



GOOGLE'S EFFORTS TO MONOPOLISE KEY SEGMENTS OF THE MOBILE ECOSYSTEM

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Introduction

The Internet is going mobile at a furious pace. Forecasts suggest that sales of non-PC Internet-enabled devices will outnumber PCs this year¹ and that tablet sales alone will overtake sales of laptops by 2015.² In that same year, global smartphone sales are expected to exceed 1 billion. A recent study predicts that growth in mobile data traffic will exceed 90 percent annually over the next 4-5 years.³

As the Internet goes mobile, so too go online search and advertising. The volume of search queries and search ad revenues generated on mobile devices has increased massively in the last few years and is expected to skyrocket in the next 2-3 years.⁴ Over 425,000 mobile applications are available on Apple's mobile platform alone, which have generated over €1.8 billion for developers.⁵ Mobile app downloads are expected to surge to a whopping 76.9 billion by 2014 and generate revenues of €25 billion.⁶

Google – which already dominates search and search advertising on PCs and is quickly extending this dominance to other forms of online advertising – recognised this trend towards mobile as a major threat to its business.⁷ In response, it has engaged in a variety of anticompetitive strategies to protect its existing monopolies in search and online advertising and extend them to mobile devices, including:

- **Anticompetitive restrictions on Android.** Google lured mobile carriers and device manufacturers into using its Android operating system based on misleading promises of openness and freedom, then used various anticompetitive tactics to make it effectively impossible for them to use services that compete with Google. Google's proposed purchase of Motorola's mobile phone business and patents will strengthen Google's ability to enforce these restrictions across the mobile ecosystem.
- **Abusing its market power to monopolise mobile search and eliminate threats.** Google leveraged its PC-based search ad monopoly into mobile by furtively placing advertisers' ads on mobile devices without their knowledge or consent. This increased prices for mobile search ads and artificially gave Google a massive base of advertisers for its mobile search offerings. Later, when Google perceived mobile in-app advertising as a competitive threat to its mobile search monopoly, it snapped up the world's leading in-app ad network, AdMob, leaving Google as the dominant force in mobile advertising. The Motorola acquisition will further consolidate Google's power in mobile advertising.
- **Denying access to interoperability information.** Google has refused to provide competitors with access to technical information they need in order to develop rich mobile applications for Google-owned services like YouTube on platforms other than

Android. This has placed competing operating system platforms at an unnatural competitive disadvantage to Android phones.

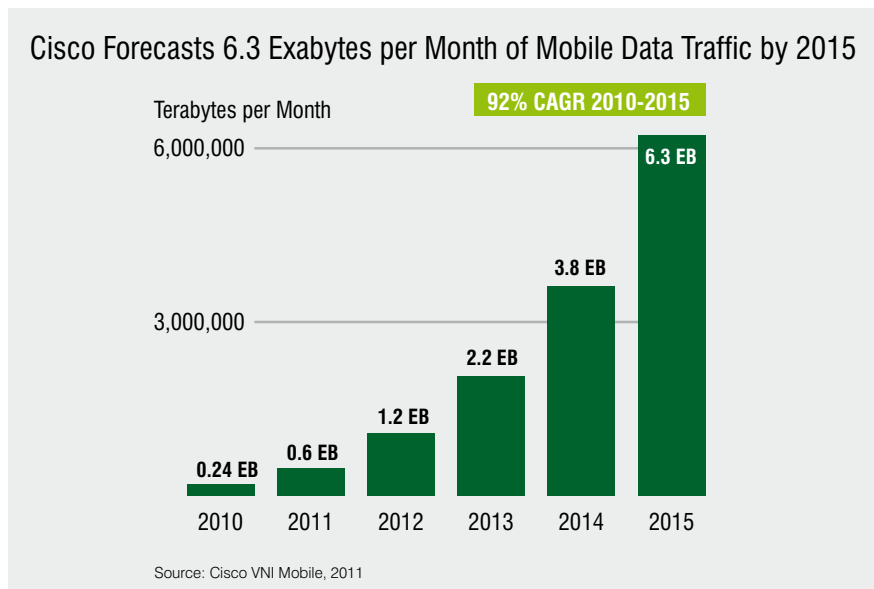
- **Exclusive agreements.** Google has systematically sought to foreclose other mobile service providers from accessing mobile user queries and advertising revenues through exclusive search agreements, starting initially with Apple and now including a network of similar agreements with mobile carriers. Because it often is difficult (or even impossible) for users to switch default search providers on their phones, these deals effectively allowed Google to purchase monopolies in mobile search and search advertising.

