

MEXICO NEW MANDATE FOR
MODERNIZATION

LAWYERS BIG TOBACCO'S
LAW FIRM

PROFITS WHEN THEY'RE TOO
GOOD TO BE TRUE

BusinessWeek

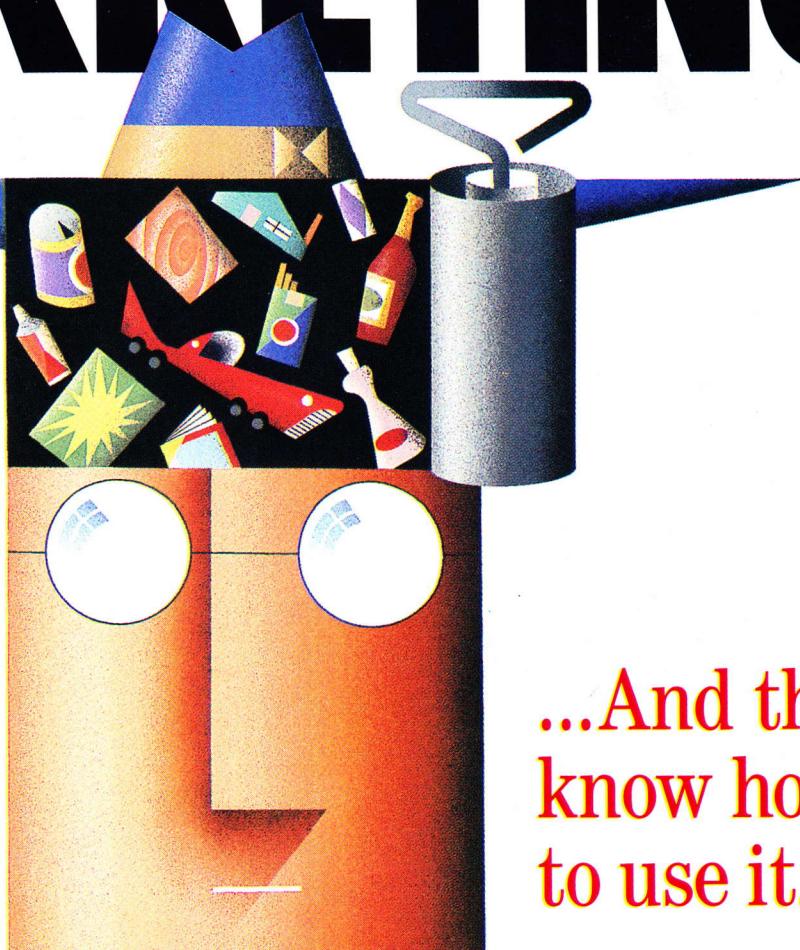
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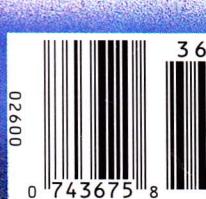
DATABASE MARKETING

Marketers
know more
about you
than ever
before...



...And they
know how
to use it.

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A POTENT NEW TOOL FOR SELLING

DATABASE

It may not be celebrated as a national holiday, but it's a pretty big deal around here. Happy birthday from the Claridge Casino Hotel, Atlantic City.

What time is it now in Israel? What is Mama cooking today? We at AT&T know exactly how you feel and are aware of your need to call and speak with those close to you whenever you wish.

