Google, Apple, and Facebook Battle for Your Internet Experience

CASE STUDY

Three Internet titans—Google, Apple, and Facebook—are in an epic struggle to dominate your Internet experience, and caught in the crossfire are search, music, video, and other media along with the devices you use for all of these things. Mobile devices with advanced functionality and ubiquitous Internet access are rapidly overtaking traditional desktop machines as the most popular form of computing. Today, people spend more than half their time online using mobile devices that take advantage of a growing cloud of computing capacity. It's no surprise, then, that today's tech titans are aggressively battling for control of this brave new online world.

Apple, which started as a personal computer company, quickly expanded into software and consumer electronics. Since upending the music industry with its iPod MP3 player, and the iTunes digital music service, Apple took mobile computing by storm with the iPhone, iPod Touch, and iPad. Now Apple wants to be the computing platform of choice for the Internet.

Apple's competitive strength is based not on its hardware platform alone but on its superior user interface and mobile software applications, in which it is a leader. Apple's App Store offers more than two million apps for mobile and tablet devices. Applications greatly enrich the experience of using a mobile device, and whoever creates the most appealing set of devices and applications will derive a significant competitive advantage over rival companies. Apps are the new equivalent of the traditional browser.

Apple thrives on its legacy of innovation. In 2011, it unveiled Siri (Speech Interpretation and Recognition Interface), a combination search/navigation tool and personal assistant. Siri promises personalized recommendations that improve as it gains user familiarity—all from a verbal command. Google countered by quickly releasing its own intelligent assistant tools Google Now and then Google Assistant.

Apple faces strong competition for its phones and tablets both in the United States and in developing markets like China from inexpensive Chinese smartphones and from Samsung Android phones with sophisticated capabilities. iPhone sales have started to slow, but Apple is not counting on hardware devices alone for future growth. Services have always played a large part in the Apple ecosystem, and they have

emerged as a major revenue source. Apple has more than one billion active devices in circulation worldwide, creating a huge installed base of users willing to purchase services and a source of new revenue streams. Apple's services business, which includes Apple's music (both downloads and subscriptions), video sales and rentals, books, apps (including in-app purchases, subscriptions and advertising), iCloud storage, and payments, has been growing 18 percent year over year.

As Apple rolls out more gadgets, such as the Watch and HomePod, its services revenue will continue to expand and diversify, deepening ties with Apple users. According to CEO Tim Cook, Apple has become one of the largest service businesses in the world. This service-driven strategy is not without worry because both Google and Facebook offer stiff competition in the services area and Apple will need to offer some of its services on non-Apple devices to remain in this market. Google continues to be the world's leading search engine, accounting for about 75 percent of web searches from laptop and desktop devices and over 90 percent of the mobile search market. About 84 percent of the revenue from Google's parent company Alphabet comes from ads, most of them on Google's search engine. Google dominates online advertising. However, Google is slipping in its position as the gateway to the Internet. New search startups focus on actions and apps instead of the web. Facebook has become an important gateway to the web as well.

In 2005, Google had purchased the Android open source mobile operating system to compete in mobile computing. Google provides Android at no cost to smartphone manufacturers, generating revenue indirectly through app purchases and advertising. Many different manufacturers have adopted Android as a standard. In contrast, Apple allows only its own devices to use its proprietary operating system, and all the apps it sells can run only on Apple products. Android is deployed on over 85 percent of smartphones worldwide; is the most common operating system for tablets; and runs on watches, car dashboards, and TVs—thousands of distinct devices. Google wants to extend Android to as many devices as possible.

Google's Android could gain even more market share in the coming years, which could be problematic for Apple as it tries to maintain customer loyalty and keep software developers focused on the iOS platform. Whoever has the dominant smartphone operating system will have control over the apps where smartphone users spend most of their time and built-in channels for serving ads to mobile devices. Google is starting to monitor the content inside Android mobile apps and provide links pointing to that content featured in Google's search results on smartphones. Google cannot monitor or track usage of iPhone apps. Since more than half of global search queries come from mobile devices, the company revised its search algorithms to add "mobile friendliness" to the 200 or so factors it uses to rank websites on its search engine. This favors sites that look good on smartphone screens. The cost-per-click paid for mobile ads has trailed desktop ads, but the gap between computer and mobile ads fees is narrowing. Google instituted a design change to present a cleaner mobile search page.

Seven Google products and services, including Search, YouTube, and Maps, have more than a billion users each. Google's ultimate goal is to knit its services and devices together so that Google users will interact with the company seamlessly all day long and everyone will want to use Google. Much of Google's efforts to make its search and related services more powerful and user-friendly in the years ahead are on the company's investments in artificial intelligence and machine learning (see Chapter 11). The goal is to evolve search into more of a smart-assistance capability, where computers can understand what people are saying and respond conversationally with the right information at the right moment. Google Assistant is meant to provide a continuing, conversational dialogue between users and the search engine.

Facebook is the world's largest social networking service, with 2.6 billion monthly active users. People use Facebook to stay connected with their friends and family and to express what matters most to them. Facebook Platform enables developers to build applications and websites that integrate with Facebook to reach its global network of users and to build personalized and social products. Facebook is so pervasive and appealing that it has become users' primary gateway to the Internet. For a lot of people, Facebook *is* the Internet. Whatever they do on the Internet is through Facebook.