The common goal of these practices is to strengthen Google's monopoly power and stifle competition. Their common effect is to harm actors across the mobile ecosystem, including mobile service providers, device makers, mobile carriers, content providers, advertisers, rival search engines, and ultimately consumers. Businesses and users would benefit from greater competition in mobile search, advertising, and related markets. Instead, Google's actions are depriving the mobile ecosystem of lower costs, greater choice, and more innovation.

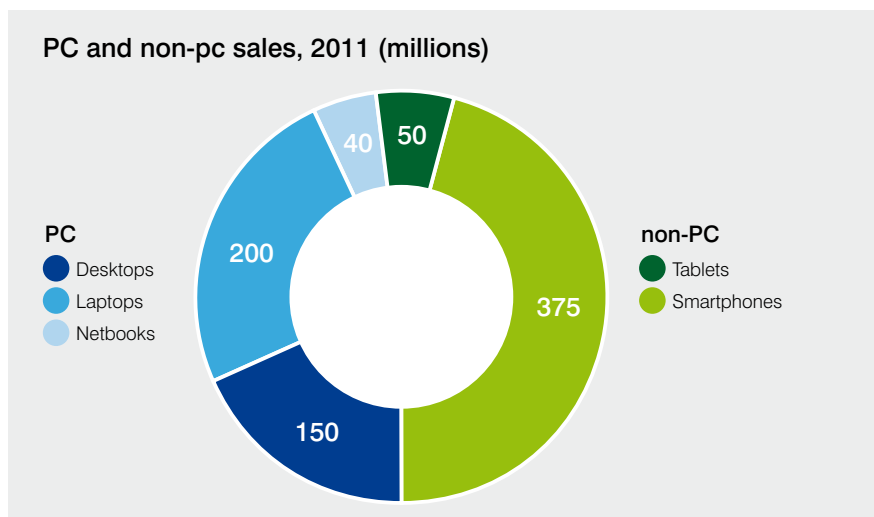
This paper describes the tremendous opportunities presented by the surge in the mobile Internet. It then describes various anticompetitive steps Google is taking to foreclose competition in this space and extend its PC-based monopolies to the mobile Internet.

1. The growing importance of mobile computing

Consumers are increasingly using mobile devices to access the Internet. According to a recent study published by Cisco, annual growth in mobile data traffic in the next 4-5 years will exceed 90 percent:⁸



Analysts also predict that in 2011, sales of non-PC devices will outnumber PCs:⁹



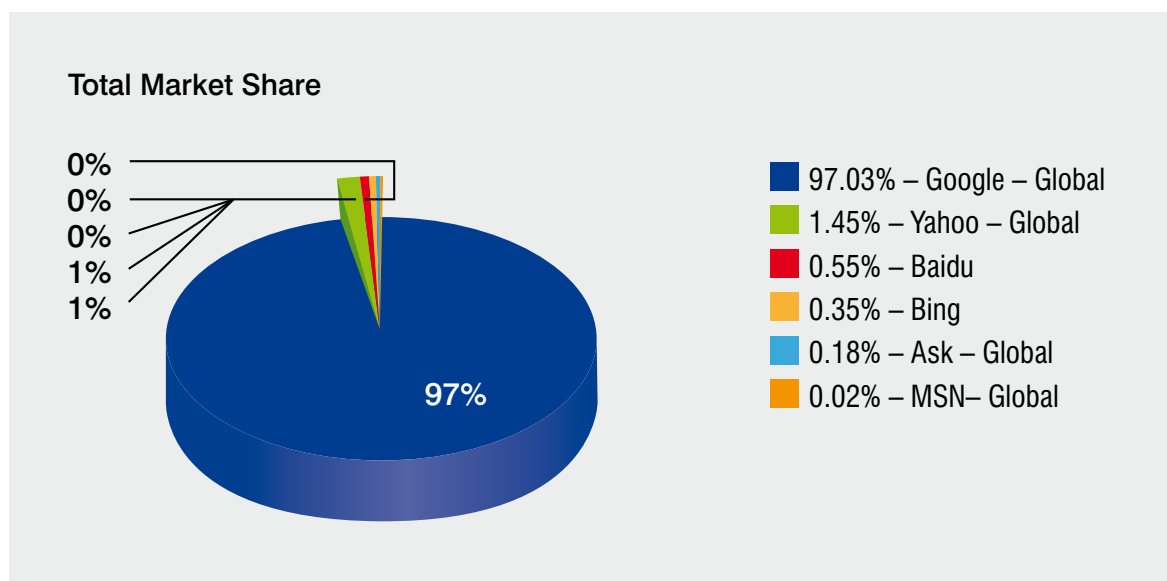
The explosive growth of Internet-enabled mobile devices is transforming search, search advertising, and online advertising generally. First, search itself is going mobile. Search can be even more valuable to mobile users than to PC users because mobile users often need specific information quickly and are less likely to be willing or able to sift through large amounts of content on a small screen while on the go.¹⁰ Second, mobile advertising revenue are rising rapidly. Global mobile advertising revenues are projected to reach nearly €15 billion by 2015, with search and maps delivering the highest revenue opportunity.¹¹

