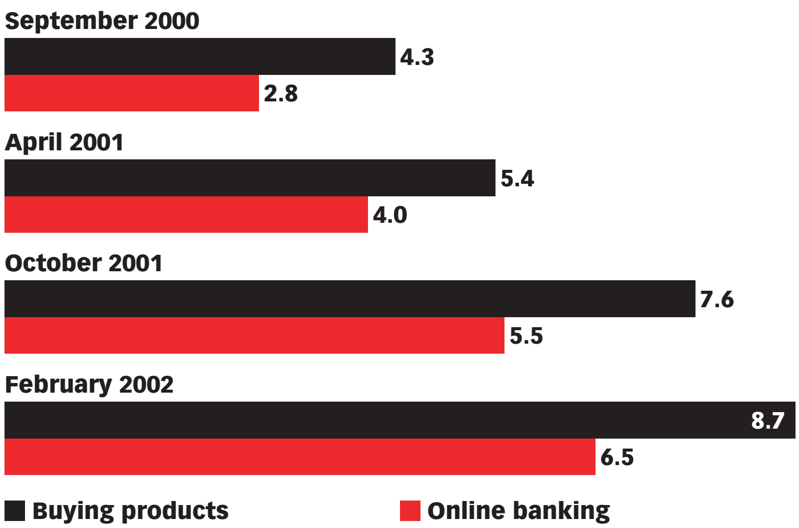
When online banking users are viewed by absolute numbers, as in the Egg-sponsored chart below, the growth is steady, reaching 6.5 million in February 2002.

Online Buyers and Online Banking Users* in Great Britain, September 2000-February 2002 (in millions)



*Note: Base= all using the internet; n=787; *Using the internet for personal use*
Source: Egg, Market & Opinion Research International (MORI), March 2002

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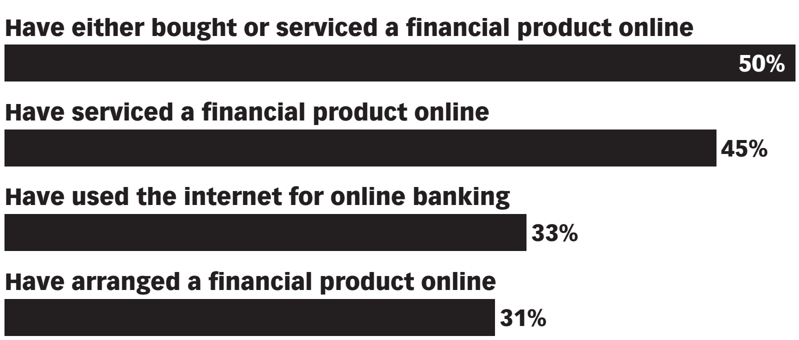
How those Britons are using online financial services lends itself more to buying or servicing a financial product online (at 50%) versus actually banking online (at 33%).

Britons Using the Internet for Financial Services, February 2002 (as a % of respondents using the internet for personal use)



Note: Base= all using the internet; n=787
Source: Egg, Market & Opinion Research International (MORI), March 2002

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Research from Barclays Bank for 1st quarter of 2002 shows how more males bank online than females, equaling 42% of all UK males and 32% of females.

Online Banking Users in the UK, by Gender, Q1 2002 (as a % of each gender)

Source: Barclays Bank/NOP Omnibus, April 2002; finextra.com, April 2002

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The final UK consumer chart displays a warning flag for the banking industry. According to the Virtual Online Banking Survey, 55% of respondents reported some problem with their online bank as of the first quarter of 2002. At least customer reaction is getting better from quarter to quarter.

UK Online Banking Customers Experiencing Problems With Their Online Bank , Q2 2001, Q4 2001 & Q1 2002

Source: Virtual Online Banking Survey (V-OBS), April 2002; finextra.com, May 2002

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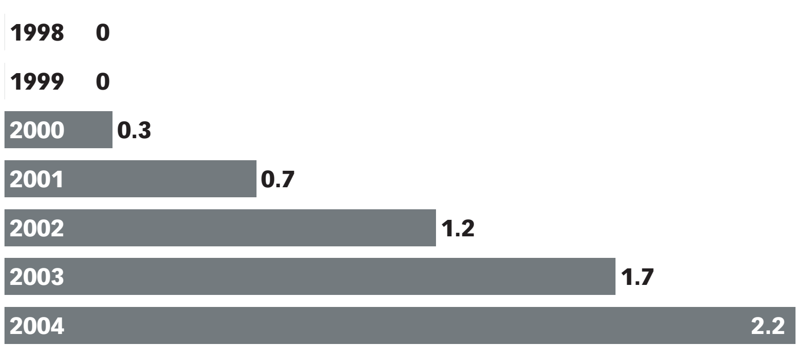
Outside of the internet, another banking channel that the UK population appears to be taking up is interactive TV (iTV). According to Forrester Research, iTV banking users should grow from a nearly invisible 0.3 million in 2000 to 2.2 million by 2004.

iTV Banking Users in the UK, 1998-2004 (in millions)



Source: Forrester Research, December 2001

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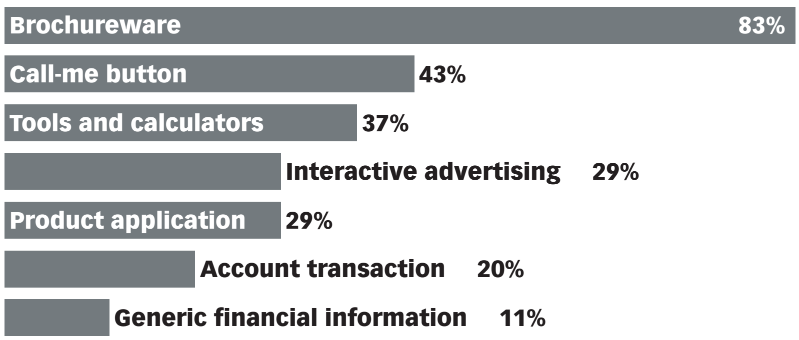
As more Britons bank via iTV, the banks are approaching it much as they originally dealt with the internet. That is, brochureware is the most popular application, according to 83% of the respondents. Next most on the list is a "call-me button," at 43%—a means to extend the iTV channel to other channels, such as the telephone.

How UK Banks Are Using iTV, 2001 (as a % of respondents*)



*Note: *n=20; multiple responses accepted*
Source: Forrester Research, December 2001

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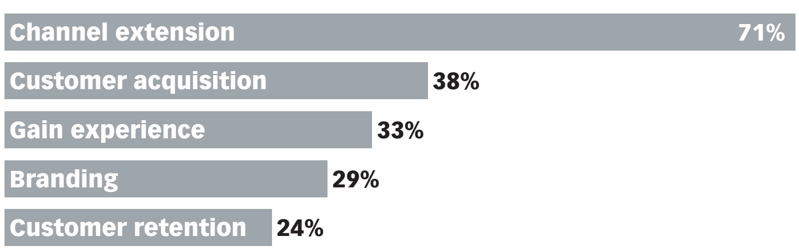
In fact, the need to offer still another channel (at 71%) is the prime reason UK banks began offering services on iTV—kind of a keep-up-with-the-Smythes attitude.

