Little brother
WE’RE NOT REALLY PSYCHIC.
BUT WE’RE PRETTY CLOSE.

Quantcast Advertise knows your customer’s next move, and gets you to them first.

KNOW AHEAD. ACT BEFORE.™
THE RELEVANCE FACTOR: USING DATA TO LINK

Quantcast measures mobile and Web reader demographics and interests to deliver the right audience to advertisers.

Konrad Feldman
Founder and chief executive
Quantcast Corp.

BuzzFeed, the social news and entertainment company, wanted to provide evidence to advertisers that any of its hundreds of daily mobile and Web posts could be paired with unique messages. The problem: how to identify specific readers from among 160 million unique monthly visitors. The more precise the match, the more satisfied the advertiser — and the more relevant the message for the reader.

In 2008, BuzzFeed began to use Quantcast Measure to interpret thousands of reader demographic segments. Women between 21 and 25 in Omaha interested in NASCAR and yoga? Check. Boomers who like Mediterranean cruises and Harleys? Check. “Getting audience insight at the post level helps demonstrate how sponsored content can deliver specific audiences,” says Tami Dalley, BuzzFeed’s senior director of research.

Quantcast analyzes global data from more than 100 million websites, blogs, videos and widgets using tags that measure media consumption, combining this information with machine learning to interpret demographics and interests — all while protecting reader anonymity.

“Data has always been valuable in media,” says Konrad Feldman, the co-founder and chief executive of Quantcast. “Today you can systematically make sense of the characteristics of audiences and, ultimately, consumers.” This means a publisher can modify content and increase relevance for consumers and advertisers.

Feldman, who speaks with the kind of soft North London accent you might hear on a BBC newscast, began his career as a big-data computer science student and researcher at University College London. He was chief executive at Searchspace Corp., which provided terrorist-financing detection and anti-money laundering software to financial service companies. Using his big data background, he co-founded Quantcast in 2006 “to make non-search advertising as relevant as search.”

Advertisers have long “broadcast” the same message to thousands — or millions — of consumers. The digital age, however, demands tailored messages for a global advertising market that media agency Optimedia recently pegged at $537 billion — and growing.

The company’s first offering, Quantcast Measure, provides measurement free of charge. The byproduct: ultra rich data about audiences. The San Francisco company uses artificial intelligence to continuously add more dimensions about relevant audiences. It processes some 30 petabytes of information daily — 15-times the information in all U.S. academic libraries.

The core product, Quantcast Advertise, uses information from Quantcast Measure to help advertisers program the delivery of the right message to the right audience. This allows brands and agencies to evaluate tens of billions of advertising impressions each day to deliver specific, relevant messages.

The approach proved useful to Fiat’s marketing agency, Maxus. Starting with people who had downloaded a vehicle brochure, they were able to analyze other content that potential buyers visited and automatically create advertising campaigns to reach more potential Fiat buyers.

The opportunity to use data management and analytics to link buyers and sellers is just beginning. Quantcast is layering in measurement and analysis of mobile smart phones and tablets, and looks forward to applications for wearable devices and other future platforms. “It’s a really exciting market to be in,” says Feldman. “We are in early days when it comes to creating true relevance across the total advertising market.”

Sponsored by Quantcast
A FEW MONTHS ago Progressive, an insurance company, ran a video ad on Facebook featuring a grown man who acts like a baby and is carried around in a sling. The ad urged youngsters to “act your age” by renouncing their parents’ car insurance and buying their own. When Facebook employees chuckled about it during a meeting, David Fischer, the firm’s 41-year-old head of marketing, wondered why he had never seen it. He was too old, his colleagues said. Progressive was trying to appeal to young drivers, so it served up the ad only to them.

In 1963 David Ogilvy, the father of Madison Avenue and author of a classic business book, “Confessions of an Advertising Man”, wrote: “An advertisement is like a radar sweep, constantly hunting new prospects as they come into the market. Get a good radar, and keep its sweep.” Half a century later advertisers are at last taking him at his word. Behavioural profiling has gone viral across the internet, enabling firms to reach users with specific messages based on their location, interests, browsing history and demographic group. Ads can now follow users from site to site: a customer who looks online for flights to Frankfurt will be inundated with German holiday offers. Conversant, a digital-marketing firm, uses an algorithm to deliver around 800,000 variations of an ad to its big clients’ prospective customers to make it as irresistible as possible. Kraft, a food company, monitors online opinions on its brands in an office which it calls “the looking glass”.

Extreme personalisation in advertising has been slow to come, except in search advertising, where Google, Yahoo and other engines have been serving up ads tailored to users’ interests for years. But now it has arrived in earnest. According to one poll by Adobe, a software company, most marketers say they have seen more change in the past two years than in the previous 50.

In the classic advertising model, firms used to place ads with media that brought together the audiences they were after. They would go for business executives in the Wall Street Journal, for example, or youngsters on MTV. But now advertisers no longer have to rely on media as proxies

Little Brother

Technology is radically changing the advertising business, with profound consequences for both consumers and companies, says Alexandra Suich
for consumers, because they have more tools and data to target precisely the people they want to reach.