Advertisers view mobile as a key opportunity not only because of the amount of time consumers spend with their mobile devices, but also because of the unique ability “to target people on the move, and capture them when they’re most receptive.”¹² Mobile users also tend to be more inclined than PC users to take immediate, real-world decisions, such as to visit a given place or to try out a restaurant. As a result, the conversion rates of search ads, and thus the revenues they generate, are higher on mobile devices than on PCs for a growing number of products and services.¹³

Google already has a monopoly over mobile search and search advertising.

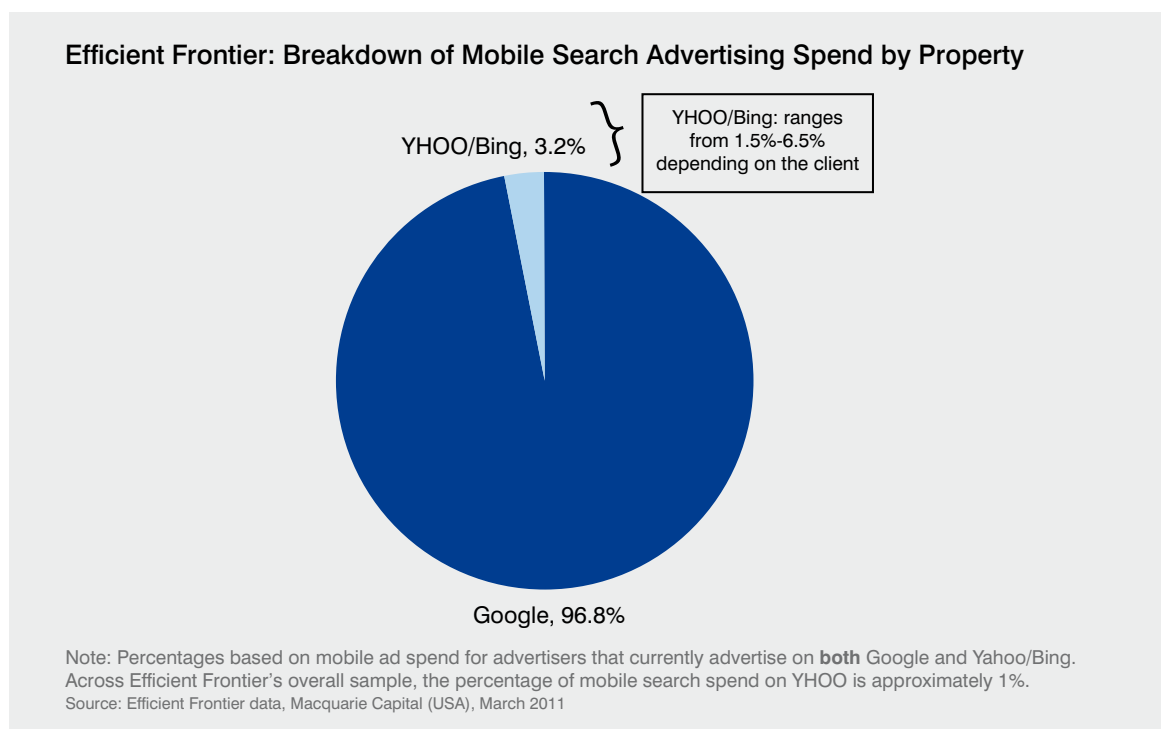
As illustrated in the following graph, Google controls over 97 percent of searches conducted globally on mobile devices:

Mobile search global market shares¹⁴



Google also accounts for over 96 percent of mobile search advertising revenues. Although the graph that follows refers to global shares and its percentages are based on mobile search advertising spend for advertisers that currently advertise on both Google and Yahoo!/Bing, the figures offer a clear indication of Google’s super dominant position in mobile search advertising:

Breakdown of mobile search advertising spend by property¹⁵



Google is quickly extending its reach to other forms of mobile advertising as well. According to industry experts, Google's total mobile ad revenues – including revenues from mobile search, in-app, and display ads – will reach €1.8 billion this year and will surge to over €10 billion by 2015.¹⁶ This rapid and complete dominance of a space that Google once recognised as a threat to its business is not by accident, nor because of conscious choice by end users. Prior to launching Android, Google secured a long-term exclusive deal with Apple to be the default search engine on the iPhone, a deal that was entered into while Google's then-CEO Eric Schmidt also served on Apple's board of directors. That deal instantly propelled Google into dominance in the mobile sector, and Google has since strengthened that dominance through a series of tactics to lock down its Android operating system and block competing mobile search and application providers from gaining a foothold on Android phones.