Reasons Why UK Banks Began Offering Services on iTV, 2001 (as a % of respondents*)



*Note: *n=21; multiple responses accepted*
Source: Forrester Research, December 2001

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As the banking channels expand, the banks must be doing something right, at least as far as privacy issues are concerned. Research from Forrester shows a growth among those online customers who feel secure about giving out their personal financial information online, rising from 8 million in 2000 to 13 million in 2001.

UK Online Customers Who Feel Secure about Giving Personal Financial Information Online, 2001 (in millions)

Source: Forrester Research, December 2001

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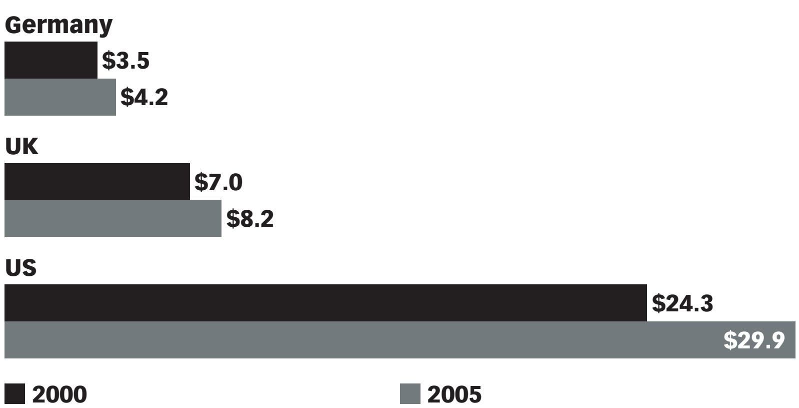
While IT spending among US financial-service firms dwarfs that in the UK, according to Datamonitor, it's still expected to increase from $7.0 billion in 2000 to $8.2 billion by 2005, a 17% growth rate.

IT Expenditure in the Financial Services Market for Germany, UK and the US, 2000 & 2005 (in billions)



Source: Datamonitor, March 2002

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When exploring the viability of iTV for your business, don't flip channels aimlessly. Head straight to eMarketer's Interactive TV: Reality & Opportunity report: http://www.emarketer.com/products/report.php?itv_reality

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Germany

Estimates gathered together by Deutsche Bank show that online banking users in Germany in 2001 range from 11.2 million from @facts to 15.6 million from BdB.

Comparative Estimates: Online Banking Users in Germany, 2001 (in millions)

Source: various, as noted, 2001; Deutsche Bank Research, February 2002

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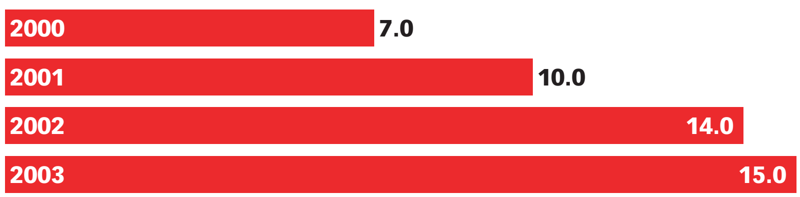
And while the estimates below from J.P. Morgan are somewhat dated (from 2000), the percentages may not be, showing a 50% growth from 2001's figure of 10 million to 2003's 15 million.

Online Banking Accounts in Germany, 2000-2003 (in millions)



Source: JP Morgan, 2000

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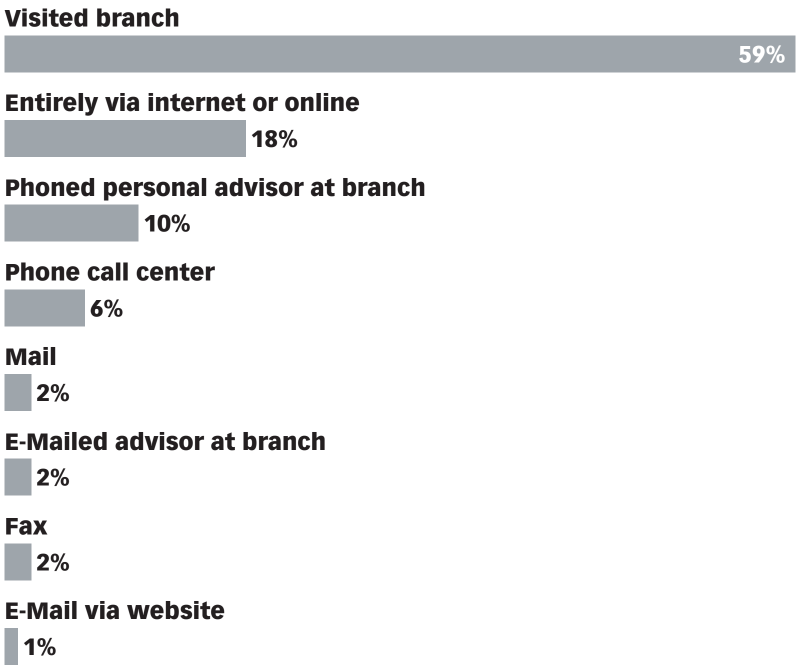
In fact, more than any other channel—other than the branch—Germans prefer the internet for banking (at 18%), according to Forrester Research.

Main Channel Used for Banking Transactions* in Germany, 2001 (as a % of respondents)



*Note: *based on banking transactions during a three month duration*
Source: Forrester Research, 2001; Deutsche Bank Research, February 2002

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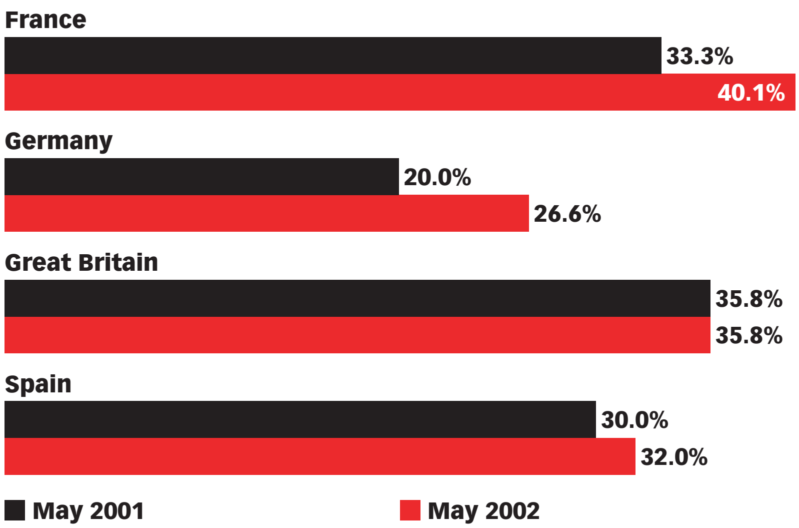
That preference for the web is, however, only among those internet users who've signed up for online banking. Reckon again with the NetValue chart that shows Germany having the lowest penetration rate for online banking among the four largest European nations.

