How the Largest Commercial Web Sites Got That Way

BY ROBERT W. HAHN
AND HAL J. SINGER
Are you worried that Google will lock up the market for Internet searches for good, or that Facebook will swallow social networking whole? It might happen.

But we think it’s almost pointless to talk about the competitiveness of Internet industries (and, arguably, information technology as a whole) without factoring in the speed and impact of innovation, and equally pointless to consider regulating them using old-fashioned rules of antitrust law. Google convinced the Federal Trade Commission of this verity; the investigation of Google’s search practices was dropped in January. Now, we’ll try to convince you.

Innovation on the Internet is qualitatively different from that in most industries: content providers often leapfrog rivals by offering brand new technologies, rather than by making established products better or cheaper. This difference suggests that the health of competition of the Internet and other supercharged industries that live or die through innovation cannot be analyzed without accounting for the possibility of big changes that are not readily foreseeable. Moreover, repeated episodes of market invasion – whether it is Google challenging Facebook or Apple muscling Google – imply that analyzing the domains of the Internet giants as separate fiefdoms doesn’t make sense. By the same token, interfering with competition that is based on leaps of technology and marketing rather than incremental change is likely to generate significant societal costs in the form of slower innovation. Here, we look more closely at four Internet success stories and their implications for regulators.

THE FAB FOUR

These four Internet giants, with a combined market capitalization of close to $1 trillion as this was being written, have succeeded in diverse ways. But all of them illustrate how different dynamic competition is from the “static” models taught in Antitrust 101.

Amazon led the online shopping revolution – and not just for electronics that consumers need not see in person to buy, but for just about everything. The key to the revolution was building trust. First, the company had to convince consumers that their billing information was safe in the hands of anonymous employees. Later, Amazon got its customers to participate in public conversations about products they bought through the company. Among other benefits to Amazon, these reviews now draw heavy traffic (potential customers) to the site via Internet searches. Just 15 years after it opened its proverbial doors, Amazon is generating $60 billion in revenues annually, selling everything under the sun. And the beat goes on: it has recently made large bets on its Kindle line of multimedia tablets, cloud-hosted business services and digital video and music sales.

Apple. Born around the same time (1976) as Microsoft and Oracle, Apple might be thought of as part of the old guard of today’s online titans. But Apple, like Google and Facebook, rightly belongs to an elite group of companies that dislocated established industries and created new ones.

For the 11 years (1985 to 1996) that Steve Jobs was outside the company, Apple was a niche computer maker. But since then, Apple has replaced ExxonMobil as the world’s most
valuable company by means of innovation in technology, design and marketing. Apple didn’t make the first portable digital music player. But the iPod, with its minimalist, user-friendly design and miniaturized hard drive, dramatically expanded the market, while its iTunes online music store fundamentally changed the way entertainment was marketed. Apple was late to the cell-phone party, but transformed it with the iPhone. By the same token, portable multimedia devices existed before the iPad. But Apple dramatically broadened their functions and market.

Facebook. Social networking has been integral to the Internet since its beginning. It grew organically with the technology, beginning with networked bulletin board systems and Usenet for nerds, moving to AOL’s AIM instant messaging, which allowed anyone to join the conversation, then to Friendster (2002) and its clone, MySpace (2003).

Facebook began in 2004 as David to MySpace’s Goliath. But it was able to surpass MySpace and later annihilate it, thanks to a revolution in social-networking culture. While MySpace was doubling the ads on its site, Facebook was offering an uncluttered opportunity to connect with real-life friends rather than meeting people anonymously online. What really made Facebook so valuable to advertisers, though, was its Like button innovation, which, in the words of a former hedge fund manager, Andy Kessler, “transformed the company from a somewhat interesting social network into a major media player.” The Like button appears on every status update and every photo and video user’s post, listing the people who have clicked on it and providing the crowd’s seal of approval to advertiser’s products and services.

Google. In 1998, Fortune magazine declared: “This much is clear: Yahoo! has won the search engine wars and is poised for much bigger things.” Yet, just a few years after Google’s debut as a garage-based startup – and without advertising its availability – it had toppled the entrenched search engines of the day. When Larry Page and Sergey Brin began building what would eventually turn into the

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Today, everyone is in everyone else’s face. As Facebook’s Mark Zuckerberg explained, “Our goal is not to build a platform – it’s to be across all of them.”

