

Case #03 — Google

Just recently, Business Insider published a graph detailing the recent, impressive growth of the search engine DuckDuckGo, under the title: “This Chart Should Have Google Worried.” (Lynley, 2012)ⁱ The subject of the story had just surpassed the landmark of satisfying more than a million search queries in a single day. By comparison, Google publicly confirms more than a billion, though this figure is widely thought to be conservative, with many estimating that it is actually closer to 3 billion (McGee, 2010). While the absolute numbers for both may not suggest that the two warrant any further comparison, what the article claims as significant is the recent pace of growth of DuckDuckGo, which is shown to be rapidly approaching the exponential.ⁱⁱ This closely resembles the kind of growth curve that saw Google propelled to prominence and dominance in the search arena in the early 2000’s.

In many respects, it resembles the early days of Google, and sports a similarly clean and uncluttered look to that offered by Mountain View, way back when. More than anything though, the service seems to have made significant gains by appealing to the anxieties of a growing number of Internet users, concerned about data privacy. It deploys no cookies, stores no user data, and even integrates with the TOR network. Having been presented with goodness knows how many over the years, it is quite hard to believe that an Internet service’s privacy policy could become its most touted ‘feature’ and the principal factor in its adoption but, such is the case.

For the user motivated more by the efficacy of the search methods employed rather than any concerns about data privacy, *dontbubble.us* highlights the ‘filter bubble’ effect (Pariser, 2011) that occurs when attempts are made to deliver personalised search results (Horling and Cullick, 2009) based on information collected about you from your previous searches and activity on affiliate services. The argument goes like this: your behaviours and habits become self-reinforcing; your likes become stronger likes, your dislikes similarly so. Put simply, the web becomes rapidly smaller as you are served more of the same, to the point that it might even be harder for you to get at the information you really need.

The intention here is not to suggest that DuckDuckGo is somehow poised to unseat the dominant search provider from its long held position — after all, novel Internet start-ups do nothing quite so much as come and go, and challengers to Google in search have thus far failed to make anything like a dint, included among them the ex-Googlers of Cuil.com (Wauters, 2008) and the giants of Redmond (Raphael, 2009). However, the appeal DuckDuckGo has for users is noteworthy because it is, currently at least, quite unique and it comes at a time when Google is facing increasing scrutiny from the U.S. Federal Trade Commission over its market position and what it does with users’ data (Singhal, 2011). DuckDuckGo’s growth, though modest in terms of absolute number, could indicate what might be the beginnings of a turn in user behaviour and, indeed, raises the question: can we reasonably envisage a widespread rejection of the rights-for-privileges trade-offs that have underpinned the free-at-point-of-access service that dominate the Web?

“How do you search across the entire information space? I don’t know. How do you know where you are and where you’re going? Beats me!”

Marc Andreessen, *NCSA Mosaic Developer* (Systemseminartv.com, 1994)

Though many may now view the company motto, “Don’t Be Evil”, with a degree of scepticism, Google’s products and services have solved countless problems, first and foremost that of searching the web. Back in 1993, Mosaic was the catalyst that first brought people on to the web in huge numbers, and it did so by removing many of the practical obstacles that existed to getting on and navigating the web. It was clear though, that a great many still remained. The most glaring of these was the means of navigation and orientation among such a rapidly growing network of linked resources. The Internet was growing at a rate of ~100% per year (Coffman and Odlyzko, 1998), and Mosaic provided no search functionality to help users make sense of it. There quickly sprang up a number of services that hoped to provide users with a convenient starting point when navigating the web. The range of search services grew to include offerings from companies such as AltaVista, AskJeeves, Excite, HotBot, InfoSeek, and Yahoo, among others. With the exception of InfoSeek — which launched with a pay-per-search model that was quickly abandoned — all adopted some form of advertising supported business model; be it contextual, appearing alongside search results, or paid inclusion, where for a fee companies could have their products woven into the results returned by a site’s web crawler.