Facebook has persistently worked on ways to convert its popularity and trove of user data into advertising dollars, with the expectation that these dollars will increasingly come from mobile smartphones and tablets. As of early 2020, 98 percent of active user accounts worldwide accessed the social network via smartphone and tablet. Facebook ads allow companies to target its users based on their real identities and expressed interests rather than educated guesses derived from web-browsing habits and other online behavior.

In early 2019, over 98 percent of Facebook's global revenue came from advertising, and 92 percent of that ad revenue was from mobile advertising. Many of those ads are highly targeted by age, gender, and other demographics. Facebook is now a serious competitor to Google in the mobile ad market and is trying to compete with emerging mobile platforms. Together, Facebook and Google dominate the digital ad industry and have been responsible for almost all of its growth. Facebook has overhauled its home page to give advertisers more opportunities and more information with which to target markets. The company is expanding advertising in products such as the Instagram feed, Stories, WhatsApp, Facebook Watch video on demand service, and Messenger, although the majority of ad revenue still comes from its news feed. Facebook has its own personalized search tool to challenge Google's dominance of search. Facebook CEO Mark Zuckerberg is convinced that social networking is the ideal way to use the web and to consume all of the other content people might desire, including news and video. That makes it an ideal marketing platform for companies. But he also knows that Facebook can't achieve long-term growth and prosperity based on social networking alone. During the past few years Facebook has moved into virtual reality, messaging, video, and more.

Facebook is challenging YouTube as the premier destination for personal videos, developing its own TV programming, and making its messages "smarter" by deploying chatbots. Chatbots are stripped-down software agents that understand what you type or say and respond by answering questions or executing tasks, and they run in the background of Facebook's Messenger service (see Chapter 11). Within Facebook Messenger, you can chat with friends or a business, send money securely, and share pictures and videos. Zuckerberg has said that he intends to help bring the next billion people online by attracting users in developing countries with affordable web connectivity.

Facebook has launched several services in emerging markets designed to get more people online so they can explore web applications, including its social network. Facebook wants to beam the Internet to underserved areas through the use of drones and satellites along with other technologies. Zuckerberg thinks that Facebook could eventually be an Internet service provider to underserved areas.

Monetization of personal data drives both Facebook and Google's business models. However, this practice also threatens individual privacy. The consumer surveillance underlying Facebook and Google's free services has come under siege from users, regulators, and legislators on both sides of the Atlantic. Calls for restricting Facebook and Google's collection and use of personal data have gathered steam, especially after recent revelations about Russian agents trying to use Facebook to sway American voters and Facebook's uncontrolled sharing of user data with third-party companies (see the Chapter 4 ending case study). Both companies will have to come to terms with the European Union's new privacy law, called the General Data Protection Regulation (GDPR), that requires companies to obtain consent from users before processing their data, and which may inspire more stringent privacy legislation in the United States. Business models that depend less on ads and more on subscriptions have been proposed, although any effort to curb the use of consumer data would put the business model of the ad-supported Internet—and possibly Facebook and Google—at risk! Also pressuring Facebook and Google's ad-driven business models are Apple privacy protection features that allow users of its devices to opt out of targeted advertising.

These tech giants are also being scrutinized for monopolistic behavior. In the United States, Google drives 89 percent of Internet search, 95 percent of young adults on the Internet use a Facebook product, and Google and Apple provide 99 percent of mobile phone operating systems. Critics have called for breaking up these mega-companies or regulating them as Standard Oil and AT&T once were. In July

2018 European Union (EU) regulators fined Google's parent company $5 billion for forcing cellphone makers that use the company's Android operating system to install Google search and browser apps. Less than a year later, EU antitrust regulators fined Alphabet an additional $1.7 billion for restrictive advertising practices in its Adsense business unit. Have these companies become so large that they are squeezing consumers and innovation? How governments answer this question will also affect how Apple, Google, and Facebook will fare and what kind of Internet experience they will be able to provide.

Sources: Brent Kendall and John D. McKinnon, "DOJ, States Plan Suits Against Google," *Wall Street Journal*, May 16–17, 2020; Tripp Mickle, "Apple Posts Record Reveue on Strong iPhone, App Sales," *Wall Street Journal*, January 28, 2020 and "With the iPhone Sputtering, Apple Bets Its Future on TV and News," *Wall Street Journal*, March 25, 2019; Daisuke Wakabayashi, "Google Reaches 41 Trillion in Value, Even as It Faces New Tests," *New York Times*, January 16, 2020; "Wayne Rush, "How Google, Facebook Actions Could Bring Big Tech Under Attack in US," *eWeek*, March 22, 2019; Tripp Mickle and Joe Flint, "Apple Launches TV App, Credit Card, Subscription Services," *Wall Street Journal*, March 25, 2019; Associated Press, "EU Fines Google a Record $5 Million over Mobile Practices," July 18, 2018; "Search Engine Market Share," www.netmarketshare.com, accessed March 16, 2020; "Device Usage of Facebook Users Worldwide as of January 2020," statista.com, accessed March 17, 2020; David Streitfeld, Natasha Singer, and Steven Erlanger, "How Calls for Privacy May Upend Business for Facebook and Google," *New York Times*, March 24, 2018.

CASE STUDY QUESTIONS

7-13 Compare the business models and core competencies of Google, Apple, and Facebook.

7-14 Why is mobile computing so important to these three firms? Evaluate the mobile strategies of each firm.

7-15 Which company and business model do you think is most likely to dominate the Internet, and why?

7-16 What difference would it make to a business or to an individual consumer if Apple, Google, or Facebook dominated the Internet experience? Explain your answer.