Percent of Internet Users Banking Online in Selected Countries in Europe, May 2001 & May 2002



Source: NetValue, July 2002

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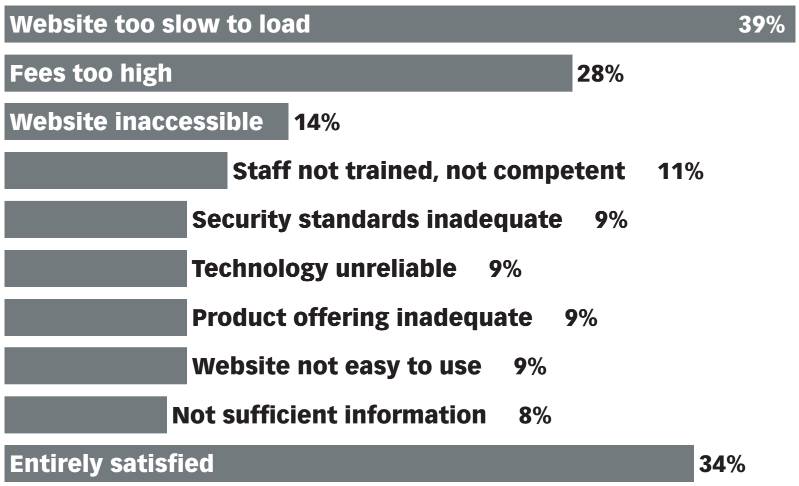
At 5.4% of total households in 2001, the year of this chart, Germany has reasonable broadband penetration—more than the UK or France. Even so, the chief complaint among German users of internet financial services is websites being too slow to load (at 39%).

High fees are another source of dissatisfaction, according to Forrester, which leads to a simple enough solution—if German banks want to build the internet channel, they should lower or reduce fees. Why should customers pay more for what could be a less costly banking venue than in-person?

Note, too, that at 34%, nearly as many German users of internet financial services are entirely satisfied as those who moan about slow websites.

Areas in Which German Users of Internet Financial Services are Dissatisfied with their Providers, 2001 (as a % of respondents)



Source: Forrester Research, 2001; Deutsche Bank Research, February 2002

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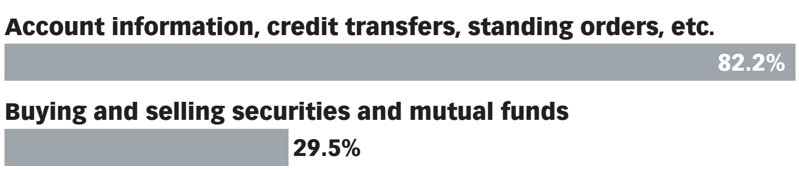
For online banking customers, the main activities in Germany parallel the main ones in other nations, according to @facts: viewing account information, transfers, et cetera.

Types of Online Transactions Used by German Users Who Bank Online, 2001 (as a % of respondents*)



*Note: *n=516*
Source: @facts, 2001; Deutsche Bank Research, February 2002

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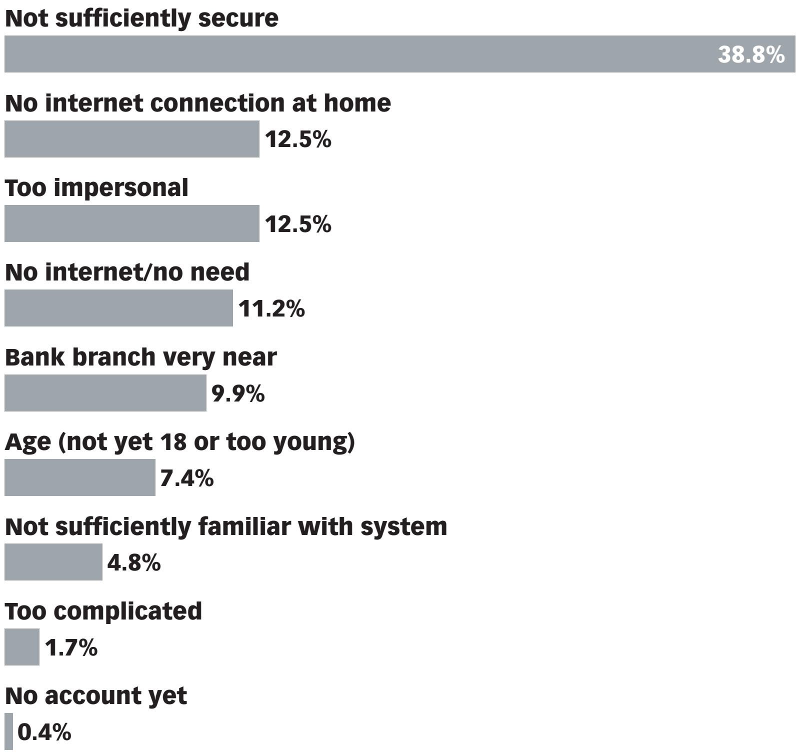
When dissatisfaction runs too deep, the online channel is forsaken. The biggest reason why German internet users don't bank on the web are security concerns, according to 38.8% of the respondents to an @facts survey.

Another key reason listed below is intriguing—internet banking is too impersonal (at 12.5%). That cultural attitude toward the online world may point to why Germany's online banking penetration rate is lower than France, the UK and Spain.

Reasons Why German Internet Users are Not Using Online Banking, 2001 (as a % of respondents*)



Note: n=734 persons aged 14+ who do not use online banking
Source: @facts, 2001; Deutsche Bank Research, February 2002

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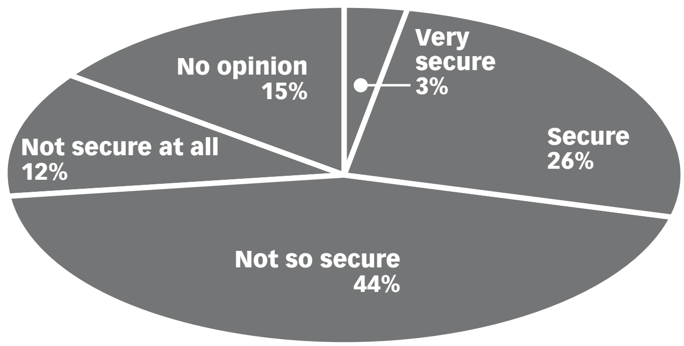
A further take on security concerns shows that 56% of German internet users believe online banking is not so secure, or not secure at all. Contrast that with the 29% who feel online banking is secure or very secure, and you can see the balance is not in banking's favor.

Attitudes toward Online Banking Security among German Users, 2001 (as a % of respondents)



Source: BdB; Forschungsgruppe Wahlen Telefonfeld GmbH, 2001; Deutsche Bank Research, February 2002

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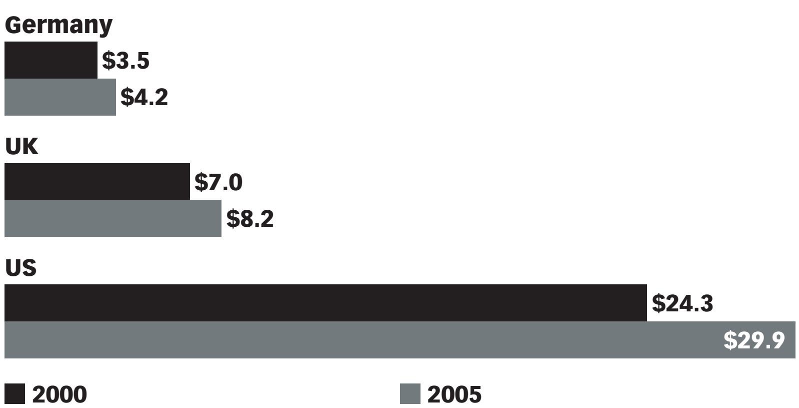
Despite a larger population and banking system, Germany is expected to spend less on IT matters for the financial-service market than the UK will in 2005, according to Datamonitor.