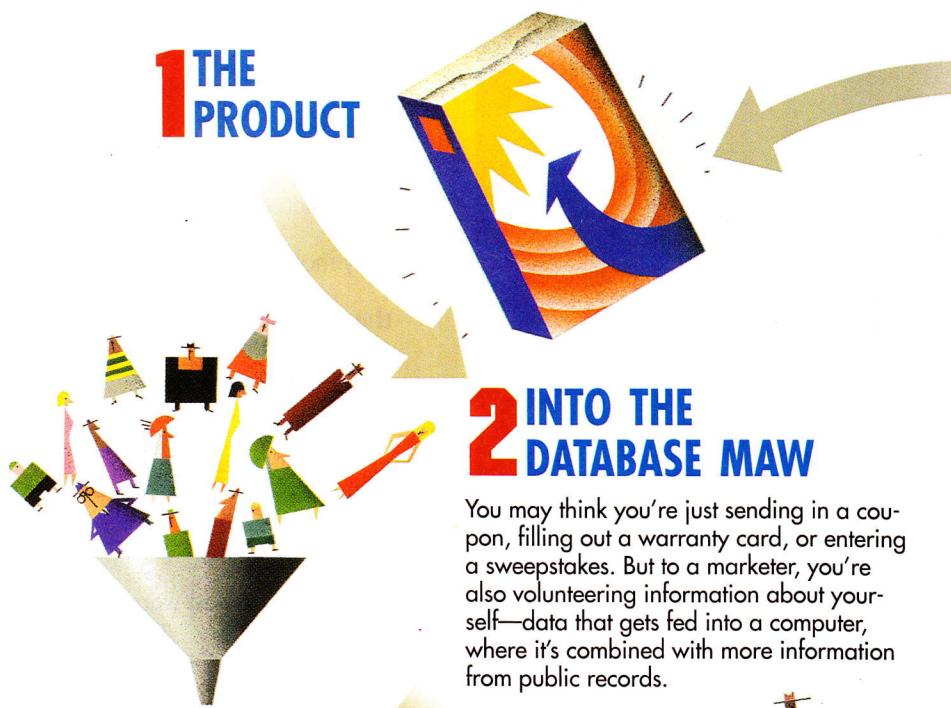
Dear Nabisco All-Star Legends Collector: As a participant in last year's offer, you are being given a sneak preview of our 1994 All-Star Legends cards. Be the first on your block to order these special limited-edition cards....

Does it seem as if a lot of companies are taking quite a friendly interest in your life these days? Helping you mark your birthday? Soothing your homesickness? Giving you an early peek at something new? If this kind of stuff is turning up in your mailbox more often, you're not alone. You're on the receiving end of a sophisticated, high-tech twist to the ancient art of persuasion. It goes by different names—database marketing, relationship marketing, one-to-one marketing. But it all adds up to the same thing: Companies are collecting mountains of information about you, crunching it to predict how likely you are to buy a product, and using that knowledge to craft a marketing message precisely calibrated to get you to do so.

It amounts to one of the biggest changes in marketing since "new and improved." First came the mass market, that vast, undifferentiated body of consumers who received identical, mass-produced products and messages—any color of car they wanted, so long as it was black. Then came market segmentation, which divided still-anonymous consumers into smaller groups with common demographic or psychographic characteristics. Now, new generations of faster, more powerful computers are enabling marketers to zero in on ever-smaller niches of the population, ultimately aiming for the smallest con-

HOW IT WORKS

1 THE PRODUCT



2 INTO THE DATABASE MAW

You may think you're just sending in a coupon, filling out a warranty card, or entering a sweepstakes. But to a marketer, you're also volunteering information about yourself—data that gets fed into a computer, where it's combined with more information from public records.

3 DIGESTING THE DATA

Using sophisticated statistical techniques, the computer merges different sets of data into a coherent, consolidated database. Then, with powerful software, brand managers can "drill down" into the data to any level of detail they require.

4 AN IDEAL CONSUMER

The computer identifies a model consumer of a chosen product based on the common characteristics of high-volume users. Next, clusters of consumers who share those characteristics—interests, incomes, brand loyalties, for instance—can be identified as targets for marketing efforts.

MARKETING

7 REFINING THE DATABASE

The database is continually updated with information collected from product-oriented clubs, responses to coupons, calls to 800 numbers, and sweepstakes entries, as well as with new lists from outside sources.



5 USING THE KNOWLEDGE

The data can be used in many ways: to determine the values of coupons and who should get them; to develop new products and ensure that the appropriate consumers know about them; to tailor ad messages and aim them at the right audience.



6 SHARING DATA WITH RETAILERS

Cash-register scanners provide reams of information about exactly what shoppers are buying at specific stores. Merged with the manufacturer's data, this intelligence helps to plan local promotional mailings, fine-tune shelf displays, and design store layouts.



DATA: BUSINESS WEEK, COOPERS & LYBRAND CONSULTING

sumer segment of all: the individual.

A growing number of marketers are investing millions of dollars to build databases that enable them to figure out who their customers are and what it takes to secure their loyalty. Direct marketers have long been in the vanguard of database users: Catalogs, record clubs, and credit-card companies have always needed their customers' names and addresses to do business with them. But database marketing is now moving into the marketing mainstream, as everyone from packaged-goods companies to auto makers comes to believe that in the fragmented, fiercely competitive marketplace of the 1990s, nothing is more powerful than knowledge about customers' individual practices and preferences.