**Search and Recommendation**

Google Search and Facebook appear to operate in different product spaces, but that is too static a view. The fight between the two companies is over consumers’ eyeballs and the advertising dollars that follow them. One way of understanding Google’s and Facebook’s diverging business models for attracting viewers is to consider that Google users see advertisements when they search, whereas Facebook users see ads as they browse their friends’ recommendations.

Another key dimension of Internet competition is whether to use an open or closed network. Because Google generally does not require users to log in to access its search application, Google’s Web site is considered relatively open. Even for focused searches, Google typically gives users the option of clicking on third-party sites. In contrast, Facebook, Amazon and Apple have embraced a more closed platform – closed in the sense that users are steered toward the Web site’s affiliated content. For example, Facebook users cannot see content posted by users in a rival social network.

With its Kindle Fire tablet, Amazon used Google’s Android software to create a “walled garden” for Amazon’s media portfolio. Although Amazon users can purchase content from third-party publishers, they cannot purchase a movie or book from a rival Web site (like iTunes) once they are inside Amazon’s store. Similarly, although Apple users are free to download apps from third-party software providers, a disproportionate share of the apps in the “featured” category on the App Store is made by Apple.

**MOVEMENT AMONG TOP 50 U.S. WEB PROPERTIES, JANUARY 2008 THROUGH JANUARY 2012**

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<td>17</td>
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<td>29</td>
<td>37</td>
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<td>31</td>
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<td>32</td>
<td>41</td>
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<td>34</td>
<td>29</td>
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<td>36</td>
<td>30</td>
<td>39</td>
<td>43</td>
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<tr>
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<td>37</td>
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<td>38</td>
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<td></td>
<td></td>
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<tr>
<td>Real.com Network</td>
<td>39</td>
<td>40</td>
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<td>40</td>
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<td>41</td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td>42</td>
<td>50</td>
<td>26</td>
<td>27</td>
</tr>
<tr>
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<td>43</td>
<td>45</td>
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<tr>
<td>NBC Universal</td>
<td>44</td>
<td>48</td>
<td>38</td>
<td>45</td>
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<td>Best Buy sites</td>
<td>45</td>
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<td>46</td>
<td>28</td>
<td>34</td>
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<td>47</td>
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Social Networking
Not to be left out of the party, Google has deployed Google+ in its push to catch up on the social Internet. The primary difference between Google+ and Facebook is the difference in their sharing models. Facebook’s, for the most part, should be classified as a “symmetric” sharing because “friending” is reciprocal – that is, two Facebook accounts only connect if one user approves the friend request of the other, or vice versa. By contrast, Google+ (as well as Twitter), allows users to see and follow the posts of others without their approval. Google+ also has other unique features like “Hangouts,” which allow multiple parties to join a videoconference simultaneously.

So far, Google+ has had only limited success; it remains far behind on the important metric of user time spent on the site. But the company has repeatedly emphasized Google+ is a long-term investment and it knows that making significant headway in Facebook’s territory will take time.

Media Content and Mobile Devices
It is one thing to induce users to purchase content at your store and another to have them purchase your content and to use your device to access the Internet. In this sense, the fight over Internet revenues is about more than just advertising dollars; profits from the sales of media, software and hardware are also at stake. The leading Internet firms, as well as innumerable start-ups, compete to deliver books, music, movies, TV shows and games over a variety of devices. Furthermore, both shopping and Web views on these devices feed the data-hungry algorithms that power Google’s and Facebook’s advertising systems, as well as Amazon’s product-recommendation system.

Apple, the most vertically integrated of the big four, has a lineup that runs from hardware (Macs, iPads, iPhones, iPods), to the online App Store, to iTunes and iBooks. David S. Evans, an antitrust expert, posits that Google’s vertical integration into non-search products and mobile software (and more recently, hardware with the Nexus tablet) is designed “to ensure that nothing comes between them, the advertising space, and the eyeballs looking at the space.”