IT Expenditure in the Financial Services Market for Germany, UK and the US, 2000 & 2005 (in billions)



Source: Datamonitor, March 2002

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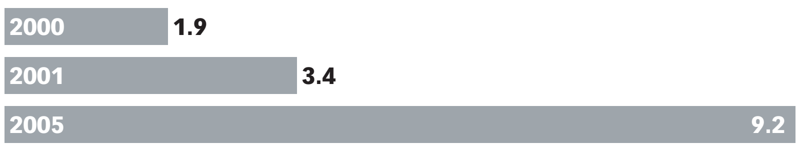
Other Nations

As of 2000, the total population in France was approximately 59.3 million, according to the International Data Base (IDB) from the US Census Bureau, with projections to rise to 60.1 million by 2005.

Comparing those figures to the Datamonitor online banking estimates below, and it works out that in 2000, 3.2% of the French population did at least some of their banking on the internet. That figure is expected to rise to 15.3% by 2005.

Online Banking Customers in France, 2000, 2001, & 2005 (in millions)



Source: Datamonitor, March 2002

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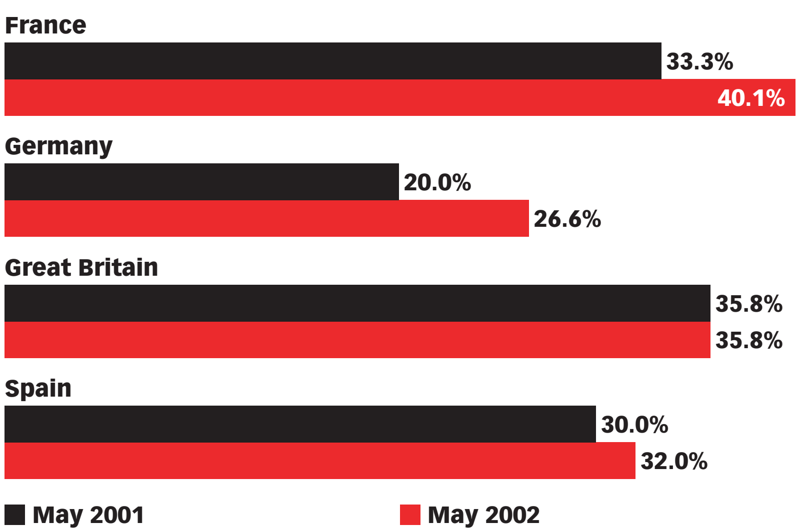
When online banking percentages switch from total population to internet users, the 40.1% figure for France in 2002 leads the Euro pack. And yet, compared to Germany and the UK, France has fewer internet users: 21.2 million in 2002 versus Germany's 36.7 million and the UK's 28.6 million. (Spain has 9.5 million users.)

Obviously then, internet users in France are relatively enthusiastic adopters of online banking.

Percent of Internet Users Banking Online in Selected Countries in Europe, May 2001 & May 2002



Source: NetValue, July 2002

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In contrast, Spain's online banking population of approximately 3.0 million in 2002—out of a 40.0 million population—means that 7.6% of Spaniards bank online.

In Sweden, you might remember from the *Private Banker International* chart repeated below, 50% of the mass affluent are expected to be banking online by 2003. Or, 3.5 million Swedes of all incomes bank online.

The penetration rates work out as follows: with an estimated total population of 8.9 million by 2003, over 39% of all Swedes bank online. Even more impressive are the results when you look at total internet users in Sweden, an estimated 4.7 million in 2002. That means more than 74% of Swedes who go online bank online.

Online Brokerage and Banking Market among "Mass Affluent"* Customers for Selected Countries in Western Europe, 2000 & 2003 (in millions and as a % of online totals**)

	2000		2003	
	Online banking clients	**Online broker clients**	**Online banking clients**	**Online broker clients**
UK	4.5 (10%)	0.5 (4%)	10.0 (22%)	2.7 (17%)
Germany	7.0 (12%)	1.7 (24%)	15.5 (25%)	5.2 (43%)
Spain	1.7 (6%)	0.2 (10%)	4.5 (15%)	1.6 (52%)
France	2.0 (4%)	0.5 (8%)	9.5 (21%)	2.5 (38%)
Sweden	1.8 (26%)	0.5 (11%)	3.5 (50%)	1.8 (38%)
Italy	1.2 (3%)	0.3 (7%)	7.0 (16%)	2.1 (33%)
Switzerland	1.0 (19%)	0.1 (10%)	2.0 (36%)	0.7 (54%)

*Note: *"Mass affluent" defined as those having between €82,000 and €580,000 in financial assets; **percentages of online banking clients and shareholders using online brokers, respectively*
Source: Private Banker International, August 2001

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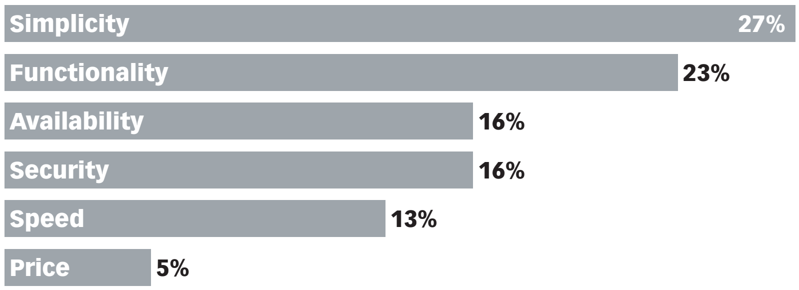
According to Cyber Com Consulting, the features Swedish online banking most desire are simplicity and functionality, at 27% and 23% of respondents, respectively. With security concerns important to only 16% of customers, that implies that banks in Sweden are allaying those fears better than, say, German banks.

Features Most Desired by Online Banking Customers in Sweden, 2002 (as a % of respondents)



Note: n=19,200
Source: Cyber Com Consulting Group, April 2002; finextra.com, April 2002

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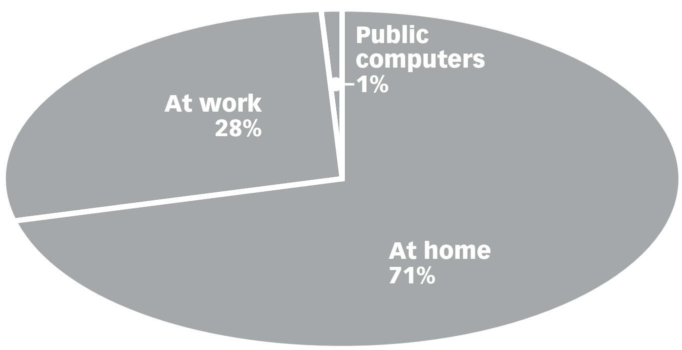
The majority of Swedes, or 71%, bank at home, which somewhat emphasizes that desire for simplicity cited above.