HOG-TIED. In 1992, for example, General Motors Corp. joined with MasterCard to offer the GM Card. As a result, GM now has a database of 12 million GM cardholders, and it surveys them to learn what they're driving, when they next plan to buy a car or truck, and what kind of vehicle they would like. Then, if a cardholder expresses an interest in, say, sport-utility vehicles, the card unit mails out information on its truck line and passes the cardholder's name along to the appropriate division.

Blockbuster Entertainment Corp. is using its database of 36 million households and 2 million daily transactions to help its video-rental customers select movies and steer them to other Blockbuster subsidiaries. In Richmond, Va., the company is testing a computerized system that recommends 10 movie titles based on a customer's prior rentals. The suggestions are printed on a card that also offers targeted promotions. Customers who have rented children's films, for example, might get a discount at Discovery Zone, Blockbuster's playcenter subsidiary.

Kraft General Foods Inc. has amassed a list of more than 30 million users of its products who have provided their names when sending in coupons or responding to some other KGF pro-

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motion. Based on the interests they've expressed in surveys, it regularly sends them tips on such things as nutrition and exercise—as well as recipes and coupons for specific brands. The company figures that the more information consumers have about a product, the likelier they'll be to use more of it (sample tip: Use Miracle Whip instead of butter for grilling sandwiches). KGF constantly refines its database by sending surveys to the names on its list.

Like KGF, Harley-Davidson Inc. wants

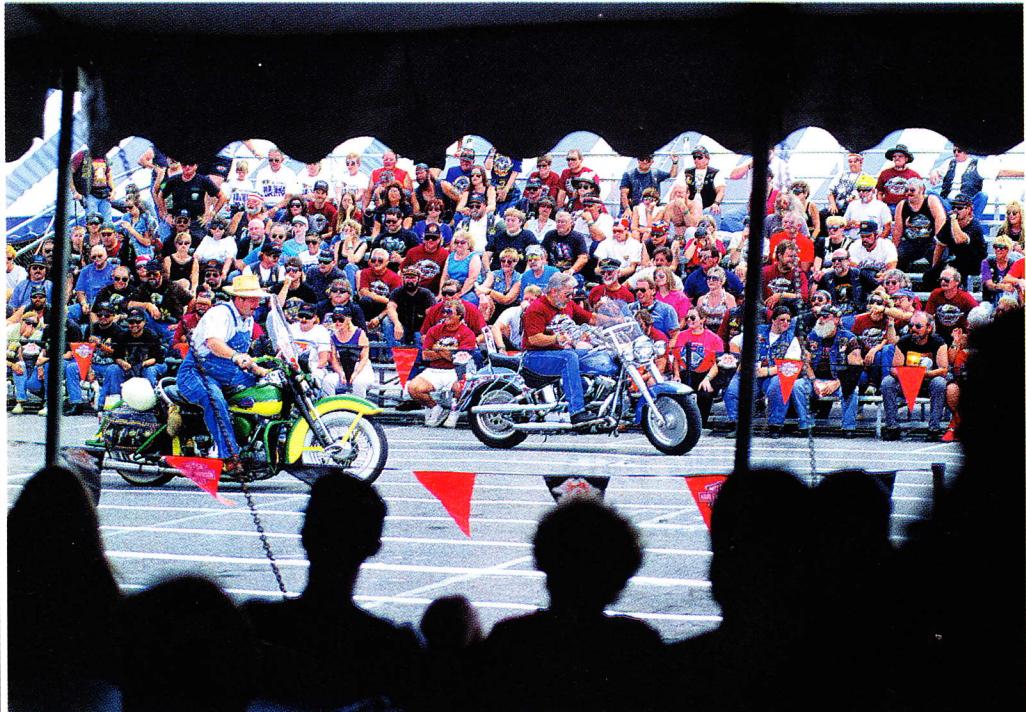
RJR have assembled huge databases of smokers they can reach directly. For example, by requiring consumers who respond to offers of free shirts, sleeping bags, or other merchandise to fill out detailed questionnaires, Philip Morris has built a list of some 26 million smokers' names and addresses. The companies use their lists both to market to smokers with coupons and promotions and to enlist grassroots support for their lobbying efforts.