The world wide web turned 25 in March, and the first banner ad on it ran 20 years ago, but until a few years ago advertising on the internet did not add up to much. That has changed. Last year online advertising made up about a quarter of the $500 billion global advertising business, and it is rising fast. Some of the 21st century’s most powerful companies, including Google, emerged on the back of it. Companies that used to flourish in pre-digital advertising have struggled to keep up. “Media used to be based on scarce distribution,” says Dave Morgan, an internet veteran and the boss of Simulmedia, a television-advertising company. By contrast, online advertising space is unlimited and prices are low, so making money is not as easy as it was in the offline world, even for digital natives such as Yahoo.

All the same, new entrants continue to join the fray, enticed by the big opportunities they see as well as by the falling cost of starting digital-media businesses. According to eMarketer, a research firm, Americans spend over 12 hours a day consuming media (sometimes concurrently), and digital media account for around half of that total.

Digital advertising is being buoyed by three important trends. The first is the rise of mobile devices, such as smartphones and tablets, which began when Apple introduced the iPhone in 2007. Now more than 1.7 billion people (around 20% of the world’s population) use smartphones.

Mobile devices, which are intimately connected to their owners, have changed the way in which people travel the internet. Users now prefer apps (self-contained programmes on smartphones) to websites’ home pages, and in America they are spending less time on desktop computers. “It took 150 years for the newspaper industry to contract,” says Meredith Kopit Levien, head of advertising for the New York Times. “The desktop industry will contract because of mobile in a tenth of that time.”

The second, related trend is the rise of social networks such as Facebook, Twitter and Pinterest, which have become an important navigation system for people looking for content across the web. “The convergence of social and mobile has given an addressable audience online that’s 100 times bigger than ever before,” says Jonah Peretti, the founder of BuzzFeed, an online news and entertainment site. Social networks hold rich data about their users, who volunteer lots of information about themselves. Facebook and Twitter can also see where else people go online, which can help them sell their users’ attention to advertisers.

The third big development has been the rise of real-time bidding, or “programmatic buying”, a new system for targeting consumers precisely and swiftly with online adverts. Publishers, advertisers and intermediaries can now bid for digital ads electronically and direct them to specific consumers at lightning speed. Jonathan Nelson of Omnicom Group, a large advertising company, says his firm has the chance to bid for around 20m online advertising “impressions” (ads seen by a user) every second. Real-time bidding will spread further as more screens, such as televisions and billboards, become connected to the internet.

The lines between established media businesses are becoming blurred. Richard Edelman, the boss of Edelman, a public-relations firm, describes the media and advertising business as a “mosh pit”. Media companies are producing more content on behalf of advertisers, dubbed “native advertising”. At the same time some advertisers have taken to hiring their own journalists to produce stories, websites and videos. The new advertising-technology (ad-tech) industry is making inroads into the business of traditional advertising agencies. Publicis, a big advertising group, is becoming “much more an internet company than an advertising group”, says its boss, Maurice Lévy.

Look at me

Jeff Goodby, the boss of Goodby Silverstein & Partners, an advertising agency, finds that clients’ biggest question is whether people will even notice their ads. Consumers are dividing their time among many screens, and ever fewer of them are watching TV programmes live. Even so, television advertising has kept its dominance for now because it is one of the few ways to reach a wide audience, especially during live shows and sporting events. But advertisers worry that they could fragment their brands by having to come up with lots of different ads to reach consumers across many media, says Keith Weed, chief marketing officer of Unilever, the world’s second-largest advertiser.

This special report will show that technology is profoundly changing the dynamics of advertising. Building on the vast amount of data produced by consumers’ digital lives, it is giving more power to media companies that have a direct relationship with their customers and can track them across different devices. An entire industry has sprung up around targeted ads. Third-party tracking companies gather information on browsing habits and online purchases, often invisibly. “A site is not one company any more. A site is tens of hundreds of companies all knowing where you are and what you’re looking at,” says Chris Babel of Truste, a firm that provides privacy services. Nikesh Arora, formerly chief business officer at Google and now vice-chairman of Softbank, a Japanese media company, says a race is on to have the best data and become the “intelligence broker”.

Consumers may gain from advertising tailored to their particular needs, and so far most of them seem content to accept the ensuing loss of privacy. But companies are sensitive to the potential costs of overstepping the mark. As the head of one British advertising firm puts it: “Once people realise what’s happening, I can’t imagine there won’t be pushback.”
Our approach to digital can grow your business in entirely new ways.

Today, technology can transform every aspect of your company and every business must be a digital business. Our industry expertise — combined with our integrated digital capabilities — can help you innovate and compete to win. We can manage your digital processes for you and we can also take them to the cloud. It’s all about delivering tangible results from the virtual world. That’s high performance, delivered.

High performance. Delivered.
Data

Getting to know you

Everything people do online is avidly followed by advertisers and third-party trackers

IN “DIVERGENT”, A book series and Hollywood film, humans in a post-apocalypse Chicago are split into five different groups according to their aptitudes and values. All 16-year-olds take a test to be categorised for life. The world of online advertising is not quite as rigid as that, but gathering information about users and grouping them into sellable “segments” has become big business. Data are crucial to the $120 billion online advertising economy.

“This is an information war,” says Omar Tawakol, the boss of BlueKai, a data broker, which tracks users online and sells that intelligence to companies. “This is 100% about having more information about the customer and being able to generate more commerce as a result of it.” The internet has made it much easier to gather data about users because they leave traces wherever they go. Facebook and Twitter accumulate heaps of information, including ages, friends and interests, about people who sign up for accounts and spend time on their sites. Some of it is collected without users being aware of it. For example, Facebook’s “Like” and Twitter’s “Tweet” buttons on other websites carry a code that enables the social-networking companies to track users’ movements even if they do not click those buttons, says Peter Stabler, an internet analyst at Wells Fargo Securities.