Internet Access Locations Used by Online Banking Customers in Sweden, 2002 (as a % of respondents)



Note: n=19,200
Source: Cyber Com Consulting Group, April 2002; finextra.com, April 2002

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D. Asia-Pacific

With a broad range of economies, the Asia-Pacific region contains countries where online banking is quite popular and those where it (and the internet in general) doesn't make the radar screens.

According to research from Nielsen//NetRatings, there was strong growth among online banking customers in the Asia-Pacific region from 2000 to 2001, jumping from 6.5 million to 10.6 million, or a 63% growth rate.

Internet Bankers in the Asia-Pacific* Region, 2000 & 2001 (in millions)

*Note: *Includes South Korea, Hong Kong, Singapore, China and Taiwan*
Source: Nielsen//NetRatings, 2002

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And look again at the Euro RSCG Worldwide study of global urban households, which shows Asia-Pacific with a lower penetration rate than the other three regions or the global average of 48%. The Asia-Pacific cities included in the survey were Hong Kong, Shanghai, Singapore, Sidney and Tokyo.

Global Urban Household Adoption of Internet Financial Services, 2001

	Europe/ Middle East	Asia/ Pacific	United States	Latin America	Global
Internet banking	49%	41%	54%	63%	48%
Internet investing	13%	16%	38%	9%	17%

Source: Euro RSCG Worldwide, 2001

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The national shakeout for 2002 shows South Korea with more online banking customers, at 5.3 million, than any other nation. With a total population of approximately 48.1 million, according to the IDB, that gives South Korea a healthy 11% penetration rate for online banking.

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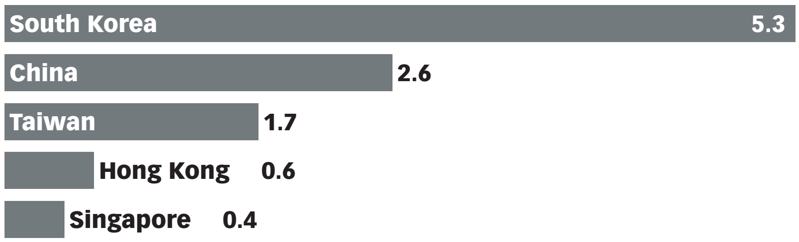
(Contrast that to China's 2.6 million online banking users. But with a total estimated population of 1,279.6 million, that translates to a mere 0.2% penetration rate.)

Internet Bankers in Selected Countries in the Asia-Pacific Region, 2002 (in millions)



Source: ACNielsen, 2002

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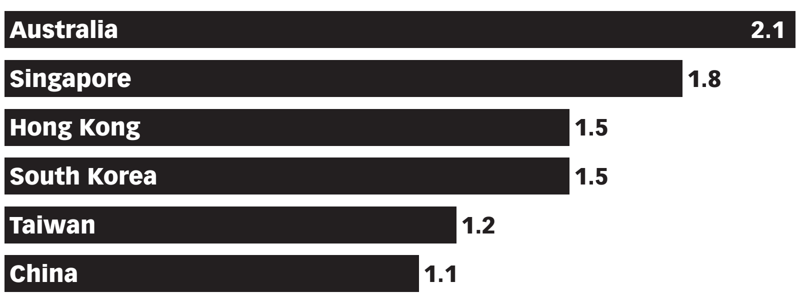
The frequency of online banking use in the Asia-Pacific region varies from 2.1 times per month in Australia to 1.1 in China. These figures from IDC are based on customers who use the bank branch one or fewer times per month.

Internet Banking Usage* in Selected Countries in the Asia-Pacific Region, 2002 (based on customers who use a bank branch 1 or fewer times per month)



*Note: *mean monthly internet usage*
Source: International Data Corporation (IDC), March 2002

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According to Asian Banker Research, the 12 top retail internet banking sites include five from Hong Kong and four from Singapore, but only one from Australia. Meanwhile, Citibank's website in India is the top ranked for its CitiDirect product.

Ranking of Retail Internet Banking Sites in Asia, September-November 2001

Rank	Bank	Country	Product
1	Citibank India	India	CitiDirect
2	Overseas Union Bank	Singapore	Internet Banking
3	Citibank Singapore	Singapore	CitiDirect
3	Shanhai Commercial Bank	Hong Kong	i-banking
5	Bank of East Asia	Hong Kong	Cyberbanking
5	Hang Seng Bank	Singapore	e-Banking
7	Citibank Hong Kong	Hong Kong	CitiDirect
7	ICICI Bank	India	ICICI Connect
9	ANZ Bank	Australia	Internet Banking
9	Wing Lung Bank	Hong Kong	NET Banking
9	United Overseas Bank	Hong Kong	Personal UniBanking
12	DBS Bank	Singapore	DBS Internet Banking

Note: Duplicate numbers indicate a tie
Source: Asian Banker Research, 2001

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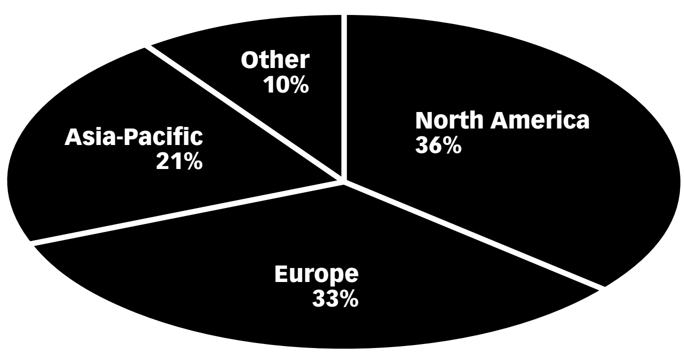
Note again that, as expected, the Asia-Pacific region lags behind both North America and Europe in strategic IT spending at retail financial institutions, according to Meridien Research.

Strategic IT Spending at Retail Financial Institutions, by Region, 2002



Source: Meridien Research, December 2001

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Australia & New Zealand

According to RedSheriff, a Sydney-based online research group, 46% of internet users in Australia are expected to be banking online in 2002. With 7.2 million internet users in 2002, according to the International Telecommunications Union (ITU), that translates to 3.3 million Australians banking online this year.

And with an estimated 19.5 million total population, the online banking penetration rate in 2002 is 17%

Internet Users Conducting Online Banking in Australia, 1998-2002

Source: RedSheriff, March 2001

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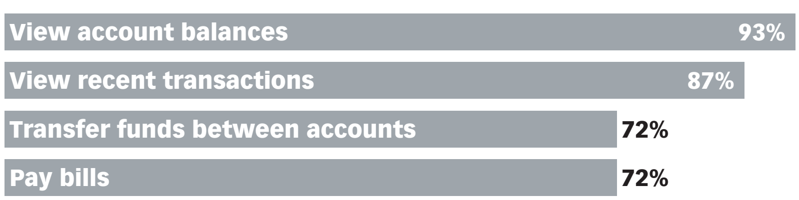
And as you saw in the IDC chart a bit above, Australians who bank online regularly tend to make the most visits of any Asia-Pacific nation, 2.1 monthly.