Consumers appear to be responding

Why all the activity? In part, it's in the name of the relentless drive to make marketing more efficient. Seagram knows that most U.S. adults aren't likely prospects for its distilled spirits: Two-thirds of them haven't had a single drink of liquor in the past 30 days. As a result, notes Richard P. Shaw, vice-president for marketing communications at Seagram, mass-market advertising has "a great deal of what we would call nonproductive reach." Of course, many conventional promotions, and much typical junk mail, are similarly wasted because they're aimed at too broad an audience. "We're trying to kill off junk mail—junk mail defined as 'anything I didn't ask for and wouldn't be interested in,'" says Barrington I. Hill, London-based senior vice-president for product development at American Express Travel Related Services Co., which has been using its detailed database to send carefully aimed promotions to cardholders.

SIMULACRUM. Marketers increasingly are recognizing that past customer behavior, as recorded in actual business transactions, is by far the best indicator of future buying patterns. "It's not true that demographics is destiny," says Matt Kuckuk, senior principal at American Management Systems Inc.'s Financial Industry Group. Merely knowing Mr. Jones's Zip Code or income generally yields less insight—and opportunity—than knowing, say, that he has just applied for his first joint checking account. That probably signals a marriage, which means future openings to sell a mortgage, life insurance, long-term investments, perhaps even a college loan.

It's a kind of cybernetic intimacy: In ever-expanding processing power, marketers see an opportunity to close the gap that has widened between companies and their customers with the rise of mass markets, mass media, and mass merchants. Database marketing, they believe, can create a silicon simulacrum of the old-fashioned relationship people used to have with the corner grocer, butcher, or baker. "A database is sort of a collective memory," says Richard G. Barlow, president of Frequency Marketing Inc., a Cincinnati-based consulting firm. "It deals with you in the same personalized way as a mom-and-pop grocery store, where



to urge customers to keep using its products. That's why it mails the 256,000 members of its Harley Owners Group (HOG) a bimonthly magazine packed with listings of regional, national, and international events to encourage owners to get out on the road and use their bikes. House of Seagram uses its 10 million-name database for loyalty-building programs for existing products. It might send premiums tied to proofs of purchase—a pair of snifters, say, to someone who bought its Martell cognac. Seagram uses surveys to identify likely buyers of new products, as well as drinkers of rival brands it can send offers to. RJR Nabisco Holdings Corp. is building a database that identifies, among other things, households that have responded to past promotions.

Over on the tobacco side of RJR Nabisco's business, database marketing has long been practiced in earnest. For cigarette makers, it's a virtue born of necessity. Facing increasing restrictions on advertising, Philip Morris Cos. and

to the precision marketing. But of course, this private intelligence-gathering gives some people the creeps. At best, critics say, targeted marketing efforts are intrusive and annoying. At worst, the collection, manipulation, and combination of lists of personal information amount to an ominous invasion of privacy (page 60). Such concerns aren't fazing the marketing types, though. According to Donnelley Marketing Inc.'s annual survey of promotional practices, 56% of manufacturers and retailers are currently building a database, an additional 10% plan to do so, and 85% believe they'll need database marketing to be competitive past the year 2000. "It is one of the most important marketing developments of the 1990s," says marketing guru Stan Rapp, chairman of consultants Cross Rapp Associates.

BIKE BONDING

Harley-Davidson's owners group keeps members involved with a magazine and rallies

they knew customers by name and stocked what they wanted."

Consider the dilemma of a busy casino. In the old days, the pit boss kept notebooks on frequent players. Periodically, he would pick a name from the notebook, call the high roller up, and offer a free room for the weekend. Today, with thousands of visitors trooping through on any given day, "it's virtually impossible to get to know people on a first-name basis," says Robert M. Renneisen Jr., CEO of Claridge Hotel & Casino Corp.

Now, the casino's computer keeps tabs on visitors who use its frequent-gamblers' card and sends out offers every day. Claridge's Comp-Card Gold, which offers discounts and tips on upcoming events, has 350,000 active members. They get offers ranging from \$10 in coins for slot machines to monogrammed bathrobes and door-to-door limo service. "It's made us more efficient," says Renneisen. "We can target our dollars directly to customers who justify the costs."

"GREATER VALUE." In addition, by weaving relationships with its customers, a company can make it inconvenient for consumers to switch to a competitor. Don Peppers, co-author of *The One to One Future*, one of the bibles of the new marketing, cites MCI Communications Corp.'s Friends & Family long-distance discount plan. To get the discount, the customer has to form a network of friends and family members—"a substantial investment in time and energy on the consumer's part," he notes. Changing long-distance carriers means having to "reinvent my relationship," Peppers says.