In beginning their experiments with PageRank and BackRub — respectively, the key ranking algorithm and early name for the service that was to become Google — Sergey Brin and Larry Page were at pains to differentiate themselves from the ad-supported majority and keen to highlight the potential threats such arrangements posed for the integrity of search. In their Stanford research paper, “The Anatomy of Search”, the pair detail the broad architecture for Google search and reveal the combination of PageRank link analysis, link text analysis and location information that would allow them to substantially improve the quality of returned results comparative to existing search engines, and which would see users swarming to the service in their droves. Tucked away in the appendices of the paper, the pair make quite clear their views on the state of web search at the time, stating that the “... goals of the advertising business model do not always correspond to providing quality search to users...” and that any “...advertising funded search engines will be inherently biased.” (Brin and Page, 1998)

The Google Beta launched in early 1998 and, once it had fully emerged from under the Stanford wing, it adopted a sparse visual aesthetic: a front page with nothing more than the site logo, a search bar and button and, crucially, no ads. It continued in this vein, and grew quickly; astonishingly quickly. Despite indexing far less of the web than its competitors, Google attracted people because of the increased relevance of the results it was able to return. By the autumn of 1998 Google was satisfying tens of thousands of search queries daily (Auletta, 2010: 45) by early 1999 this had reached half a million (Auletta, 2010: 61). Google made a loss for years though, and even after rounds of venture capital investment and the appointment of Eric Schmidt as CEO, questions were being asked about how Google could monetise itself. When quizzed in 1999, Brin quipped to the interviewer: “Leslie, have you visited our online t-shirt

store?” (Walker, 1999) While Google was successfully partnering with the likes of Yahoo!, Red Hat and Netscape to provide search services, it had still to prove itself financially. That it was able to float in 2004 with an astonishing valuation of USD23bn at USD85 per share, regarded by many as undervaluing the company,ⁱⁱⁱ was almost entirely as a result of “...an accidental discovery, two years after the company’s founding, that plain text advertisements on its search results pages produce enormous profits.” (Stross, 2008: 2-3)

Google originally introduced AdWords in October 2000, in modest fashion, with 350 advertisers. These were basic text ads displayed alongside search results. There were no images for fear this would impact on page load times. One of the core appeals of the service was not just the relevance of results, but the speed with which it returned them and so ads were restricted to a small portion of dedicated screen real estate. What about ‘inherent bias’? Ads and search remained separate, or at least separate enough to satisfy the Google pair’s misgivings about ad-supported search. Brin and Page insisted upon ads being relevant to search, and this resulted in ads appearing in no more than 15 percent of searches (Auletta, 2010: 63). More accurately then, it was not on the basis of no advertising that Google differentiated itself, but on the basis of ad relevance and no paid inclusion. In their 2004 SEC IPO filings the company declared: “We will live up to our “don’t be evil” principle by keeping user trust and not accepting payment for search results” (SEC, 2004). The revenues AdWords generated initially, though undoubtedly helpful, were somewhat unremarkable and did little to quell the questions about the firm’s long term financial viability (Hansell, 2002). When Google migrated from a cost-per-thousand to cost-per-click model in February 2002, AdWords was relaunched and reborn, and the potential of Google’s relevance matching ads to user search terms was finally unleashed. Advertising would become Google’s only significant source of revenue. To this day it represents over 95 percent of company turnover.

Regardless of how it was leveraging user data, in 2002 there was little cause for Google, or anyone else for that matter, to be unduly concerned about user privacy. It was, after all, not necessary to log into Google services to make use of them and, regardless of the introduction of ads and the expansion of services (language localisation, WAP content, emailing search results), it had a single core product: search. Stross recounts the unfortunate example of Urs Hölzle — now Senior V.P. for Technical Infrastructure at Google — who when quizzed about user privacy responded that user concerns were “...a little bit less of an issue than, let’s say, if you had an email service” (Stross, 2008: 38). A year later, Google would launch its GMail service.