The explosive growth of mobile search and mobile advertising represents a major opportunity, as the mobile ecosystem creates a fertile ground for innovation in new applications and services as well as a huge, still largely untapped source of revenues. Allowing Google to maintain and further entrench its monopolies in mobile search and advertising and gain control over these revenues would harm every participant in the mobile ecosystem – and ultimately threaten the health of this important segment of the economy.

- **Mobile service providers.** Google has used its control over the Android platform to prevent mobile device makers from using services that compete with Google's own services. Google's acquisition of Motorola's huge patent portfolio will give it additional leverage to force device makers to use an expanding range of Google technologies and services. This leaves mobile service providers at the mercy of Google, which will have the ability – and often the incentive – to block them from the growing market of Android phones, unless of course those service providers align with Google's interests in locking in Google services like search, advertising, and geo-location.

- **Device makers.** While growing demand for smartphones is benefiting mobile device makers, there unavoidably will be a trend towards commoditisation. This trend is a particular challenge for Android device makers, since Google greatly limits their opportunities to differentiate their offerings. The ability of device makers to derive meaningful revenues from agreements with providers of mobile applications and services will be much greater in a competitive mobile ecosystem than in one monopolised by Google.
- **Mobile carriers.** Google has concluded agreements with leading mobile carriers requiring them to set Google as the default search engine on their mobile devices. These deals will remain lucrative for mobile carriers only if Google continues to face significant competition. The ability of mobile carriers to obtain a fair share of search advertising revenues will be adversely affected once all rivals have exited or been blocked from achieving sufficient scale to attract advertisers.
- **Content providers.** Online advertising revenues, including search and contextual advertising, are key sources of funding for the creation of web content. As Google's market power grew in PC-based search and contextual advertising, Google steadily decreased the payments it made to publishers. Vigorous competition in mobile search and mobile advertising will allow publishers to better monetise their platforms and thus generate the resources they need to produce appealing content for users.
- **Advertisers.** Google already dominates mobile search advertising and is quickly extending this dominance to in-app and other forms of mobile advertising. Advertisers will suffer if Google monopolises mobile advertising, as Google's prices to advertisers will inevitably increase, choice will decrease, and innovation in mobile ad delivery and technology will suffer.
- **Search engines.** Mobile represents a unique opportunity for competing search engines to gain the scale they need in order to compete. Google, however, has entered into a series of anti-competitive, exclusive deals to become the default search engine on the majority of mobile phones. Because consumers find it difficult (and often impossible) to switch default search engines on their phones, Google has effectively locked most smartphone users into using Google search. If Google continues to monopolise mobile search and advertising, competition in these areas will wither and die. Given the high barriers to entry in mobile search and search advertising, the harm to competition likely will be permanent.
- **Consumers.** Consumers will be harmed by the loss of competition in each and every part of the mobile ecosystem. Consumers lose from a lack of choice among mobile search providers and the consequent reduction in innovation. They lose from the lack of differentiation among mobile devices and mobile carrier services, when all of the manufacturers and carriers are forced to install Google and no one else for search, maps, and various other services. They lose when content providers receive a lower share of Google's advertising revenues and have less ability and incentive to innovate in their offerings of mobile content. They lose when there is less competition among privacy models and the only real choice available is Google's. And they lose when mobile advertisers pay higher rates and pass on these higher costs to consumers in the form of higher prices or less investments in the advertised products.

In summary, there are multiple reasons why the Internet ecosystem will be harmed if Google is allowed to maintain its monopolies in mobile search and search advertising and extend them to new areas. Anyone with a stake in the future of mobile computing should support efforts to foster greater competition in mobile and to urge regulators to stop Google from pursuing practices that illegally foreclose competition. Several of these practices are described below.

2. Google's anticompetitive practices in the mobile space

Antitrust enforcers in multiple jurisdictions are investigating claims that Google foreclosed competition in PC-based search and online advertising through a series of anticompetitive acts. As it became clear to Google that mobile devices would generate a large amount of search queries, data, and advertising revenues – and thus pose a threat to Google's PC-based monopolies – Google engaged in a similar strategy to monopolise major sources of mobile search queries and ad revenues and to foreclose competition by rival providers of mobile services.

A. Anticompetitive restrictions on Android

Google has systematically embarked on a strategy of luring mobile carriers and device manufacturers into using its Android operating system (OS) based on misleading promises of openness and freedom, and then has used various anticompetitive tactics to make it effectively impossible for them to install mobile services that compete with those offered by Google.