And what they do online are the basics, viewing balances and transactions or transferring funds. However, with 72% of respondents, bill pay is more active in Australia than in the US. Smaller nations, with fewer billers and fewer banks, but with active internet populations, tend to find it easier to implement internet bill-pay than larger nations.

Online Banking Activities in Australia, 2002 (as a % of respondents)



Source: ACNielsen, April 2002; The Age, April 2002

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Looking to New Zealand, figures from ACNielsen show that 66% of regular internet users were banking online in 2001. With 1.1 million total internet users according to the ITU, that means 0.7 million are banking online. Or, with a total population estimate of 3.9 million in 2001, that gives an online banking penetration rate of 18%.

Internet Users in New Zealand that Bank Online, 1999-2001 (as a % of regular internet users)

Source: ACNielsen.consult , March 2002; New Zealand Herald, March 2002

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Japan

With only 17% of Tokyo households banking online in 2001, the take-up for internet banking in Japan appears low.

Household Adoption of Internet Financial Services in Selected Cities Worldwide, 2001

	London	Amsterdam	Sydney	Tokyo
Internet banking	59%	63%	63%	17%
Internet investing	16%	19%	26%	8%

Source: Euro RSCG Worldwide, 2001

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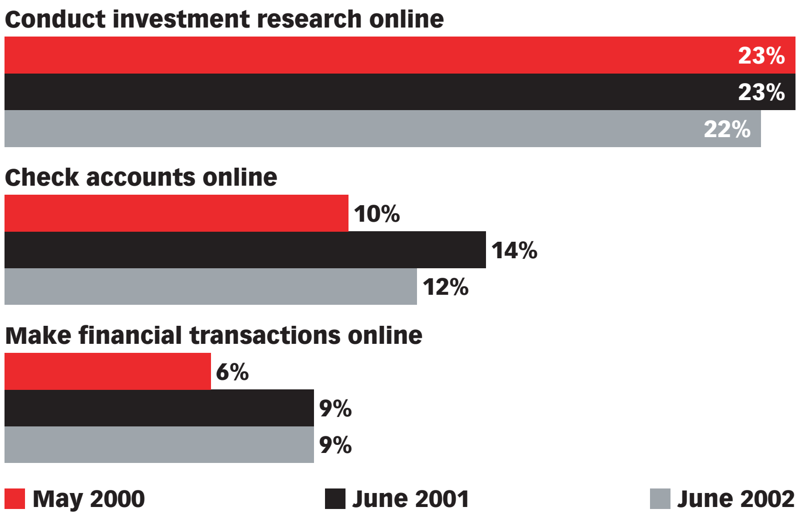
According to Prudential Financial's "Japanese Consumer Confidence Survey," which was conducted recently among 1,398 Japanese household financial decision-makers, only 12% of consumers in Japan checked accounts online in June 2002, while even fewer (9%) made any financial transactions online.

These low figures become more pronounced when you realize that only households with annual salaries of 3 million yen or higher were surveyed. (That 3 million yen converts to US$24,625 as of September 2002.)

How Consumers in Japan Uses Online Financial Services, May 2000, June 2001 & June 2002



Note: among consumers with internet access at home or work
Source: Prudential Financial, August 2002

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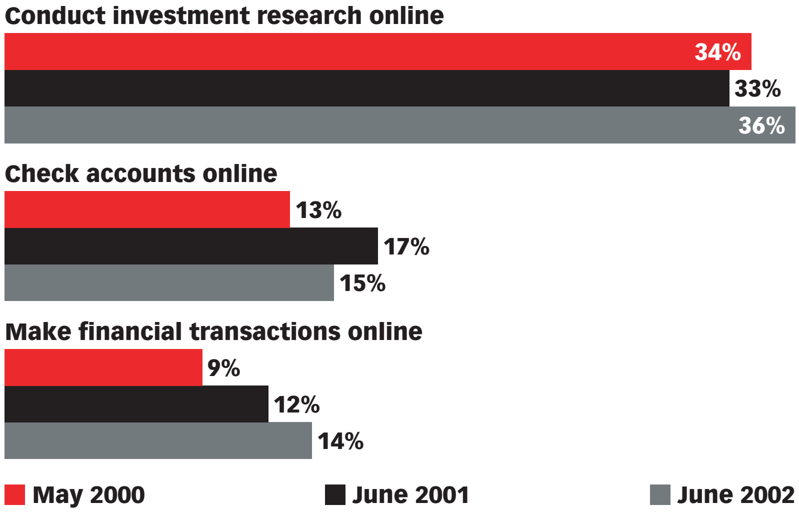
Active investors, however, are somewhat more likely to use online financial services. The group that checked accounts online in June 2002 increased to 15% (from 12% overall), while those doing financial transactions online grew to 14% (from 9% overall).

How Investors in Japan Use Online Financial Services, May 2000, June 2001 & June 2002



Note: among consumers with internet access at home or work.
Source: Prudential Financial, August 2002

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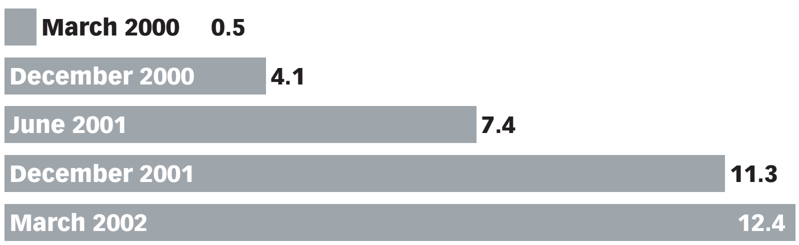
South Korea

As you saw in the introduction to this section, South Korea has an active online banking population of 5.3 million in 2002, according to ACNielsen. With 24.4 million internet users in 2001, by ITU data, that makes an approximate 22% penetration rate for online banking among users.

Figures from the Bank of Korea substantially contradict the ACNielsen numbers, showing 12.4 million online banking subscribers as of March 2002. Compare that with the ITU internet user figure of 24.4 million, and it gives South Korea an powerful 51% penetration rate.

Online Banking Subscribers in South Korea, March 2000-March 2002 (in millions)



Source: Bank of Korea (BOK), April 2002; Korea Times, April 2002

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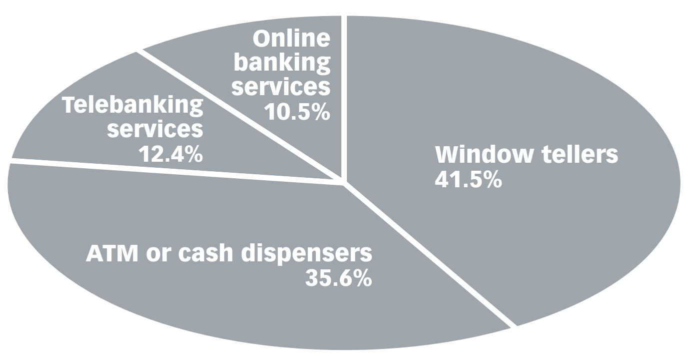
In either case, this is a nation that likes its online banking. And with a 62.9% broadband penetration rate, that makes sense.

Still, the cross-channel paradigm rules, with 41.5% of all transactions taking place with an in-person teller, 35.6% at an ATM, 12.4% on the telephone and only 10.5% occurring online.