The advertising industry obtains its data in two main ways. “First-party” data are collected by firms with which the user has a direct relationship. Advertisers and publishers can compile them by requiring users to register online. This enables the companies to recognise consumers across multiple devices and see what they read and buy on their site.

“Third-party” data are gathered by thousands of specialist firms across the web. “We have this tremendous growth of companies that people do not talk about as household names,” says Mahi de Silva, the boss of Opera Mediaworks, a mobile-advertising company that is one of them. To gather information about users and help serve appropriate ads, sites often host a slew of third parties that observe who comes to the site and build up detailed profiles about those numbered users, there is concern that the information might be traced to individuals. This puts the companies in an awkward spot. They like to boast about their robust tracking and data offerings but do not want to spook users by appearing to know too much. Firms such as Facebook, which have people’s names and other personal information, insist that they respect users’ privacy when selling information to advertisers.

Tag, you’re it

Collecting and dealing with all that information requires a large cast of characters. Data brokers earn their living by helping advertisers and publishers manage their own first-party data, as well as selling them more data about users. They divide them into segments defined by location, device, marital status, income, job, shopping habits, travel plans and a host of other factors, and auction those segments off to buyers of ad space in real time. This segmentation can become highly specialised. For example, eXelate, a data broker, sells “men in trouble”, presumed to have relationship problems because they are shopping online for chocolate and flowers. Another data firm, ix1, sells a segment called “burdened by debt: small-town singles”.

Most consumers have never heard of the companies that make a full-time business of gathering data about them, but they do know some of the firms that do it as a sideline. Forbes, a pub-
lishing company, sells data about readers who visit its site. Political
campaign groups rent out their lists to firms as a way to gener-
ate cash. OkCupid, a dating website, used to sell information
about users’ alcohol consumption and drug use, but says it no
longer does.

Credit-card companies, including Visa, MasterCard and
American Express, all sell anonymised data about their card-
holders to advertising companies. Bidders for advertising space
can go to MasterCard to buy aggregated segments of consumers
who are likely to subscribe to particular telecommunications
services, for example, or stay at particular hotel chains. Ameri-
can Express has an edge, says someone in the data business who
has worked with the company, because it actually issues the card
(whereas MasterCard and Visa are in partnership with banks),
enabling it to put cookies on users when they log in to check their
statements and see where else they go online.

Auctions can also be data mines. Some companies plug
into the exchanges where firms buy and sell advertising just to
glean information about users and publishers. Brokers that buy
and sell advertising, known as ad networks, collect reams of data
across the web. For example, Mindshare, a media buyer, wanted to
find the best place to advertise for its client Kleenex, a tissue
manufacturer. It took part in search auctions to see where people
were Googling for cold and flu remedies, but deliberately kept its
bids low enough to lose. Then it concentrated its marketing on re-
gions where lots of people seemed to have the sniffles.

Companies have always tried to find out as much as they
could about their consumers. Direct marketers used to hunt
through public records, such as birth and marriage certificates
and property deeds, and catalogue companies would sell lists of
their customers to competitors. But the internet has vastly ex-
panded the scope of data collection. Sometimes users explicitly
allow services to track information about them, but often they
are not asked, and the information is gathered by third parties
that can use it without consumers or regulators knowing how.

Firms keep trying to get a rounder picture of users’ lives.
One way of doing that is trying to work out which devices belong
to the same owner. Companies that require users to log in, such as
Facebook, Google and Twitter, have an advantage, because they are able to recognise the same user across devices. Being
logged into the same Wi-Fi also provides a clue.

Companies are also keen to connect the offline and online
worlds. Facebook, for example, has joined with Datalogix, a data
provider, to link purchases in both spheres. Acxiom, one of the
largest data brokers with expertise in the offline world, recently
paid more than $300m to buy LiveRamp, a firm that helps match
offline data about customers with online information.

This is not as new as it sounds. Fifteen years ago Double-
Click, an online-advertising firm that was later snapped up by
Google, bought Abacus, a firm with troves of data about people’s
offline purchases, but privacy advocates kicked up such a fuss
that DoubleClick abandoned the project and in 2006 sold Aba-
cus. The fuss has died down. “The technology has improved, so
it’s easier to anonymise stuff,” says Scott Knoll, the boss of Inte-
gral Ad Science, an analytics firm, who formerly worked at Dou-
bleClick. “Companies are doing it under the radar screen.”

Data firms say they take pains to protect users’ personal in-
formation, and sometimes have trouble keeping track of them.
Privacy-conscious consumers regularly delete their cookies. And
advertisers point out that they do not want sensitive informa-
tion. “I don’t care if you’re cheating on your taxes or on your
spouse. We are not trolling for personal information,” says one
digital-advertising executive. “We are trying to figure out if you
are a high-value customer and are in the market for a car.”

Sometimes advertisers do not use information they have
because they do not want to look as though they are spying on
customers. “We can do more technologically than we’re permit-
ted to culturally,” says Tony Weisman of DigitasLBi, a digital-ad-
vertising firm. Some advertisers wait for a few days before target-
ing users who had been shopping for a particular item because
they do not want to let on how much they know. “We are actively
trying to figure out where the boundaries are,” says Simon Flem-
ing-Wood, the chief marketing officer of Pandora, a digital-music
company. “And in the meantime we’re being conservative.”