Amazon’s vertically integrated offerings include its Kindle Fire tablets – running its own customized version of Google’s Android – as well as its music, e-book and Android app markets. Google has Android, a slew of online applications including e-mail, maps and an office-productivity suite. And it has recently introduced Google Play to combine its e-book, music, movie and Android app stores across users’ devices in direct competition with the iTunes/App Store/iBooks lineup.

Perhaps in response to Facebook, Apple integrated Twitter into its latest iOS version. And perhaps in response to Apple and Amazon, Facebook has collaborated with the likes of Spotify and Netflix to offer music and movies directly through the Facebook site. Moreover, with the exception of Amazon, each of these companies offers video calling – Google Talk and Google+ Hangouts, Apple FaceTime, and Facebook’s partnership with Microsoft’s Skype unit.

Rethinking Market Power
Traditional structural-competition analysis –
defining product markets and computing shares to infer market power at a moment in
time – is now regarded skeptically by anti-
trust practitioners on both sides. Market
shares may be misleading in the presence of
rapidly changing technology and consumer
tastes. Antitrust analysis in the case of dy-
namic industries therefore plays down struc-
tural characteristics in favor of direct evi-
dence of market power.

High market shares may be indicative of
market power, especially when entry barriers
are high and products are more or less iden-
tical: if all widgets are alike, and U.S. Widget
has 70 percent of the market and it costs $1
billion to build a widget mill, it is likely that
U.S. has market power. Of course, one cannot
compute market shares without first defining
the relevant market, and this is frequently
difficult.

In defining markets, the Department of
Justice and Federal Trade Commission Merger
Guidelines ask whether a hypothetical mo-
nopoly provider could profitably raise prices
above competitive levels. But there is simply
no clear relationship between a dominant
firm’s market shares and its pricing power
when products are not easily compared com-
modities. And, without question, Internet
products and services are far from homoge-
neous. Internet empires are not toppled by
newcomers selling the same-old, same-old at
a lower price. Indeed, most of the competition
for Internet users is competition over users’
time rather than cost. Accordingly, market
definition in the Internet space is plagued
with difficulties.

To assess the pace of change in Internet
markets, we tracked the rankings of the top-50
U.S. Web properties, as measured by visits, from
January 2008 through January 2012. The point of
the exercise is to show that today’s rankings are a poor predictor of tomor-
row’s. For example, Facebook moved from

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16th to 4th, while Fox fell from 5th to 37th.
Indeed, only 31 of January 2008’s top-50 com-
panies remained in the top-50 by January 2011.

Note a second big problem with applying
static analysis to the Internet. It is tempting to
measure the market share of a given Web site
in terms of unique visitors within a given cat-
egory, such as search or social networking.
For example, Google’s share of search engine
queries is often cited as evidence of Google’s
market power. But this assumes search is a
relevant antitrust market. And for that to be
true, it must be the case that users (or adver-
tisers) do not perceive Web sites in one cate-
gory to be reasonably interchangeable with
Web sites in another.

Focus on that seemingly straightforward
case of search engines. According to Hitwise,
a source of Internet data, Google received 66
percent of queries to all general search en-
gines in the United States in January 2012.
But Web users have broader choices: they can
initiate a search (say, for travel) on a general
search site like Google or Bing, or on a specialized travel site like TripAdvisor.

Specialized search engines both cannibalize visitors from traditional search sites and generate new searches that otherwise would not have been initiated. According to comScore, another Internet-analysis company, searches that take place on traditional search engines account for less than half of all searches. A search for people may be initiated from Facebook or LinkedIn; a search for restaurants on Yelp or OpenTable; a search for travel on Kayak, Travelocity, Expedia or Orbitz; a search for houses on Zillow or Realtor.com. Indeed, only 20 percent of travel searches stem from general searches. Yelp’s chief executive, Jeremy Stoppelman, recently noted that while Yelp still gets a lot of traffic from Google, consumers are increasingly navigating directly to Yelp through its own mobile app. And because users can easily substitute among these alternatives, specialized search products and generalized search may be part of the same market. It bears noting that none of these search engines charges consumers; if they did, most of us would expect users to switch to rivals – implying that no general search provider has pricing power vis-à-vis end users.