All these efforts to forge ties to con-

sumers are based on the same fundamental idea: There's no more important asset than a happy customer. Happy customers remain customers, and it's much cheaper to keep existing customers than to find new ones.

Michael D. Keefe, director of Harley-Davidson's HOG, is reluctant even to call the process marketing. "It's more like customer bonding," he says. "If people use the motorcycle, they'll stay involved. If there's nowhere to ride, no place to go, the motorcycle stays in the garage, the battery goes dead, and a year from now, they just sell it."

Some database marketers say their promotional offers garner response rates in double digits, considerably higher than the typical 2% to 4% for junk mail. For example, the targeted promotions that Hilton Hotels Corp. offers senior citizens in its Senior Honors



TASTY TIDBITS

Kraft sends coupons and nutrition tips to 30 million customers, such as this recipe contestant

frequent-traveler program, which features discounts and travel tips, have persuaded close to half of the club's members to take previously unplanned trips that included stays at Hilton hotels. And KGF says its offers to those listed on its database get significantly higher response rates than standard mass-market coupons. The database, says John T. Kuendig, vice-president for market development, is a list of steady consumers who "have a greater value to the brand."

NO CHOICE. Database marketing has its skeptics, of course. An earlier flush of enthusiasm prompted by the spread of checkout scanners in the 1980s ended in widespread disappointment: Many companies were too overwhelmed by the sheer quantity of data to do anything useful with the information. And some critics say these efforts to reach out and touch individual

consumers haven't demonstrated their usefulness in many product categories. Programs that identify frequent customers and reward them may make sense for airlines, but consumers have rejected the "frequent-eater" programs offered by some fast-food chains as being not worth the bother.

Still, many companies believe they have no choice but to brave the database-marketing frontier. For one thing, most manufacturers are waging an information war with the retailers that stock their products. Large supermarket chains and giant mass merchandisers, such as Wal-Mart Stores Inc., have

PIONEERS OF THE NEW MARKETING

A sampling of database-marketing programs:

AMERICAN EXPRESS Using massively parallel processors, it's sorting through individual cardmembers' transactions and basing promotions on what it learns.

PHILIP MORRIS PM's Marlboro Adventure, a promotion for Marlboro smokers, distributed more than 30 million pieces

of merchandise to smokers—and helped build a 26 million-name database it uses for direct marketing and lobbying.

HOUSE OF SEAGRAM Uses list of 10 million adults who drink spirits to launch new products, build brand loyalty, and take aim at drinkers of rivals' products.

GENERAL MOTORS GM regularly surveys its 12 million credit-card holders on

whether they expect to be in the market for a car or truck soon, what kind of models they're interested in, and whether they would like information on vehicles. These leads are passed on to GM's marketing divisions.

BLOCKBUSTER ENTERTAINMENT Using records for 36 million households, it's testing a system that will recommend movies based on a customer's past rentals.

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grown increasingly sophisticated in their use of checkout-scanner data to keep track of sales. They now base many of their choices about what to stock, what to promote, and what to charge on that information. To shape those decisions to their advantage, manufacturers need persuasive information of their own. "To the extent we have built up relationships with our consumers and know which ones will respond, we can work with retailers to help them build their businesses," says KGF's Kuendig.

BUSYBODY QUESTIONS. Databases start with information from the consumer. In transactional businesses, such as charge cards, banking, or catalogs, that's easy: The marketer simply collects information on the sale. For other marketers, the challenge is to get consumers to volunteer the data about themselves. Many packaged-goods marketers collect information that consumers divulge when they call 800 numbers or mail in coupons. In its surveys, Seagram tracks consumers' names and addresses, the brands and types of alcohol they drink, their sex, birthdate, income, and how many bottles they purchase in an average month. And GM went into the credit-card business not just to build loyalty and offer cardholders rebates on cars but also because it saw the billing process as a way to

harvest reams of data about consumers. "This is a gold mine," says H. D. "Hank" Weed, general marketing manager for the GM Card.