Banking Transactions in South Korea, by Channel, 2002



Source: Bank of Korea (BOK), April 2002; Korea Times, April 2002

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Even with the strong adoption of various online services, mobile banking in South Korea still has a way to go. Compare the 0.842 million figure with the entire online banking group of 12.4 million, and it appears that only 6.8% of internet banking customers do it wirelessly.

Mobile Banking Users in South Korea, December 2001 & March 2002 (in thousands)

December 2001	710
March 2002	842

Source: Bank of Korea (BOK), April 2002; Korea Times, April 2002

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Hong Kong & China

As China's key financial window to the capitalist world, Hong Kong's population is accustomed to both technology and money matters. According to NetValue, 471.5 thousand internet users in Hong Kong visited an online banking site in December 2001.

With 3.1 million internet users according to the ITU, that translates to a good 15% penetration rate. Compare that to China's 2.6 million online banking customers, out of 33.7 million internet users by ITU estimates—or an 8% penetration rate.

Internet Users in Hong Kong Visiting Online Banking Sites , October-December 2001 (in thousands)

October	408.1
November	361.2
December	471.5

Source: NetValue, February 2002

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However, banking customers in Hong Kong are spending less time online, dropping from 41.0 minutes in December 2000 to 21.7 minutes a year later.

Duration Spent on Visits to Banking Sites by Internet Users in Hong Kong, December 2000 & December 2001 (in minutes)

December 2000	41.0
December 2001	21.7

Source: NetValue, February 2002

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When rated by unique audience, as Nielsen//NetRatings did in December 2000 and 2001, the top online banking website in Hong Kong belongs to HSBC—today one of the largest banks in the world and one that originated in Hong Kong.

Top Online Banking Websites in Hong Kong, December 2000 & December 2001 (ranked by unique audience)

December 2000	Unique audience	December 2001	Unique audience
1. hsbc.com.hk	263,199	1. hsbc.com.hk	387,130
2. hangseng.com	63,987	2. hangseng.com	211,669
3. standard-chartered.com.hk	30,352	3. hkbea-cyberbanking.com	38,068
4. hsbc.com	29,113	4. hsbc.com	33,134
5. citibank.com.hk	26,574	5. standard-chartered.com.hk	32,893
6. standardchartered.com	17,283	6. dahsing.com	32,600
7. hkbeacyberbanking.com	16,120	7. citibank.com.hk	21,763
8. bankwinglung.com	15,295	8. bocgroup.com	19,556
9. boci.com.hk	14,228	9. americanexpress.com	18,787
10. bocgroup.com	13,003	10. bankwinglung.com	18,373

Note: for at-home users
Source: Nielsen//NetRatings, February 2002

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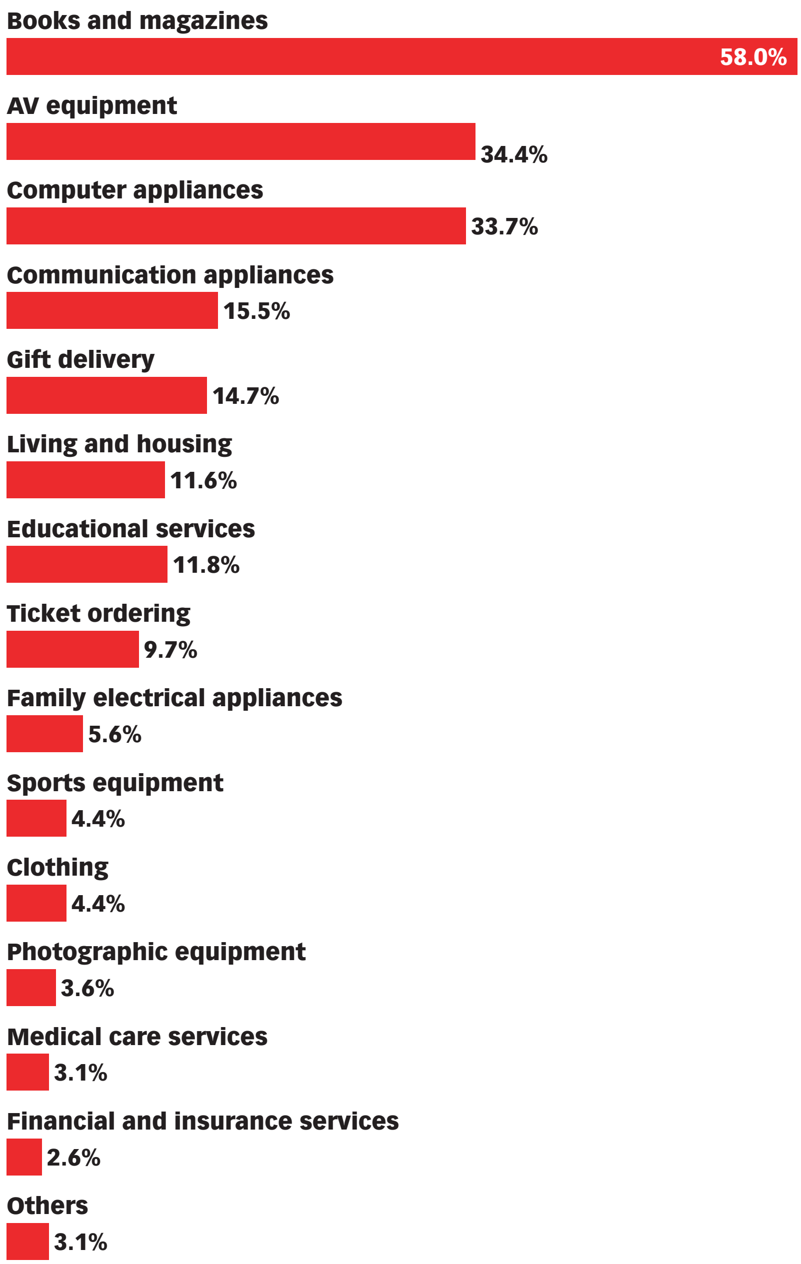
Turning from Hong Kong to China, it appears that buying financial services online is low on the activity list. While 58.0% of Chinese internet users bought books and magazines, and 14.7% ordered gifts to be delivered (to pick just two), only 2.6% of users bought some kind of financial service.

Products and Services Bought Online by Internet Users in China, Second Half 2001



Note: Multiple responses accepted
Source: China Internet Network Information Center, January 2002

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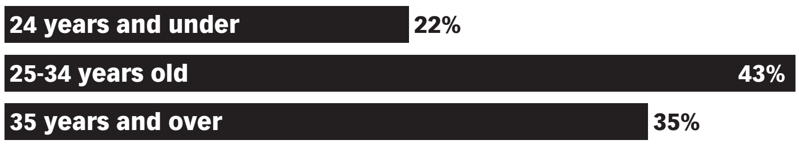
Singapore

The demographics of online banking customers in Singapore point to people between 25 and 34 years old as the prime target, making up 43% of visitors to banking websites in February 2001, according to NetValue.