If you can match user search terms to relevant advertisements and bring the two together in the blink of an eye, you were an advertiser’s dream. When you told them you could target ads based on the contents of private emails? Even better! In terms of building a complete user profile, sometime Google consultant and then Chairman of the Board of the Electronic Frontier Foundation Brad Templeton summed it up thus: “My e-mail contains the story of my life, and what’s not in there is often recorded in my searches” (Templeton, n.d.). The offer to users was an initial 1GB of free email storage, which already far eclipsed competitor offerings, with a promise that it would continue to incrementally increase available storage, such that users never

had to worry about deleting emails. That the service actually launched without the ability to delete emails was, however, a paradigm shift too far for many. For all Google's insistence that users should forget about managing mail and just know that it was there and searchable with all the relevance and accuracy users had come to expect from the company's web searches, to many this was disconcerting. It was the combination of both this and ads being delivered based on email content that were at the core of public privacy concerns on the launch of Gmail in 2003. The technology — semantic search — that would bring ads to Gmail was deemed to be so potent a discovery that it was actually deployed independently, before Gmail was even launched. AdSense, was a new advertising product launched in 2003 that allowed Google to extend its power to place relevant ads to the whole of the Internet, turning the Web into "...a giant Google billboard" (Graham, 2007).

Since then, Google has quickly gone from being a search company to a just-about-everything company and there has been growing user concern and media attention regarding what it does with the incomprehensible amount of data it is able to harvest and store.^{iv} Google's reach has extended almost immeasurably: providing free access to satellite imagery from around the globe; mapping our streets and the sea floors in 3D; extending what was thought possible with web technologies by offering a whole suite of browser-based productivity tools: documents, spreadsheets, presentations, photo editing; hosting blogs and websites; digitising books; indexing our home computers via Google Desktop (now discontinued); making a play for our home computers with Chrome OS and our mobiles with Android; and, not content with consistently being the number one destination on the Web or providing search directly from within many existing browsers, it has its own in Google Chrome. It has used its significant capital base to make numerous acquisitions; in 2011 it was reckoned to be one every other week (Manjoo, 2012). Among them, the big ticket purchases, such as: KeyHole, DoubleClick, YouTube, On2, Feedburner, ITA, AdMob, Android and Motorola (Rosoff, 2011). Still retaining clear dominance in the search engine space, hovering around 90 percent of market share (StatCounter, 2011), it rather begs the question both for Google and us as users — how much is enough?

Is Google becoming, as one commentator remarked, "...that kid who brings an M-80 to the neighbourhood (sic) barbecue. While everyone else is goofing off with sparklers, Google blows up a trash can and freaks out the entire block"? (Agger, 2007) In his 2012 update to investors as CEO, following the departure of Schmidt in April 2011, Larry Page remarks that "...over time, our emerging high-usage products will likely generate significant new revenue streams for Google as well as for our partners..." (Page, 2012) In the next breath, however, the example to which he turns to demonstrate how this diversified product portfolio might bring about diversified revenue streams... mobile advertising. For all its years of dominance, all of the wonderful services it has brought to the Web, for free, Google is caught in a cycle where information collection and analysis brings in advertising revenue to create shareholder value. It has to keep feeding the algorithm with ever greater, more timely and better quality information. About us.

Google, at times, has perhaps not helped its own case with some of its pronouncements. Eric Schmidt has certainly produced some choice soundbites. (Pegoraro, 2011) In an interview at

the Washington Ideas Forum, he remarked that Google policy "...on a lot of things is to get right up to the creepy line and not cross it." (Jerome, 2010) A bizarre thing to have said but, regardless, there'd be few that would contest it: Google has got awfully close to that creepy line on a number of occasions. It has discomfited users by crawling emails to target ads; it has upset publishers, authors, and archives with its shoot-first-ask-questions later approach to book digitisation; it has captured burning buildings (J-walkblog.com, 2008) and dead bodies (Selleck, 2010) on Street View; it publicly disclosed users' GMail contacts via its, now discontinued, social network, Buzz; (McMillan, 2008) and its recent UK advertising campaign "That's the Plus", which seemingly encourages parents to store as much as possible of their children's lives on Google servers. (O'Reilly, 2012)