Breathing down your browser

The system of data-gathering that underpins online adver-
tising raises several questions. One is consumer privacy. Ad com-
panies say they will not use sensitive personal and health infor-
mation for advertising purposes. But Kate Kaye, who covers the
companies in the finance industry.

Another concern is how to prevent data leakage. Many
companies are wary of giving third parties access to their data in
case they are laxer about security or share it with competitors. In
June Reuters, a news agency, had its website attacked by the Syri-
an Electronic Army through a third-party advertising network
called Taboola which sat on its site. Others worry about a data
breach from perhaps a rogue programmer who could de-anony-
mise the vast amount of information firms have collected. “The
question becomes, who is policing that? And are those checks
and balances really there?” asks Mr Knoll of Integral Ad Science.

As more information is attached to cookies and devices, it
becomes easier to identify users, says Ed Felten, a professor of
computer science at Princeton University. Mr Felten and others
have shown that, given enough information, anonymous data
sets can be de-anonymised. One study found that it took only
two data points to identify more than half the users. “The idea of
personally identifiable information not being identifiable is
completely laughable in computer-science circles,” says Jona-
than Mayer, a Stanford University computer-science researcher.

Besides, different countries have different standards of
what data count as personal information. Germany forbids any
marketing to people of specific ethnic groups or political affili-
ations without their consent, but America does not. More broadly,
in Europe an e-mail or IP address is considered personal,
whereas in America it might not be. Data-gathering and digital
marketing there have largely escaped the regulator’s grip, except
in the finance industry.

Regulators around the world increasingly find that technol-
ogy has outrun them and are trying to catch up. In Europe a new

“We can do more technologically than we’re permitted to culturally”
privacy directive, now being drafted and likely to come into effect in 2016, will introduce extremely strict (some say stifling) rules on data collection that will apply across the European Union. Websites already have to make it clear to users that third-party cookies are tracking them. Even in China, where individuals’ rights have not loomed large, President Xi Jinping has asked his prime minister to look into data security and privacy issues.

In America a government proposal to make it harder to track people online has fallen flat. Instead, under the digital-advertising industry’s system of self-regulation users can go online to opt out of being targeted with ads (but not of being tracked). Ads delivered by firms that have signed up to the self-regulation programme feature a small “Ad Choices” icon on which people can click to opt out, though according to Chris Babel of the Centre for Digital Democracy, only 0.00015% of those who see the icon take advantage of that option. And users who delete their cookies are automatically opted back in and keep having to repeat the process.

Some American advertising executives see more regulation as inevitable, especially in relation to third parties and data brokers. According to Jim Halpert of DLA Piper, a law firm, who co-chairs its global data-security practice, “the issue is not advertising. It is rather that some entities can sell lots of information about individuals without those individuals knowing about it.” There is very little oversight of how this information is used or where it is sold. Annual audits of third-party data collectors could help ensure that the information is used fairly, says Mr Halpert. So far concerns about unfair practices have been raised mainly by academics, tech geeks and some vigilante consumers, not the public in general, but that may be because most people do not even know that they are being followed.

Smartphones and tablets

Moving targets

What advertisers love, and what they hate, about mobile devices

MARKETERS’ MANTRA OF reaching “the right person, with the right message, at the right time” has become a lot more achievable in the past few years. Mobile devices, unlike desktop computers, are typically used by only one person, which is a great help to advertisers who want to target specific users. Being closely connected to people’s personal lives and daily habits, the mobile device is the true “mini-me”. This year, for the first time, Americans will spend more time on mobile devices (not counting talking) than they do on desktop computers. In Britain that tipping point will probably be reached in 2015.

Global spending on mobile advertising has advanced rapidly, nearly doubling to $9.3 billion between 2012 and 2013, according to the IAB, an industry group. Mary Meeker, an internet analyst at Kleiner Perkins, a venture-capital firm, has noted that advertising on mobile devices has not kept pace with the amount of time people spend on them. In the next few years mobile will be the fastest-growing part of internet advertising.

From a commercial point of view, a mobile’s best feature is its location-tracking capability, which shows exactly where the phone is. Advertisers are experimenting with “geofencing”, which allows them to reach people within a particular area. For example, 1-800-Flowers, a flower retailer, has tried sending ads to mobiles within driving distance of a shop. Pantene, a shampoo brand owned by Procter & Gamble, got together with the Weather Channel to target people with ads for specific hair products to suit the weather in their postcode.

Beacons—small wireless devices that use radio signals to communicate with nearby mobile phones and tablets—will become an integral part of in-store marketing within a couple of years, says Ann Lewnes, chief marketing officer at Adobe, a software firm. Some retailers, including Duane Reade, an American drugstore, and Tesco, a British retailer, are already testing them. Beacons can communicate with apps to offer consumers coupons and deals. Within large stores they could also help with mapping and navigation.

Advertisers are also starting to think about other special features of mobile phones. One of them is voice-recognition technology, which would enable consumers to talk back to ads, says Michael Barrett of Millennial Media, a mobile-ad exchange. In India, where not many people have smartphones, companies such as Facebook are experimenting with “missed call” ads, which allow a user to make a brief call to an advertiser and get him to ring back with an ad along with some entertainment, such as a sport score or music.