Visitors to Online Banking Sites in Singapore, by Age, February 2001



Source: NetValue, April 2001

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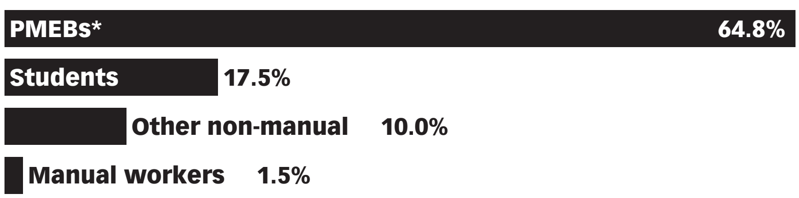
Of those visitors, the largest group is various professionals and managers, at 64.8%, a statistic to be expected for nearly any nation.

Visitors to Online Banking Sites in Singapore, by Occupation, February 2001



*Note: *includes professionals, general management, middle management and self-employed*
Source: NetValue, April 2001

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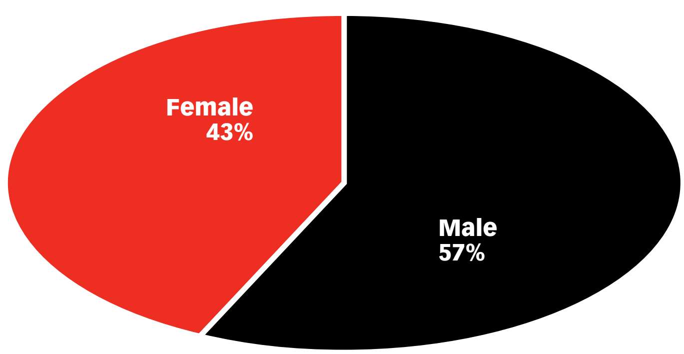
Also as is the case for most nations, more males than females bank online in Singapore, 57% to 43%, respectively.

Visitors to Online Banking Sites in Singapore, by Gender, February 2001



Source: NetValue, April 2001

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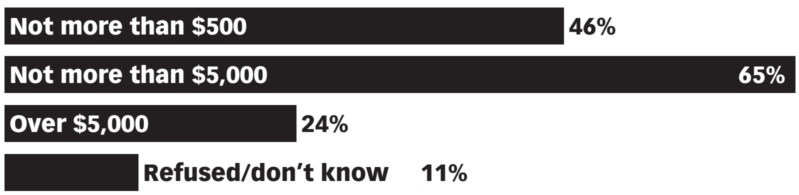
Concerns about security contribute to the maximum amounts customers in Singapore are willing to transact while banking online, according to IDA Singapore. Only one-in-four are willing to do online transactions of more than $5,000 (that's Singapore dollars, which converts to US$2,819).

Maximum Amount Singaporeans Are Willing to Transact While Banking Online, 2001 (as a % of internet users)



Note: in Singapore Dollars
Source: iDA Singapore, April 2002

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Find out who's doing what online in Asia with eMarketer's September 2002 report, Asia-Pacific Online: Access, Demographics and Usage: http://www.emarketer.com/products/report.php?asia_on

E. Latin America

Even though the internet penetration rate in all of Latin America was only 4.1% of the entire population (age 14-plus) in 2001, the urban population banking online is 63%, higher than any other region. The Euro RSCG Worldwide estimates are based on only two Latin America cities—Mexico City and Sao Paulo—so perhaps its data for this region is suspect.

Global Urban Household Adoption of Internet Financial Services, 2001

	Europe/ Middle East	Asia/ Pacific	United States	Latin America	Global
Internet banking	49%	41%	54%	63%	48%
Internet investing	13%	16%	38%	9%	17%

Source: Euro RSCG Worldwide, 2001

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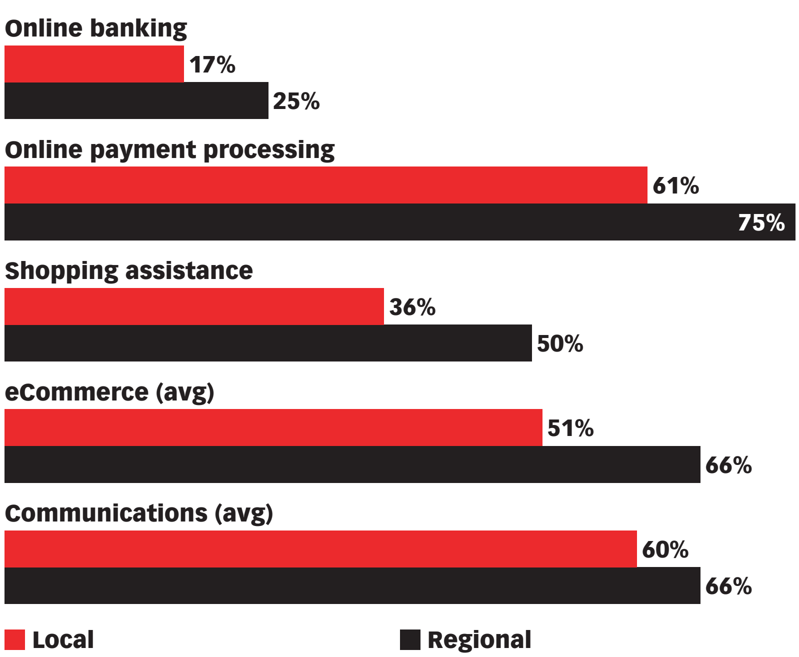
According to IDC, portals are one key online venue for internet banking in Latin America, with 17% of local portals and 25% of regional portals offering banking services.

When it comes to online bill payment, portals are even more dominant, with 61% of local portals and 75% of regional portals purveying that service.

Features of Local and Regional Consumer-Oriented Portals in Latin America, 2001 (as a % of portals surveyed)



Source: International Data Corp. (IDC), 2001

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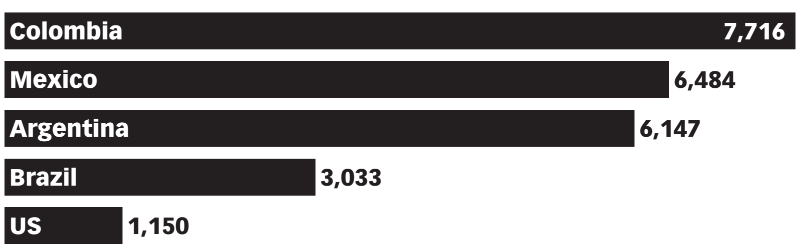
One key electronic banking channel in Latin America is the ATM. According to a study late last year from Speer & Associates, an Atlanta-based financial services consulting firm, "the region's ATM terminals [will] increase at an annual 6% to 8% clip for the next three to five years, with ATM shipments to Latin America rising from 26,570 terminals in 1999 to 61,460 terminals in 2005," as reported in *Bank Technology News*. "Triggering the ATM growth ahead is Latin consumers' desire for debit cards, a natural result in a cash-based region. Debit and ATM cards grew approximately 70% in 2000 alone...and cash withdrawals represent 80% of all transactions made through this channel."

The actual ATM penetration rate shows that in 2001, there was one machine for 3,033 people in Brazil, ascending to one machine per 7,716 people in Columbia. In any case, the ATM is at this point more of a major electronic channel in Latin America than the internet.

ATM Penetration in Selected Countries in Latin America and the US, 2001 (in number of people per ATM)



Source: Speer & Associates, 2001; Bank Technology News, January 2002

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