In November 2007, Google and other members of the Open Handset Alliance announced the Android operating system for mobile devices. Google since then has repeatedly described Android as being open and free, ensuring that “no industry player can restrict or control the innovations of any other.”¹⁷ Google has used these assurances to entice mobile device makers and mobile carriers to use Android in the mobile devices they sell. Despite these assurances, Google in fact exercises tight control over the Android platform and uses contractual and other restrictions to prevent device manufacturers and carriers from using any mobile service that Google perceives as a competitive threat.

For instance, although Google often touts that Android is offered under an “open source” license, Google has walled off certain Google services and applications that are central to the Android experience. These pieces are found in closed-source, proprietary-licensed packages segregated from the open source components. Examples of closed Google Android applications include Google Search, Google Maps, YouTube, Google Voice and the Android Market. Google also uses something called the “Android Compatibility Program” – a vague set of requirements that gives Google broad latitude to prohibit device makers and carriers from using the Android name or certain key Android services – to block them from using any mobile service or technology that competes with those offered by Google.

For instance, Google used the Android Compatibility Program to block Motorola and Samsung from offering Android devices that used a location-based service offered by a small company called Skyhook Wireless. Google instead forced them to use a competing service offered by Google – even though Skyhook's technology was regarded by many as superior¹⁸ – since this allowed Google to monetise this location data through mobile advertising and prevented competing ad platforms from utilising this location data. In an email discovered by Skyhook in the course of its antitrust lawsuit against Google, a Google Compatibility Program manager admitted to a colleague that Google uses compatibility as a “club” to make phone makers “do what they want.” He also suggested that Google uses compatibility as an excuse for denying approval of third-party applications even when it has “no clear basis for saying [the applications] violate the Android security model.”¹⁹

Google has engaged in similar practices to force companies offering Android devices to use Google as the default search engine. In a complaint filed earlier this year, Korea's two leading search engines – Naver (owned by NHN) and Daum – accused Google of violating Korean competition law by preventing Android suppliers from pre-installing competing search services. According to NHN, if smartphone manufacturers sought to install a competing search service, “Google purposefully delayed a compatibility test that smartphone manufacturers are obliged to go through before releasing Android phones.”²⁰ Google likewise used its Android Compatibility Program to prevent Verizon from offering Microsoft's Bing search engine on any of Verizon's Android phones. Google threatened Verizon that it would block their shipment of Android phones if Verizon did not comply – even though the “requirements” on which Google relied were unwritten and essentially arbitrary. The sole purpose of Google's conduct was to prevent competition from Bing on Verizon phones.

These facts demonstrate that Google uses the Android Compatibility Program to protect its monopolies in mobile search and search advertising and extend these monopolies to new areas. Google's acquisition of Motorola's massive patent portfolio will enable it to enforce these restrictions even more powerfully, as Google will be able to condition licensing of key Android technologies on terms that prevent device manufacturers from using any services that compete with those offered by Google.

B. Abusing its market power to monopolise mobile search and eliminate threats

Google abused its PC-based search advertising monopoly by illegally extending that monopoly into the mobile space. Then, after it had succeeded in dominating mobile search and search advertising, it took steps to eliminate nascent threats to that dominance.

A prime example of the former was Google's decision, in 2008, to furtively change the default settings for its monopoly AdWords advertising platform so that advertisers were automatically opted into participating in mobile search advertising.²¹ This artificially drove up prices for Google's mobile search ads, because it meant that many more advertisers were bidding against each other for a finite number of ads.²² Because Google failed adequately to notify AdWords advertisers of this change at the time, many advertisers ended up paying for mobile search ads they didn't want – many of which were worthless to these advertisers because they had not yet modified their websites to be viewable on mobile devices.²³ By extending its monopoly in PC-based search advertising into the mobile space in this way, Google was able, virtually overnight, to generate huge revenues from mobile search advertising and to place other mobile ad platforms, with fewer advertisers, at a major competitive disadvantage.

Since then, Google has moved quickly to eliminate potential threats to its mobile search dominance. For instance, when Google announced its intent to acquire AdMob in November 2009, it had by then largely succeeded in dominating mobile search advertising. Nonetheless, Google faced a potential threat from ads that were being served to users directly within mobile apps. These in-app ads were a threat because consumers increasingly were using mobile apps – such as for entertainment or sporting events, local retailers or products, news-on-the-go, and the like – *instead* of general search engines like Google.com to search for information, products, and services on their mobile devices. At the time of the deal, Google's share of such in-app advertising was only around 20 percent.

