LAST WORD

Internet Oligopolies

A Few Big Companies Dominate the Internet—and Act as Highly Competitive Oligopolists.

The Internet only became accessible to the average person in the mid-1990s. Over the past 10 years, it has evolved into a medium dominated by a few major firms. Chief among them are Google, Facebook, and Amazon. Other major players include Microsoft and Apple.

A key characteristic of each of these firms is that it holds a near-monopoly in a particular part of the tech business. Google

dominates search. Facebook holds sway in social networking. Amazon rules the roost in online shopping. Microsoft holds a nearmonopoly on PC operating systems and business-productivity software. And Apple became the world's most valuable company in 2012 by way of being the planet's most profitable manufacturer of computers, mobile phones, and tablets-all of which run on Apple's own operating software.

But instead of just trying to maintain dominance in its own sector, each of these Internet titans has used the profits generated by its own near-monopoly to try to steal business from one or more of the other titans. The result has been intense oligopolistic competition between a few well-funded rivals.

Consider search. Google's 64 percent share of the search market creates massive amounts of advertising revenue for Google. In fact, Google's 2015 ad revenues of \$16 billion exceeded the ad revenues received by all U.S. magazines and newspapers combined. So it may not be surprising that Microsoft created its Bing search engine to compete with Google. As of late 2015, Bing held 21 percent of the search market. Along with Yahoo, which held 13 percent, Bing maintains competitive pressure on Google, forcing ad rates lower.

Facebook is by far the largest social networking website, with more than 1.8 billion regular users. But in 2011, Google succeeded in creating a large enough social network to challenge Facebook. Google did so by encouraging the users of its various free services such as Gmail and YouTube—to join the Google+ social network. By late 2012, Google+ had 500 million total users and 235 million regular users—enough to compete credibly with Facebook.

Google+ was important for Google because Facebook had been encouraging advertisers to switch from using Google search ads to using Facebook banner ads that could be targeted at specific types of Facebook users (such as, "25-30-year-old males with pets living in Pittsburgh"). Google can now counter by offering its own

social network on which advertisers can place those sorts of targeted ads.

Google has also challenged Apple by releasing its very popular Android operating system for mobile devices to compete with the iOS operating system that Apple uses on both its iPhone cell phones and its iPad tablet computers. By doing so, Google reduced the threat that Apple could at some point in the future substantially re-

> duce Google's search revenues by directing searches done on Apple devices to a proprietary search engine of Apple's own design.

> Apple's dominance in smartphones and tablets has also been challenged by some of the other Internet titans. In addition to licensing

the Android operating system to any manufacturer who wants to use it on their own cell phones or tablets, Google launched its own line of Nexus mobile devices to compete with Apple's iPhone and iPad. Also seeking to challenge Apple in mobile devices, Microsoft updated its Windows operating system to handle phones and tablets, launched its Surface line of tablets to compete with the iPad, and attempted to compete with the iPhone by marketing its

own Windows Phone as well as by purchasing long-time cell-phone

Microsoft's fundamental problem is that smartphone and tablet sales are rising rapidly while PC sales are falling quickly. So unless Microsoft can generate revenues from smartphones, tablets, or search, it will suffer an inexorable decline as the PC sector continues to shrink.

Amazon has also made forays outside of the online retail sector that it dominates. The foray best known to the general public is its Kindle line of tablet computers, which compete directly with the tablets made by Apple, Google, Microsoft, and the various manufacturers that utilize Google's Android operating system. But behind the scenes, Amazon has also become a major competitor to Google and Microsoft in providing businesses with online "cloud computing" services that run on the massive servers that Amazon, Google, and Microsoft must maintain for their core businesses (like search). So in cloud computing, too, we see oligopoly competition resulting from Internet titans branching out of their own dominant sectors to compete with each other.

There's a simple reason for their aggressive competition. When a near-monopoly already dominates its own sector, its only chance for major profit growth is to invade a rival's sector.



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