All this suggests that there is no really good substitute for direct evidence of a provider’s power over price or its ability to exclude rivals. Here, we focus on pricing power by a single provider, Google, with respect to advertisers. But a similar analysis could be performed for the services offered by any of the leading Internet firms.

Power over price is an elusive concept because, at profit-maximizing levels (the economist’s elusive notion of “equilibrium”), the observed demand elasticity will suggest there is no more room for a profitable price increase. Moreover, profit-margin data is hard to interpret, because financial accounting margins do not always track economic margins. For these reasons, the best evidence of

The best evidence of power over price may be actual episodes of price increases introduced by Internet content providers, particularly increases that are not met with significant customer defection and thus rendered unprofitable.

Yelp or OpenTable; a search for travel on Kayak, Travelocity, Expedia or Orbitz; a search for houses on Zillow or Realtor.com.

Indeed, only 20 percent of travel searches stem from general searches. Yelp’s chief executive, Jeremy Stoppelman, recently noted that while Yelp still gets a lot of traffic from Google, consumers are increasingly navigating directly to Yelp through its own mobile app. And because users can easily substitute among these alternatives, specialized search products and generalized search may be part of the same market. It bears noting that none of these search engines charges consumers; if they did, most of us would expect users to switch to rivals – implying that no general search provider has pricing power vis-à-vis end users.

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quality, Google offered lower rates per click for more effective ads, as measured by what Google called the quality score.

But Google designed and marketed AdWords Select to appeal to advertisers in a variety of dimensions. It implemented a novel “second-price auction” in which the highest bidder won, but paid only the price offered by the second-highest. That encouraged advertisers to bid more aggressively since they would no longer have to worry about leaving money on the table in the process of topping others. Google would also match an ad to a plethora of keywords using connections discovered by an analysis of user behavior. What’s more, AdWords also offers site-targeted advertising for text, banner and rich-media ads. The minimum bid for site-targeting content appears to have declined from $2 to $1 per thousand impressions in early 2005, falling again to 25 cents per thousand in October 2005 (where it still stands).

Another innovation in advertising occurred in 2003 when Google designed a system that would match ads to Web site content. With more than two billion web pages in its index, Google could offer advertisers “contextual advertising” that was linked to content on third-party Web sites. The name for this service is AdSense, and its first customers were large Internet portals and big newspapers. Web sites owners, also known as publishers, can use Google’s AdSense to make money by displaying ads on their own Web sites. In 2008, advertisers were estimated to pay roughly $2 per thousand impressions on Google’s AdSense. By 2011, the typical cost on AdSense was reportedly down to 50 cents per thousand.

Note that, rather than imposing a price for its service (as one would expect from a firm with market power), Google allows the market to establish the ad rate through a bidding process. One potential lever to raise ad rates was to raise the minimum bid, but Google’s minimum bid declined significantly.

To be sure, this evidence is not definitive proof that Google lacks market power. Google may, for example, exercise power by failing to lower prices as rapidly as it otherwise might. One scholar, Randal Picker of the University of Chicago, argues that Google (or any other Internet content provider) might also exercise pricing power not by raising prices but by increasing the volume and intensity of advertising on Web pages, which may be a cost to end users. (According to Picker, the implicit price of using Google’s search, as measured by the ratio of the number of advertising links to the number of organic links, is actually less than the implicit price imposed by Bing and Yahoo!) But whatever the final verdict on Google, this much is clear: the direct-evidence approach to assessing market power is surely preferable to traditional structural analysis.

LAST WORD

In our view, both theory and empirical evidence should lead regulators to err on the side of caution in managing the market power of the four Internet titans. Indeed, we think regulators should give firms in the Internet space broad latitude to experiment with different ways of making money from their ventures.

There may be cases in which consumers pay more than they ought or potential rivals are muscled to the side. But the other sorts of risks, in which consumers lose because Internet entrepreneurs shy away from changing their business models for fear of regulatory intervention, seem to us to be far greater. Authorities should consider intervention only when there is substantial direct evidence of the abuse of market power. The search for “the” relevant market in this dynamic industry may be a fool’s errand.