By far the leading network for serving in-app mobile ads at the time was AdMob.²⁴ Although AdMob supported all major forms of mobile advertising, its primary business was in in-app ads. AdMob had a particularly strong position with developers of apps for the iPhone, which competed directly with phones running Google's Android. Indeed, one industry executive claimed that Google offered a substantial premium for AdMob just to keep it out of Apple's hands (Apple was in negotiations at the time to purchase AdMob).²⁵

Stakeholders across the mobile ecosystem raised concerns about the acquisition. They worried that it would reduce competition in the supply of mobile advertising platforms and enable Google to increase its already significant market power in mobile advertising. They also noted that the deal would eliminate one of the most promising competitors to Google's mobile search monopoly.

Although the Federal Trade Commission ultimately decided not to challenge the deal (based in large part on the prediction that Apple would have the incentive and ability to develop a competitive alternative – a prediction that has since failed to materialise), history shows that these concerns were well founded. Current market data indicate that Google today controls over 95 percent of searches conducted globally on mobile devices and a similar share of mobile search ad revenues.²⁶ No other search engine accounts for more than 1.5 percent of the remaining share. The data also indicate that, since Google's acquisition of AdMob, it has significantly strengthened its control over other forms of mobile advertising. While precise numbers are elusive (in part because Google refuses to disclose what portion of its revenue derives from mobile advertising), data collected by industry analysts suggest that, in 2011, roughly three-quarters of all mobile advertising revenues (approximately €1.8 billion of €2.4 billion in total sales) will flow through Google, and that Google's mobile ad revenues could grow to over €10 billion in 2015.²⁷ These figures might in fact understate Google's future dominance of mobile advertising as they were calculated prior to Google's proposed acquisition of Motorola's mobile phone business. That acquisition would allow Google to preference its own ad platform on Motorola phones and thus enable it to extend its growing dominance in mobile advertising even more quickly.

C. Denying access to interoperability information

Google also has denied other mobile companies with access to interoperability information they need in order to provide attractive mobile access to key online content. For example, Google has repeatedly denied Microsoft the ability to offer an application for Windows Phone 7 phones that would allow users to access YouTube video content in a comparable way to how users access such content from Android phones and, at least for the time being, from iPhones (recall that Apple and Google are in a long-term deal to use Google as the default search engine on iPhones).

One of the most popular forms of Internet content is video. Today, the leading online video site by far is Google's YouTube, with more than 540 million average monthly unique visitors. YouTube is also a key application for mobile devices. According to YouTube, the number of video views streamed to mobile devices increased by 160 percent in 2009, and YouTube had 100 million mobile views per day in mid-2010.²⁸ In the first quarter of 2010, video streaming represented more than a third of all mobile usage.²⁹

When developing Windows Phone 7, Microsoft recognised that for its YouTube application to be competitive with the YouTube applications on Android and iPhone, it would need to provide

high-quality video playback and rich application features that users were used to having on those devices. With that in mind, Microsoft sought to obtain access from Google to certain interoperability information (something that Google calls its “Private API”) that would allow Microsoft to develop a YouTube application that could deliver high-quality video playback in a stable and reliable way to its users.

Despite repeated requests and months of discussion, Google repeatedly refused to provide Microsoft with access to this interoperability information. Even to this day, Microsoft has been unable to develop a rich YouTube application as a consequence of Google’s refusal to license the YouTube Private API.

Google’s refusals to grant access to this interoperability information serves at least two unlawful purposes. First, by degrading the YouTube experience on Windows Phone, Google was able to make Windows artificially appear inferior for a key category of mobile users. Google thus has abused its disclosure of interoperability information and its control over critical content to protect Android from competition and grant it a privileged position in the crucially important mobile space.

Second, Google’s actions advance its objective of achieving a leading position with Android that will enable it to entrench its control over search and search advertising broadly. By controlling the Android smartphone platform, Google can control the search and advertising services available on hundreds of millions of mobile devices. Both of these strategies support the ultimate goal of Google to remain the ultimate gatekeeper in a future world dominated by mobile technologies.

D. Exclusive agreements

Antitrust regulators have recognised that “scale is an important factor in order to compete effectively in search advertising.”³⁰ Scale is what enables a search engine to deliver the most relevant results to a user query, especially when these queries are uncommon (i.e., tail queries). Because search is free, users generally rely on the search engine that offers the most relevant results, which will then capture most of the traffic. More users in turn attract more advertisers to bid on more keywords, making the engine better able to match user queries to more relevant ads and generating higher revenues for the search engine. With additional revenues, the search engine is better placed to innovate and outbid rivals for search distribution deals that will generate even more user queries.