Having assembled a list of consumers, the marketer then mixes in information from other sources. Research houses such as Donnelley, Metromail, and R. L. Polk glean vast amounts of data from public records—drivers' licenses, auto registrations, and mortgage-tax rolls. Even income, the most sensitive subject, can be estimated based on mortgages and automobile registrations. Such information isn't cheap, though. This year, for instance, Ohio sold its drivers' license and car-registration lists to TRW Inc. for \$375,000.

Wittingly or unwittingly, consumers often offer plenty of data about themselves. Think of all those busybody questions on a warranty card: What's your age, income, occupation, education, and marital status? How many children? Do you hunt, fish, or play tennis? If you think none of that has much to do with the guarantee on that radio you just bought, you're right. But National Demographics & Lifestyles Inc., based in Denver, collects those warranty cards and the precious information they reveal, then resells it to database marketers.

Increasingly, the computer itself is sifting through such data for patterns that will predict behavior. Using neu-

ral-network software, computers can plow through masses of data and determine how specified variables may depend on one another (page 62). For example, what combination of income level, investment activity, and credit-card spending is most likely to be seen among people who are in the market for mortgages? Once the network has come up with a highly specific profile of some class of customer, it's easier to find new customers matching that profile and aim at them with customized direct-marketing schemes.

Most marketers consider the greatest benefit of the databases simply to be identifying who their current customers are and how much business the company is doing with them. First Commerce Corp., a \$6.4 billion New Orleans bank holding company with five banks, has been using this technology to retain current customers and build its business. Its customers, like those at every bank, tend to bank with several institutions. But by analyzing the data available on its current checking customers, First Commerce can try to win more of them as credit-card customers, too. The work is done with a combination of PCs and a mainframe storing hundreds of thousands of records. On a fast PC, a neural-network run can take from 30 to 60 minutes to complete.

Where there are millions of records

YOU CAN RUN, BUT IT'S TOUGH TO HIDE FROM MARKETERS

For years, Lisa Tomaino kept her address secret. She and her husband Jim, a policeman, wanted to make it as hard as possible for the crooks he had put away to find out where they lived.

But last year, Lisa had a baby. So much for her big secret. Within six weeks, she was inundated with junk mail aimed at new mothers. The hospital had sold her name and address to a direct-marketing company, and soon she was on dozens of other lists. Efforts to get off them proved fruitless. "It was a complete violation of our right to privacy," she declares.

Private citizens, privacy watchdogs, and a handful of lawmakers have railed for years about Big Brotherism by business. But when politicians balance industry's interest in reaching markets against the customers' right to privacy,

marketing usually wins. "Existing laws regulating privacy simply aren't effective," gripes Robert S. Bulmash, president of Private Citizen Inc., a public advocacy group in Naper-ville, Ill.

Marketers are keenly aware of the public's reaction to their unwanted attention. After all, it's their job to stay in touch with the preferences of consumers. "People worry about what we know about them and how we're going to use it, and that's legitimate," says Richard Barton, a senior vice-president for the Direct Marketing Assn. (DMA) a Washington-based trade group.

But vendors of marketing data argue that any intrusion on privacy from selling lists is offset "by the significant potential gain to consumers

from the special offers and products offered by direct marketers," says Harry Gambill, president of Trans Union Corp., a Chicago-based credit bureau.

The industry has largely

ILLUSTRATION BY TERRY ALLEN



to sift through, so-called massively parallel database computers, at typical prices of \$1 million or more, may be required. These machines gang together scores or even hundreds of the fastest microprocessors around, giving them the oomph to respond in minutes to complex database queries. Marketers call these complex searches "drilling down." With such speed at hand, companies can search their databases more frequently and feel freer to experiment with new strategies. "Before parallel computing, you just didn't have the juice required," says Doug Cheney, director of program development at AT&T Global Information Solutions, the former NCR Corp. and a maker of parallel database computers.

WEATHER REPORTS. Massively parallel processors from Thinking Machines Inc. are a key technology for American Express Co. Before the systems were in place, the amount of information the company could keep on each cardmember was limited to basic stuff, such as the cardmember's name and address, how long he or she had been a cardholder, and how much the cardmember



had spent in the past year. With massively parallel processing, AmEx could vastly expand the profile of every customer. "We basically store every transaction," says product-development executive Hill.

Now, 70 workstations at the American Express Decision Sciences center in Phoenix race through mountains of data on millions of AmEx cardmembers—the stores they shop in, the places they travel to, the restaurants they've eaten

staved off regulation by convincing the federal government that it can police itself. The DMA, for example, runs a phone number for people who want their names removed from mailing lists. But relatively few consumers use it, and those who do contend that their names come off some, but not all, lists. "It's really meaningless," says Evan Hendricks, editor of *Privacy Times*. "It's just a public relations effort."