Too small to count

In spite of the attractions of mobile advertising, there are several reasons why companies are proceeding with caution. Some worry about the accuracy of the data they work with, including location and demographic information, because mobile is so new. Smartphones’ small screen size, too, remains a problem, which helps to explain why mobile-advertising rates are lower than those for desktop display. Mobile consumers do not pay much attention to “baby banners” at the bottom of a screen, and spend less time on long-form content, which reduces their tolerance for long video ads. Ads that encourage people to download apps account for a large proportion of mobile-ad spending. Firms have had to retool their advertising offerings for mobiles to allow for the small screens and the different way that people use them. Google has introduced a format that allows users to ring firms whose ads pop up when they search.

Most firms have found that people engage more with “native” ads—which camouflage as content within apps—because they have to scroll through them when reading, and the small screens make it hard to spot the tiny icons indicating these are “paid posts”. But even on desktops the line between content and advertising has become less distinct. Ben Edelman, a professor at Harvard Business School, notes that over the past decade the yellow background which used to mark the ads in Google’s search

Way to go

Time spent on digital media in the US, %

Source: ComScore

The Economist September 13th 2014
results has faded every year and has now disappeared altogether. These days search ads just show a miniature “ad” icon.

Consent to being tracked is more complicated on mobile phones, where firms’ privacy policy (assuming they have one) comes in very small print, and many consumers are not tech-savvy enough to know when their location is being monitored, even if they have agreed to it.

Some apps do not make it easy to tell how they collect information and with whom they share it. America’s Federal Trade Commission has already brought a handful of cases, including against Path, a social-networking app that was taking information from address books on people’s phones, including names and numbers, without their consent or knowledge. Another one was against Goldenshores Technologies, a firm whose free flashlight app did not tell consumers that it was sharing location information with third parties, including advertising networks.

Beacons will cause new complications, because they can open up apps without a user’s express permission. “No one has yet defined what is ok from the standpoint of consumer privacy, because mobile is a brand new platform,” says Adam Foroughi, the boss of AppLovin, a mobile-marketing company. “Nothing has been regulated.”

Most importantly, advertisers are worried about annoying their customers. Consumers have come to expect (if not welcome) advertising on desktop computers, but not on their phones, which they regard as more personal. “I don’t want to cross the line with a client and repent for making a mistake. There’s no commercial upside to that,” says John Wren, the boss of Omnicom, the advertising company. So advertisers are proceeding with caution.

---

**Programmatic bidding**

**Buy, buy, baby**

**The rise of an electronic marketplace for online ads is reshaping the media business**

JONA MICI, A 27-year-old media trader, sits in front of her screen at Varick Media Management, a real-time advertising company in New York, and explains how she uses superb algorithms to buy 20m-30m advertising “impressions” a day. Today one of her clients, an American bank, has asked her to find new customers. At first she guides the algorithm to buy as many impressions as possible near bank branches. Then she narrows her targets, choosing criteria that produce a better hit rate. For example, she finds that tablet users sign up more often than iPhone users, and afternoon seems to be a better time than morning. She instructs the algorithm to bid more for consumers that have recently visited the bank’s website, who may be more easily persuaded. In her office less than two miles from Wall Street, Ms Mici embodies the excitement and entrepreneurialism of an industry in the midst of momentous change.

The advertising industry is going through something akin to the automation of the financial markets in the 1980s. This has helped to make advertising much more precise and personalised. Some advertising agencies and media companies have told their executives to read “Flash Boys” by Michael Lewis, a book about Wall Street’s high-speed traders, to make quite sure they get the message.

---

**Getting real**

Global real-time bidding revenue, $bn

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia Pacific</td>
<td>0.5</td>
<td>1.5</td>
<td>3.5</td>
<td>6.5</td>
<td>12</td>
<td>25</td>
<td>35</td>
<td>45</td>
</tr>
<tr>
<td>Europe and Middle East</td>
<td>0.5</td>
<td>1.5</td>
<td>3.5</td>
<td>6.5</td>
<td>12</td>
<td>25</td>
<td>35</td>
<td>45</td>
</tr>
<tr>
<td>Americas</td>
<td>0.5</td>
<td>1.5</td>
<td>3.5</td>
<td>6.5</td>
<td>12</td>
<td>25</td>
<td>35</td>
<td>45</td>
</tr>
</tbody>
</table>

Source: International Data Corporation

Real-time bidding sounds high-tech but straightforward. When a consumer visits a website, his browser communicates with an ad server. The server sends a message to an exchange to provide data about that user, such as his IP address, his location and the website he is visiting. Potential ad buyers send their bids to the exchange. The highest one wins and an ad is served when the website loads. All this typically takes about 150 milliseconds.

In reality, though, the ad-tech ecosystem is stupefyingly complex. Luma Partners, an investment bank, has put together the “Lumascapes”, a bafflingly crowded organisational chart showing several hundred firms competing in this market. Sellers of advertising space often go through technology firms: a “supply-side platform” (SSP) helps publishers sell their inventory, and a “demand-side platform” (DSP) gives access to buyers. Many choose a data-management platform (DMP) to store and buy information about users. Ned Brody of Yahoo, an internet company, makes light of all the three-letter acronyms: “It usually ends with wtf,” he quips.