Google has engaged in a systematic effort to prevent rival search engines from achieving the scale they need to compete effectively, including on mobile devices. One way in which Google has accomplished this is through a series of exclusive search agreements with key actors in the mobile ecosystem. For instance, in 2007, when Google’s then-CEO Eric Schmidt was on Apple’s board of directors, Google entered into an exclusive search distribution deal with Apple, making Google the default search engine on Apple’s popular iPhone. This deal, which was recently renewed, quickly allowed Google to gain a monopoly in mobile search (97 percent market share in March 2010).³¹ This agreement solidified Google’s position in mobile search both because the iPhone was and is the most popular smartphone, and because iPhone users tend to conduct more searches than users of other phones.³²

Google has concluded similar exclusive agreements with several of the world’s top mobile carriers. For instance, in 2006, Google concluded an agreement to become the default search

engine for Vodafone handsets, which at the time was the second largest mobile carrier in terms of number of subscribers world-wide.³³ In 2009 and 2010, Google entered into similar deals with France Telecom / Orange³⁴ and Deutsche Telekom, respectively.³⁵ Google has concluded similar agreements with leading mobile carriers in other parts of the world as well.³⁶

These exclusive agreements make Google the default search engine not only on all Android and Apple devices, but also on the other mobile devices distributed by these carriers, such as Blackberry RIM, Nokia, and Windows Phone 7. As a result, Google captures a staggering 95 percent of mobile queries even on mobile devices other than Android and the iPhone.³⁷ Google has been able to conclude these deals by offering carriers generous advertising revenue shares – which are made possible by the profits generated by the monopoly that Google illegally acquired in PC-based search and search advertising. And because it is difficult, or even impossible, for users to switch default search providers on their phones, these deals effectively have allowed Google to “lock in” the majority of smartphone consumers into using Google search – irrespective of the quality of competing mobile search offerings.



Through its anticompetitive practices, Google has extended its monopoly in PC-based search and online advertising to the mobile Internet. Companies across the mobile ecosystem have valid grounds to support greater competition in mobile search, advertising, and related markets. These companies should evaluate the potential impact of Google’s practices on their business and urge antitrust enforcers to act quickly and decisively to stop Google from abusing its monopoly power to foreclose competition. Without such action, the mobile ecosystem could face a future in which Google is the only search engine left on the market. This would greatly advance Google’s ability and incentive to grasp control over mobile search and advertising, leaving mobile actors and their customers at Google’s mercy.

About ICOMP

ICOMP, the Initiative for a Competitive Online Marketplace, is an industry initiative for businesses and organisations involved in Internet commerce. Its overall objective is the sustainable growth of the Internet and key goals are to encourage competition, transparency, data privacy and respect for intellectual property protection as well as the adoption of best practices to promote online creativity, innovation, safety and trust.

As an organisation concerned with the Internet, ICOMP brings together companies operating in the online marketplace across content, infrastructure and services sectors to identify and promote best practices. ICOMP helps to educate and inform stakeholders and decision-makers on how the online marketplace functions and the challenges being faced by those who operate within it.

Over 70 companies, trade associations and individuals are members of ICOMP and have endorsed ICOMP's principles. These members represent 14 countries across Europe, North America and the Middle East. Microsoft is ICOMP's founding trustee, Burson-Marsteller acts as its Secretariat, and Lord Alan Watson is ICOMP's First Chairman.