At the close of 2011 Google found itself the subject of a Senate judiciary committee hearing (U.S. Senate, 2011) to determine whether it was using its huge dominance in Internet search to unfairly promote its other products and services. (Senate, 2011) Noteworthy were Eric Schmidt's comments to the committee on the pace with which Google modifies its search algorithms: roughly every twelve hours. The Google Books episode clearly demonstrated that a company "...with ample funding and a willingness to defend its copy-first-delete-later policy in court... was going to move far more quickly than a loose confederation of companies like the OCA [Open Content Alliance]..." (Stross, 2008: 105) that opposed it. Among other examples of similarly nimble manoeuvring, Google was charged by the FTC in March 2011 for deceptive privacy practices relating to the rollout of the Google Buzz social network (FTC, 2011) and shut it down in October. (Horowitz, 2011) It launched the Google+ platform in its place with a limited trial in June of 2011 (Gundotra, 2011), but almost instantly attracted widespread criticism over its attendant real-names policy (McCracken, 2011). Not to the extent that it prompted another FTC investigation, but even so. It sometimes feels as though our governments are hanging on for dear life, while the technology giants, like Google, place ever more strain on the leash.

Certain questions also must be raised regarding the close relationship between Google and the US government: how compromised is the US government in passing legislation affecting a company upon whom it is increasingly reliant for critical government services? In 2005, when Google acquired Keyhole and the technology upon which Google Earth would be based, they were buying a firm funded by In-Q-Tel, the CIA's for-profit investment arm (Morozov, 2011: 236). Google would later supply servers and search technologies for the CIA Intellipedia intelligence gathering site, (Glazowski, 2008) and in 2010 In-Q-Tel and Google would jointly invest in social media monitoring firm, Recorded Future. (Mills, 2010) Google has itself been the beneficiary of NSA expertise, in order to shore itself up against cyber attacks that occurred on its servers in 2010 (Nakashima, 2010). Now, close relations between technology companies and governments are certainly nothing new, but perhaps the economic importance, the financial clout, the extent of influence and commercial appetite of this new generation of Internet giants — of which Google is perhaps the most prominent, but which might also include Amazon, Apple, eBay, Facebook — does, in fact, problematise these relationships in hitherto unforeseen ways. If any one of them is allowed to become so integral to our economies, our societies, that we simply can't do without them, at that point then, who is calling the shots?

Early 2012 saw an absolute furore over the changes and unifying of Google's various privacy policies which, depending on your viewpoint, was either an improvement to its services or one more step towards the creepy line? Or maybe both? And there's the rub... Google weren't the only ones either. 2011 seemed to be the year when almost every other week there was some new Facebook privacy scandal. They were also charged by the FTC in 2011 for user privacy violations (FTC, 2011) Comparing Facebook and Google may seem like apples and oranges in some respects, with the former strictly a social network and the other, well, these days just-about-everything, but they do share a significant common property: they both make their money from targeted advertising, based on information gleaned from users. It would seem though, that users are waking up, getting wise and are starting to take their privacy ever more seriously. It is perhaps unsurprising then, that the anonymising TOR having expanded from a mere 32 relays in May 2004 to 1500 by October 2009, (Loesing, 2010) continues to grow, that browser plug-ins preventing behaviour tracking by third parties, such as Ghostery, Ad-Block Plus, and DoNotTrack have seen rising popularity, or that a new search engine should come to market, differentiating itself primarily on the basis of the information it doesn't hold about its users.