Real-time bidding is a form of “programmatic” buying, which means using computers to sell advertising space. An advertiser can buy a certain number of impressions on a website in advance at an agreed price and execute the order by computer, avoiding the need for paperwork, spreadsheets and faxes. The technique was first used over a decade ago in search advertising, in which advertisers bid for search terms entered by users, and
Google and other companies serve relevant ads alongside the search results.

Over the past 18 months real-time bidding has spread across the web. According to IDC, a research firm, around 20% of online display advertisements in America are now sold this way; by 2018 that figure is likely to rise to 50%. Online video and mobile ads, too, are increasingly traded in real time. “Ten years ago you would never have had the information technology cheap enough to do these transactions,” says Mike Driscoll, the boss of Metamarkets, an advertising-analytics platform.

A study by BCG, sponsored by Google, found that advanced behavioural targeting, which uses technology to reach specific users with the desired characteristics, helped advertisers increase their return on investment by 30-50%. One popular tactic is “retargeting”, which allows advertisers to look for people who have visited their website before and show them an ad related to an item they were looking for but did not buy.

So far programmatic buying has taken hold mainly in America, which accounts for around a third of global ad spending, along with Britain and continental western Europe, but it is set to become a global trend. Singapore is already home to several ad-tech firms. China, which will overtake Japan to become the set to become a global trend. Singapore is already home to sever-

For all its promise, programmatic buying has not yet delivered on greater transparency and efficiency.

Wait for it

For all its promise, programmatic buying has not yet delivered greater transparency and efficiency. Advertisers and publishers complain, not without cause, about a “technology tax”, claiming that 60-80% of ad spending is siphoned off by ad-tech firms which take advantage of the market’s opacity.

But these are early days. “We are only where search advertising was in 2001,” says Konrad Feldman of Quantcast, a real-time advertising firm. Over time the system will become more streamlined and sophisticated, just as the finance industry did after it went electronic. Some companies, including AOL and Google, are already trying hard to become the one-stop shop that provides everything needed to buy ads across the web. Venture capitalists are also scouring the terrain. In the meantime advertisers need to watch out. Curtis Houghland, the boss of Attention, a social-media agency, advises clients not to sign contracts for more than six months because technology is changing so fast.

The rise of real-time bidding is important because it offers a glimpse of how other ad-supported media may change over time. As more devices, including television sets, radio and outdoor billboards, become internet-equipped, a market for advertising space that can be bid for will spread to other industries, eventually even to television. And in the longer term the coming “internet of things”, such as connected homes and cars, could be powered by a system similar to programmatic buying. According to John Battelle, an entrepreneur, “media are laying the trace path for how we interact with information-based services in every category of endeavour.”

Advertising agencies

Leaner and meaner

Technology has made life harder for admen, but they will not disappear

GAUGING THE STATE of health of the advertising industry is easy; just stroll along the waterfront in Cannes when the admen hold their annual gathering in June. These days the prime beachfront tents are occupied by technology companies like Google, whereas once-storied agencies, such as Ogilvy & Mather, are relegated to dark, signless buildings, away from the sun and sand. Lee Bristol, a senior executive in the early days of Bristol-Myers Squibb, a pharmaceutical company, once said he could sum up an adman in five words: “Yes, sir! No, sir! Ulcer!” Now advertising executives are even more stressed by the twin afflictions of increasingly stingy and independent clients and powerful new competitors.

Margins have become slimmer across the industry, both in creative services (coming up with slick ads) and in media-buying (securing the spots where ads run), which has been hit by real-time bidding. The four large holding companies—WPP, Omnicom, Publicis and IPG—own agencies that do both.
Miles Young, the boss of Ogilvy & Mather, is putting on a brave face, claiming that technology has been a boon to creativity and enabled agencies to come up with ideas and campaigns that would not have been possible before. But there are probably more agency bosses who see their martini glass as half empty.

Coming up with an enduring campaign like “A diamond is forever” used to keep an agency nicely fed and watered for almost an eternity. Jeff Goodby at Goodby Silverstein & Partners fondly remembers the “three and out” era, in which agencies would produce three ads a piece for print, TV and outdoor and get paid handsomely. Digital media are much trickier and the pace is much faster. Brad Jakeman of PepsiCo, a drinks company, says his firm used to give agencies between four and six months to produce a piece of content and would pay between $700,000 and $2m for each of them. “Now we need an agency that can produce content in days, with each piece costing $50,000-$15,000,” he says. Clients are also working with fewer agencies. Until fairly recently General Motors was using 70 agencies to advertise its cars; now the number is down to three.

The rise of the internet and ad-tech services has encouraged some large advertisers to set up their own ad-buying departments. Technology firms, including Adobe, Oracle, Salesforce and IBM, offer software that can do some of the things agencies used to charge for, though Brian Wieser of Pivotal Research Group, which studies the industry, says this probably accounts for only 5% of the ad-agency business.

The mad men know they have to hire maths men, but putting two and two together can be harder than it sounds. Clients want their agencies to be tech-savvy, but Bob Ivis, Mindshare North America’s chief data officer (a new role at agencies), has lamented his industry’s “Bermuda triangle”: “Ideas vanish out of thin air because they are brought down by the lack of talent, infrastructure and business model.” This summer the only interns Mindshare hired in America were maths experts—and it can be hard to attract the best talent without the pay of Wall Street or the glitter of Silicon Valley. This is true even in China. An advertising-agency boss in Beijing says that talented engineers want to work for electronics companies.