References

- ¹Deloitte, *Smartphones and tablets: more than half of all computers aren't computers anymore* (18 Jan. 2011).
- ²See Lauren Indvik, *Forrester: Tablet Sales Will Eclipse Laptop Sales by 2015 [STATS]*, Marshable (5 Jan. 2011).
- ³See Cisco *Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2010-2015* (1 Feb. 2011).
- ⁴Jupiter Research projects that annual revenues from mobile search advertising are expected to hit € US3.5 billion by 2013. *Online Marketing, Local Search and Mobile Search to Drive Six-Fold Increase*, in Internet Traffic, Software 4 Marketing (27 Feb. 2011).
- ⁵Don Reisinger, *Study: App downloads to hit nearly 48 billion in 2015*, CNET News (7 June 2011).
- ⁶Clint Boulton, *Google Mobile Revenues to Hit \$14B in 2015*, eWeek (27 June 2011).
- ⁷See *Google Form 10-K For the Fiscal Year Ended December 31, 2009*, at 26 ("More individuals are using devices other than personal computers to access the Internet. If users of these devices do not widely adopt our versions of our Web search technology, products, or operating systems developed for these devices, our business could be adversely affected.").
- ⁸See Cisco *Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2010-2015* (1 Feb. 2011).
- ⁹Deloitte, *supra* n. 1.
- ¹⁰See, e.g., *The growth of mobile search: huge in numbers, not in CTR (research)* (10 Mar. 2011), at <http://www.stateofsearch.com/the-growth-of-mobile-search-huge-in-numbers-not-in-ctr-research/>; *The International Importance of Mobile Search* (18 May 2011), at <http://www.searchenginejournal.com/the-international-importance-of-mobile-search/29840/>.
- ¹¹*Global mobile advt revenue to touch \$3.3 billion in 2011* (16 June 2011), at <http://www.telecomlead.com/inner-page-details.php?id=941&block=>.
- ¹²See Bena Roberts, *Smartphone use more than doubles mobile advertising spend in 2010*, GoMoNews (22 Mar. 2011).
- ¹³See Greg Sterling, *Yelp: 35 Percent of Searches Mobile Now*, Search Engine Land (4 Feb. 2011).
- ¹⁴See *Google Still Dominates Mobile Search*, Searchterms (22 Mar. 2010).
- ¹⁵See Sterling, *supra* note 10.
- ¹⁶See Boulton, *supra* n. 6.
- ¹⁷See *Welcome to Android*, at <http://source.android.com/>.
- ¹⁸See, e.g., Kevin C; Tofel, *Locale For Android Homes in on Skyhook Wireless* (23 Mar. 2009).
- ¹⁹See Complaint and Jury Demand, *Skyhook Wireless, Inc. v. Google, Inc.*, Civ. No. 10-3652-BLS (Mass. Sup. Ct. filed 15 Sept. 2011), Tillburg Affidavit, Ex. 28 (email from D. Morrill, Aug. 2010, at 11:07 AM).
- ²⁰Yoon Ja-young, *Local search engines file complaints against Google*, Korea Times (15 Apr. 2011).
- ²¹See, e.g., Simon Buckingham, *Google's System to Control Advertising Inventory on Multiple Platforms: Examples of Company Practices with Supporting Facts and Data: Part 1: Mobile* (14 Apr. 2010), slides 7-9, 21, available at <http://www.slideshare.net/Gantimonopoly20/google-control-system-part-1-mobile>.
- ²²*Id.*
- ²³*Id.*, slide 21.
- ²⁴*AdMob Adds New Publisher Partners and Advertisers, Cements Position as Largest Mobile Advertising Network*, Business Wire (Feb. 17, 2009).
- ²⁵See Brad Stone and Miguel Helft, *Apple's Spat With Google Is Getting Personal*, New York Times (Mar. 13, 2010) ("One executive familiar with Google's acquisitions strategy said the company was willing to pay a large premium for AdMob simply to keep the company out of Apple's arms. 'There is no way AdMob would have gotten \$750 million if he wasn't worried that it would end up in the hands of Steve,' the executive said.).
- ²⁶See *Google Still Dominates Mobile Search*, Searchterms (22 Mar. 2010).
- ²⁷See Boulton, *supra* n. 6.
- ²⁸See Jason Kincaid, *YouTube Mobile Goes HTML5, Video Quality Beats Native Apps Hands Down* (7 July 2010).
- ²⁹Jeremy Scott, *YouTube Accounts for 13 Percent of All Mobile Data Usage*, at <http://www.reelseo.com/youtube-mobile-data-usage/>.
- ³⁰Case COMP/M.5727 – Microsoft / Yahoo! Search Business, paras. 173, 197.
- ³¹See Greg Sterling, *Google Controls 97 Percent Of Mobile Paid Search: Report*, Search Engine Land (7 Mar. 2011).
- ³²The iPhone alone accounted for around 65 percent of all HTML mobile page views in December 2009, despite the fact that at the time its market share of the smartphone market was only 17 percent. See Morgan Stanley, *The Mobile Internet Report* (15 Dec. 2009).
- ³³See Mark Perton, *Vodafone partners with Google for mobile search*, Engadget Mobile (14 Feb. 2006).
- ³⁴See Orange, *Press Release, Orange signs strategic pan-European mobile partnership with Google*, (29 Oct. 2009).
- ³⁵See Deutsche Telekom, *Press Release, Deutsche Telekom expands mobile search partnerships* (12 Oct. 2010).
- ³⁶For instance, Google concluded default search agreements with Sprint and T-Mobile in the US, and NTT Docomo in Japan. See Greg Sterling, *Google, Sprint, Cable Companies Join Forces On Wireless Internet Initiative* (7 May 2008); Al Sacco, *T-Mobile BlackBerry Users to Get Google Default Search* (9 Mar. 2010); Florin Troaca, *Google and NTT DoCoMo Share Mobile Plans* (28 Dec. 2007).
- ³⁷See Comscore (Dec. 2010), Accenture mobile search study (June 2010), Oliver Wyman Analysis.