In terms of other rival technology giants, Apple and Google have long tussled on the stock market, back and forth, edging one another out in terms of market capitalisation and price per share. The two are both hugely successful but they are markedly different in both culture and aspect. Apple famously does no market research, it trusts in the firm to hire, nurture and retain the creative and engineering talent required to bring to market products that people will buy. It is in many respects the opposite of Google, in so much as it is not in the business of giving anything away for free, or even wanting to appear to be. Apple makes attractive, premium-priced products that famously 'just work', and has been very successful in selling people a complementary eco-system of hardware, software and content: from iTunes and iPod, to iOS and the App Store. They have successfully reintroduced the walled-garden concept, creating a virtuous circle for music, TV and film downloads which is and a tightly controlled applications marketplace that provides users with various games and utilities, many of which function as windows to the web. Apple has extended the same App Store concept to its desktop OS and others, observing the success, have followed suit: Blackberry App World, Nokia's Ovi store, Windows Marketplace for mobile, and Redmond will now be bringing the app store concept to the next version of its Windows desktop OS.

Amazon have followed suit, making their own play for some of that alluring eco-system dollar, and have migrated from being a marketplace to providing a — very Apple-like, it has to be said — end-to-end media consumption experience, all based around its original core business: books. When the Amazon Kindle was announced in 2007, it was not the first e-reader to hit the market, and nor did it significantly out-spec any of its competitors. What Jeff Bezos got right was the eco-system integration, Apple-style. This was heralded as the beginning of Books2.0. (Levy, 2007) The user experience was central, books bought on Amazon would sync wirelessly and effortlessly to your Kindle via the Whispersync service but, better yet, you could buy directly from the device, and with both wi-fi and contractless 3G versions, Bezos was onto a winner. The service included not only books, but newspapers, magazines, and blogs, with the added benefit of being able to side-load documents in the popular .pdf format (Kindle 2nd Gen onwards). Leap

forward to 2012 and Kindle has become a full blown e-books ecosystem: you finish reading your Kindle on the morning commute, pick up where you left-off in your web browser over lunch, squeeze a few pages in on your smartphone when you should be listening to what's going on in that meeting you're in. Beyond that, Amazon has also had runaway success providing a platform for self-publishing. (Pilkington, 2012) With the announcement of the Kindle Fire heralding Amazon's entry into the Apple-dominated tablet market, it is perhaps little surprise to find out that they are considering expanding the successful Amazon content eco-system to include original Amazon TV programmes. (Kafka, 2012)

The renaissance of the walled-garden is a concern to many who care deeply about the web. The criticism is often raised that the app culture of iOS and Android, and the closed shopfront of the Kindle or iTunes stores, exist to the detriment of the web and that walled gardens lock information away in a manner that isn't searchable or shareable, and that this runs counter to some of the web's founding principles. In terms of users, at least, all the time that Apple, Amazon and others like them, are primarily using these eco-systems as drivers for selling actual physical product, like Kindle Fire or iPad,^v then it really doesn't hurt for those companies to let you know where the walls are. They are selling you a particular experience, and users make a choice. For Google, though, who must continue to deliver more effective targeted advertising to satisfy its partners and investors, there is a clear incentive in making us think there are no walls.

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ⁱ Graph and data available to view at: <https://duckduckgo.com/traffic.html>

ⁱⁱ The published stats are DuckDuckGo's own published traffic data (<http://duckduckgo.com/traffic.html>) and other services offer slightly different numbers..For further info compare against:

<http://siteanalytics.compete.com/duckduckgo.com/>

<http://www.quantcast.com/duckduckgo.com>

<http://trends.google.com/websites?q=http%3A%2F%2Fwww.duckduckgo.com>

ⁱⁱⁱ Dropping the starting share price was a concession made to the SEC in light of comments made by Page and Brin in an interview for playboy magazine in which they revealed information that it was claimed contravened certain restrictions of the SEC's I.P.O procedures. See: <http://www.economist.com/node/3103916>

^{iv} A calendar year survey of the Nexis UK newspaper database for major world newspapers shows a rise in coverage from 36 stories in 2003 to a peak of 1237 in 2010 (wherein the term privacy occurs at least once and where Google occurs >3 times). To 5 April 2012 there are 389 such stories.

^v Apple have experimented with advertising via iAds, though thus far not on anything like the scale of Google.