Safety in smaller numbers

Now agencies are looking for salvation in mergers. Last year Omnicom and Publicis announced plans to merge to become the world’s largest advertising holding company. The deal fell apart earlier this year because of personality clashes, but more consolidation is likely. Sir Martin Sorrell, the boss of WPP, predicts that within five years there will be even fewer independent advertising firms. Michael Roth, the boss of IPG, says matter-of-factly: “We’re the next one to be consolidated.”

The ad-tech firms are gleefully forecasting the imminent demise of Madison Avenue’s middlemen, but they may be wrong, for two reasons. First, ad tech has introduced so much complexity into the business that clients may want to hold on to agencies for advice, and agencies’ creative services are likely to remain in demand when brands are having to churn out so many different pieces of content.

Second, the prediction that technology companies like Google will start to compete head-on with the agencies is likely to prove wrong. To provide full client services they would need to hire thousands of new employees, for limited gains. Google’s margins this year are expected to be around 50%, whereas WPP’s are forecast at just 17%—and that is for the largest and one of the most successful advertising agencies. Perversely, the agencies’ mediocre returns may protect them from being wiped out by nimble competitors. Their tents in Cannes may no longer have the best views, but the admen will still be there.

Publishers

Virtual beauty parade

Technology has put the squeeze on publishers in online advertising

BREAKFAST CEREALS ARE usually harmless enough, but Kellogg’s, which makes a lot of them, has become many publishers’ worst nightmare. Starting in 2009, the firm began to pour a lot of money into digital advertising, and today it spends around 25% of its $1.1 billion advertising budget online. That should be cheery news for digital publishers, but it has not worked out that way.

Behavioural targeting and programmatic buying have allowed Kellogg’s to find the users they want to reach more easily and for less. It has now established a price benchmark of $0.40 per 1,000 impressions, down from around $12 just a few years ago. “Data have allowed us to find that audience at that price,” says Jon Suarez-Davis, the company’s vice-president of digital strategy. In the longer run the new techniques should allow Kellogg’s to cut its spending on advertising, because digital involves less waste.

Publishers on the internet make money from advertising, subscriptions or a combination of both. Many are newspapers and traditional media companies that have moved into the digital age (such as The New York Times or CNN in America and the Guardian in Britain). Others are internet-born, producing content or hosting information (such as Facebook, Google’s YouTube and Yahoo). Competition for online advertising is fierce. The supply of ad space on the internet is virtually infinite. Demand, on the other hand, is limited.
Behavioural targeting has complicated media companies’ lives because it has made their once-vital role of aggregating audiences for advertisers much less important. Advertisers can now find the specific users they want for themselves. The media model has become “demand-led versus supply-led”, says Nigel Morris at Dentsu-Aegis, an advertising agency. Companies still care about the context in which their ads appear online, but much less so than they used to under the traditional model. “I am looking first for the consumer, second for the ad products that let us get attention and third at the publisher,” says Tarig Shaukat, chief marketing officer at Caesars, a casino and hotel chain. And real-time bidding has “hammered” many upmarket publishers by reducing their prices, according to Henry Blodget, the boss of Business Insider, a news website.

Local newspapers have already suffered from a precipitous decline in classified advertising, much of which has moved to Google. The new advertising technology is inflicting further damage on them because online bidding allows advertisers to see where users live. “Local isn’t valuable any more,” says Richard Frankel of Rocket Fuel, a firm that uses algorithms to buy advertising space for clients. “Anyone can sell local.”

Make it special

The advertising market is splitting into two. Digital advertising has become increasingly commoditised, with online space being sold more cheaply on exchanges. To compensate, publishers are investing more in creating unique content for advertisers that can command higher prices. It is a bit like a chainstore circuit manufacturer adding a bespoke tailoring unit.

“Content marketing”, as this is called in advertising circles, can take different forms. Red Bull, an energy drink that has pioneered this trend, produces videos of extreme sports and hosts events. Chipotle, a restaurant chain, has produced a satirical online show about industrial farming. “Native” advertisements, often deliberately made to look like editorial content, are becoming more popular because consumers tend to spend more time looking at them.

Websites that require users to log in enjoy an advantage because they know quite a lot about them. “You’re not a fake fleeting instance of you. You’re you,” says Brian Boland at Facebook. “You’re the same you on your desktop, your iPhone or your Android.”

Advertisers also like publishers with scale. The internet has transformed expectations about the number of people who can be reached through a single publication. The New York Times’s 31m monthly online users pale by comparison with Facebook’s 1.3 billion. The combination of size and knowledge about consumers has given tech giants an edge in online advertising. Google and Facebook alone controlled over 47% of all digital advertising in America last year, according to eMarketer, and over 57% of mobile advertising.

Technology companies are engaged in three races to accumulate even more power. The first is to serve advertisements on websites other than their own. They have been involved in a slew of deals to broaden their reach. Last year Twitter bought MoPub, a mobile-ad firm, for a reported $350m, which will help it serve ads to users across mobile applications. In July Yahoo acquired Flurry, which specialises in analytics for mobile apps.

The second is to invest in measurement systems that allow them to demonstrate the effectiveness of their online advertising. In May Google and AOL each bought a measurement firm (Adometry and Converso, respectively). Facebook has formed a partnership with Datalogix, a data broker, to try to connect its online advertisements with offline buying.