Lawmakers are now mulling a measure that could limit the ability of state motor vehicle departments to give out information about licensed drivers. Senator Barbara Boxer (D-Calif.) sponsored the Senate version after a deranged man used California driver records to track down a young TV actress, whom he killed.

DOLLARS FOR STATES. The proposed curbs are part of the controversial crime bill, which was resuscitated in the House and sent to the Senate in late August. But the restrictions would have limited impact. Many states objected to a ban on the release of driver information, arguing that they need the revenue from the sale of lists. The whittled-down bill now enables motorists to opt out of having their names sold. Consumer advocates complain

that such provisions don't work because most are written in tiny type.

Longstanding laws, such as the 1970 Fair Credit Reporting Act, aren't much better, according to privacy experts. The statute is supposed to prevent credit agencies such as TRW, Equifax, and Trans Union from releasing financial information about a person except for "legitimate" business needs, such as a credit check.

Legitimate needs, however, have never been clearly defined. In a January, 1993, decision against Trans Union, a Federal Trade Commission administrative law judge ruled that the law bars the use of credit information to develop mailing lists. In response, TRW Inc. stopped using its credit data to develop lists, but it still sells lists based on demographic information it collects. And Trans Union has chosen to fight the ruling.

As marketing techniques become more sophisticated, the privacy of the Lisa Tomainos of the world will grow increasingly difficult to protect. And marketers will do everything they can to make sure remaining anonymous doesn't get any easier.

By Mark Lewyn in Washington

in, and even the economic conditions and weather in the areas where they live.

Every month for a little more than a year, AmEx has been using that information to send out precisely aimed offers. They go out in millions of customized monthly bills that the company says amount to individualized newsletters sent to a growing number of customers around the world. On one British cardmember's recent statement, a British Airways flight triggered an offer, printed adjacent to the transaction, of special deals on weekend getaways to New York and continental Europe. A purchase at Harrod's triggered a notice of a special sale at the store for AmEx cardholders. Since its introduction in

Ireland in March, 1993, this "relationship billing" has been rolled out through Europe, Canada, and Mexico. AmEx has seen an increase of 15% to 20% in year-over-year cardmember spending in Europe and gives the new billing format much of the credit. Next year, AmEx plans to introduce relationship billing in its biggest market, the U.S.

Heavy computing firepower isn't always necessary, though. For some efforts, all it may take is a few thousand dollars' worth of hardware and software. Using a Macintosh personal computer, Yuri Radzievsky has built a database of Russian, Polish, and Israeli immigrants to the U.S. By combing lists of subscriptions to foreign-language newspapers and buyers of tickets to events such as tours by Russian entertainers, his YAR Communications has assembled lists of 50,000 Russians, 75,000 Poles, and 30,000 Israelis in the U.S. Such information is of real value to client AT&T—telephone service, after all, is one of the first things new arrivals want when they set up their households.

Using the lists, AT&T has mailed Hebrew- and Russian-language offers of discounts on calls home. "Every marketer's dream is to be able to target those little slices," says Sandra K. Shellenberger, district manager of diversified marketers and multicultural marketing communications for AT&T. Response rates for such database-directed offers sometimes run as high as 20% to 30%, she says, compared with the low single digits for

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broader, more conventional direct mail. Where will it all end? Few predict that database marketing will supplant mass marketing. Still, many targeted direct-mail campaigns are as glossy as any big-budget ad campaign. The mailings Seagram sends out feature lush photos and long, story-spinning blocks of copy discussing such matters as the proper way to drink single-malt scotch. Seagram also plans to rely heavily on database marketing to penetrate emerging markets, such as India and Thailand.

land, where the proportion of affluent drinkers is so small that the use of mass media would be especially wasteful.

There's no doubt technology is shaking up traditional marketing methods. Marketers, after all, have been accustomed to thinking in broad swaths, such as adults 18 to 34 or women 25 to 49. Now, a typical AmEx segment might be business travelers who have bought jewelry abroad in the past month. Some of the offers the company has sent out in bills have gone to as few as

20 people. Says Hill: "This is a strange experience for the marketing people."

Can a faceless, distant marketer recreate the personal relationships consumers used to have with the people they did business with? More and more companies are betting that the answer is yes as they reach out to envelop customers in an automated embrace.

By Jonathan Berry, with John Verity, in New York, Kathleen Kerwin in Detroit, Gail DeGeorge in Miami, and bureau reports

SILICON AND SOFTWARE THAT MINE FOR GOLD

Marketing companies have long used computers to sift through reams of supermarket scanner data, merge and purge mailing lists, and analyze market research reports. But now, ultracheap computing power and new software are making the process much more precise.

Gathering data isn't all that difficult: Point-of-sale terminals, teller machines, and 1-800 telemarketing all contribute to the flood. The big challenge lies in making sense of what's collected, rather than throwing most of it away. The quantities of data are potentially overwhelming: Fingerhut Cos., for example, is currently expanding its collection of mail-order customer data from about 600 billion characters today to about 2 trillion characters, or two terabytes—enough to choke any traditional mainframe. Using shoppers' clubs and other incentives, supermarket chains such as Vons Cos. and Safeway Inc. are starting to keep on hand more than a year's worth of detailed data about customer purchases.

SOUPED UP. Fortunately, powerful new technologies are at hand. Neural-network software, designed after the pattern of cells in the human brain, can automatically "learn" from large sets of data on its own. By scanning thousands of data records again and again, the software can build a strong statistical model describing important relationships and patterns in the data. All that's required is a standard, high-end PC equipped with a plug-in neural-net "accelerator" board. Customer Insight Co. has tailored HNC Software Inc.'s Database Mining Workstation software, based on neural-net techniques, just for database marketing.

Once a statistical model of the ideal customer is constructed, however, considerably more computing horsepower may be required to find all prospects matching the profile. So Fingerhut, Wal-Mart Stores, Delta Air Lines, American Airlines, and dozens of others are turning to so-called parallel-processing systems. These devote dozens or even hundreds of microprocessors to scouring a giant database for records that meet a complex set of criteria. The more criteria speci-

to many "reengineering" efforts these days. Businesses ranging from airlines to banks and telephone companies are striving to reorganize based on a better understanding of their customers' buying patterns. The potential gains are big: tighter inventories, more compelling product displays, fewer out-of-stock items, and higher profits. Says Thomas Blischok, a vice-president at AT&T/NCR: "If I can guarantee that every time you go to my establishment you find stuff to buy, you'll care a lot less about price."

BIG-IRON BRAWL. All of which is stirring sales in the otherwise moribund large-scale computer market. Sales of traditional mainframes have gone into long-term decline. But Gartner Group Inc., a computer market-research firm, reckons that today's \$400 million commercial market for parallel computers will grow to \$5 billion in 1998. IBM, the leader in mainframes, is adding parallel systems to its lineup in hopes of thwarting early advances by challengers such as AT&T, Tandem Computers, Sun, Hewlett-Packard, and even Cray Research.

What does the future hold? Lots more transaction data stored in much more powerful computers. Customers' thirst seems insatiable, says Jerre Stead, chief executive of AT&T/NCR. He was recently given a pair of hats when visiting Wal-Mart headquarters, where inspirational slogans abound. One, Stead recalls, demanded that AT&T computers be capable of storing "10 terabytes by the end of '95." The other demanded that "90% of all data [be] processed in 99 minutes." Says Stead: "We'll get there. We're working on it."

By John Verity in New York

KEY DATABASE-MARKETING TECHNOLOGIES

PARALLEL COMPUTERS

Use gangs of microprocessors to scan huge volumes of data in a flash. Sold by AT&T/NCR, IBM, Tandem, Meiko, and nCube.

DATABASE SOFTWARE

Cross-indexes data records into giant matrixes, which makes finding specified records much easier. Sold by Oracle, Sybase, IBM, Informix.

NEURAL-NETWORK SOFTWARE

Can automatically build a model of customer behavior based on analysis of previous transactions. Available from HNC Software, Customer Insight.

DATA: BUSINESS WEEK

fied, the longer a search can take—but the more precisely aimed the resulting marketing efforts may be. Fingerhut has chosen a parallel Sun Microsystems Inc. machine that harnesses as many as 20 high-speed microprocessors. Wal-Mart Stores Inc. leads the way in retail databases using parallel database computers supplied by the former NCR/Teradata company, now a unit of AT&T.

Rapidly analyzing zillions of past business transactions is actually key