The third is about who will create and own an “uber identity” which consumers can use to manage their online activities across websites. Google and Facebook both passionately want to win this race. Mobile consumers can already use their Facebook account to log into around 80% of the most popular mobile apps. This gives Facebook a head start.

Google dwarfs Facebook in revenue as well as in diversity. It serves ads on behalf of publishers and advertisers not just on its own sites but across the web. It owns Android, the world’s most popular mobile operating system, as well as YouTube, the world’s most popular digital video service. It is trying to get users to join its Google+ offering, which manages all Google services via a single log-in. As with its search results, Google is trying to predict what its customers might want before they even know it so it can get closer to them. In China Alibaba, an e-commerce giant, has built up a strong advertising business by showing ads from merchants that sell goods on its platform. Amazon, which holds huge amounts of data, is starting to invest more to scale up its advertising business and compete head-to-head with Google.

Next year “Mad Men”, a television drama about the advertising business, will air the final episode of its final season. It has been wildly popular, but the end is nigh. The talk around the watercooler now is about “Silicon Valley”, a show about tech geeks and their quest for wealth. Television audiences have a good nose for the next thing.

Cracking the screen

Online video is flourishing, but it is not about to kill television

Online-video ads are good for internet advertising: they are richer and more engaging than banner ads, and advertisers like them. But online video is not about to unseat TV. Advertisers want to reach young consumers, who watch lots of content on the internet, but they do not want to miss older ones, who still watch plenty of television. And it is a myth that younger consumers have more discretionary spending than older ones, says Claire Enders of Enders Analysis, a media consultancy. In Britain, people over the age of 45 control 70% of the nation’s disposable income.

Contrary to what you might expect, online video can be more expensive than television ads per thousand impressions, because so little high-quality ad space is available. Advertisers still fret about the risk of a digital debacle. Last year Nissan inadvertently ran an ad alongside a video of a woman being beheaded in Mexico.
The world wild web

Technology has transformed advertising, but consumers need to be kept on board

“HAVE YOU EVER clicked your mouse right here?” asked the first banner advertisement in 1994. “You will,” it confidently predicted. These days advertisers are feeling less certain of themselves. They are still trying to come to grips with the radical changes technology has brought to the way advertising is consumed, sold and personalised.

If technology can help advertising become more relevant, clever and innovative, that is worth celebrating. Firms such as Facebook, which gives each consumer a different landing page with updates about their friends, and Google, which tailors search results to what the system knows about the user, have shown that personalised content can have great appeal. The same idea might work for advertising.

But advertisers and data firms have to be careful. When consumers sign up for services like Facebook and Google, they have a fair idea that information about them might be used in all kinds of ways, though few of them are aware of how much tracking goes on. Yet when online data are gathered by third parties, making it possible to target ads across the web, it is often done without consumers’ consent or knowledge and with few, if any, checks and balances.

Brand owners are trying to harness technology to help them understand their customers better without making them feel they are being spied on. The boundaries are shifting all the time. In “Minority Report”, a science-fiction film with Tom Cruise made in 2002, screens recognise people’s eyes and show ads tailored to particular individuals. That no longer seems all that outlandish. Conversely, web users have adjusted their online behaviour in response to revelations about government spying made by Edward Snowden, who used to work for America’s National Security Administration and subsequently leaked large quantities of documents. According to one study, people are now less likely to search for sensitive information online.

Michael Fertik, the boss of Reputation.com, which sells online-privacy services, thinks there will be a “Michelangelo” moment in response to the clandestine collection of consumer data, a reference to the Michelangelo software virus infection in 1992 that prompted people to invest in anti-virus software.

A study by BCG suggests it is a myth that youngsters are more comfortable than older people with sensitive data about them being collected online. The privacy of personal data remains a big concern for around 75% of consumers in most countries. American and European consumers share similar views about online privacy—although their respective regulators do not.

Gathering and sharing data will become ever more complex as more digital devices collect information about users and more media connect to the internet. Consumers already trust their mobile devices with written communications, credit-card details, personal apps and more, and will continue to use them for ever more online purchases. The coming internet of things, which will connect objects ranging from fridges to shoes to the web, will complicate things even more because it will generate vast additional quantities of personal information. “If you thought there were a lot of data on the internet today, you ain’t seen nothing yet,” says Andy Hobsbawm of EVRYTHNG, a firm that works in this field.

What price privacy?

That makes it all the more important to set up a system of rules for online data collection and advertising. Christopher Soghoian, a privacy activist, suggests that consumers could start a “fair data” movement, in the vein of “fair trade” campaigns. They could support firms with transparent and ethical policies on data-sharing, privacy and security, in the same way that they might choose to give their business to firms that were more considerate to their employees and to the environment. Verizon, a wireless company, recently launched a programme offering subscribers discounts and other deals if they agree to share information, such as browsing activity and location, and accept that it will be used for targeted advertising.

In future there might be two options for targeted advertising, says Clement Tsang, an online-advertising executive in China, just as there is now talk of creating a two-tier internet, with a free slower version and a paid-for faster one. Consumers could continue to get free services from Facebook, Google and others on the understanding that their personal data will be collected and used; or they could pay a monthly fee to ensure the site did not track them.

For most of the quarter-century that the internet has been around, it has relied on advertising based on extensive consumer tracking across the web. So far people seem to have been willing to put up with that. Until they start protesting, David Ogilvy’s radar will keep sweeping.