

Google

A regular column on the information industries

Peter Curwen

The word “Google”, used as a synonym for “search”, is now ubiquitous in conversational English. When the author was a young academic, the term “search” meant going to the library and examining the contents of books and journals, but libraries are now learning centres where you go to chat while googling the vast expanses of the world’s knowledge on the internet. Even the most die-hard of researchers cannot deny that their task has become much more efficient and productive even if they worry, with good reason, that those who google as a matter of course often cannot tell truth from fiction in what they discover.

This phenomenon is of surprisingly recent vintage even if, by now, more or less an entire generation has grown up using search engines. In practice, Google was by no means the first of these, but who remembers its predecessors (or, indeed, the predecessors of Facebook)? Hence, it is highly pertinent to ask how Google has managed virtually to corner the worldwide search engine market of which it currently controls more than 70 per cent – but 10 per cent more in the case of mobile-based searches, as its Android operating system (O/S) is far and away the most commonly used in mobile devices, and it pays Apple \$3bn a year to be the default search engine on devices using the Apple iOS.

Historically, the efficient organization of knowledge in such a way as to facilitate directed searches was a matter for human intervention. However, although other companies preceded Google in the realization that algorithms – sets of rules that can be used in problem-solving, especially by computers – could be used to sort through the rapidly growing volume of material being deposited on the internet, Google introduced a more sophisticated range of factors for ranking the relevance of responses to a search enquiry, and then continued to make its algorithms increasingly sophisticated until its competitors fell by the wayside. Google became the near-default search engine simply because it was better than its rivals.

However, as is immediately evident, simply providing a free search engine for users is the road to ruin, and, as with all start-ups, the key issue rapidly became a need to make money from one source or another. The solution adopted by Google some three years into its existence was to charge advertisers to have their names and services appear alongside search results. This so-called AdWords model struggled initially but took off rapidly once Google introduced an automatic pay-per-click version that remains in force today.

AdWords was followed by AdSense which is a system for Google to sell

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advertising on its approved partner sites. For a fee, Google provides text, images, videos and interactive media. It then keeps part of the money paid to the site owner by an advertiser whenever a user clicks on an advertisement on a partner's website. By 2010, the Google Display Network had well over one million partners and the figure is currently claimed to be roughly 14 million. This has proven to be an indispensable source of revenue for many of its partners, but it is not so profitable for Google – especially compared to AdWords using Google's own websites – as AdSense partners take 68 per cent of the revenue generated by advertising alongside their content and 51 per cent of the revenue generated by searches on their websites. Traffic acquisition costs accordingly constitute two-thirds of the costs incurred by Google on top of which Google has to pay for more than 20,000 people employed on research and development (R&D) and nearly as many on sales and marketing.

It is easy to assume that Google – which is now a subsidiary of Alphabet Inc. – has been growing primarily as a result of the expansion of its original search engine business. However, this is far from being the case in practice. Since the beginning of 2001, Alphabet (primarily via Google) has acquired, in their entirety, more than 200 companies – for a full list see [Wikipedia \(2017\)](#). Although the price paid is generally only known where the target is a publicly quoted company, these tend to be the most expensive, and certain ones stand out as follows, as they all cost in excess of \$500m:

- August 2011: Motorola Mobility (mobile device maker); \$12.50bn;
- January 2014: Nest Labs (home automation); \$3.20bn;
- April 2007: DoubleClick (online advertising); \$3.10bn;

- October 2006: YouTube (video sharing); \$1.65bn;
- September 2017: HTC assets (staff and R&D-related); \$1.10bn;
- June 2013: Waze (GPS navigation software); \$966m;
- April 2011: ITA Software (travel technology); \$676m;
- July 2017: Postini (communications security); \$625m;
- January 2014: DeepMind Technologies (artificial intelligence [AI]); \$625m;
- September 2016: Apigee (cloud activities); \$625m; and
- June 2014: Dropcam (home monitoring); \$555m.

In addition, Alphabet has made a considerable number of other acquisitions each costing in excess of \$100m, so it would not seem unreasonable to be talking in terms of a total outlay in excess of \$50bn. To finance this level of spending requires either large cash reserves or the willingness of targets to accept the acquirer's shares. It is very noticeable that almost every company in the aforementioned list works in an independent sector, so Alphabet has clearly been engaging in a massive exercise to become a wide-ranging conglomerate, although it is worth observing that the great majority of its purchases have been of companies based in the USA – with some significant exceptions such as Israel-based Waze and parts of HTC – and generally in the San Francisco Bay area in proximity to Alphabet. It is also notable that Alphabet has rarely made disposals – only four are listed in [Wikipedia \(2017\)](#). The underlying rationale for the choice of targets was stated by CEO Larry Page in the New York Times in August 2014 to be a product/service that would be useful

on a day-to-day basis and improve users' lives.

As it happens, Google has made some mistakes – for example, there is a tendency to view the acquisition of Motorola as a failure, although the reality is more ambiguous as noted below – but in any event, four businesses remain the main money-spinners. These are AdSense (which generates over 20 per cent of revenue), DoubleClick (generating over \$30bn of annual revenue), Google Maps (thought to generate \$1.5bn of annual revenue although this is not specified by Google) and, of course, YouTube. In practice, YouTube may not be making a lot of profit because users tend to ignore the adverts as they home in on cats with funny faces and the like, but, crucially, it enables Google to dominate the online video business and its role as a disruptor of traditional TV, abstracting large amounts of advertisement revenue, has been highly significant.

All told, Google generates roughly 90 per cent of its revenue from advertising, of which roughly two-thirds is generated by adverts on Google's own websites. In recent years, this business has appeared to have massive growth potential, driven by such factors as growth in the number of clicks and expansion into new less-developed countries, although Google still depends on the USA for over 40 per cent of its revenue. The counterpart is that that advertisers will not pay as much per click in the newer markets, and the fee per click is on a gradual downward progression. It may also be noted that Google deals primarily in US dollars and hence, despite hedging, can be affected by exchange-rate fluctuations. Non-advertising activities are by no means insignificant, but market power is lower and as a consequence, margins are more erratic.

In practice, only one thing has ever halted the almost inexorable rise in the Google share price since it was first listed at \$50 per share in August 2004, and that was the recession commencing in 2007. The share price fell from \$357 to \$131, but it had fully recovered by 2011. Google shares were split in April 2014 with “A” shareholders gaining one vote per share, whereas “C” shareholders were left without a vote – there are also “B” shares with ten votes that are held by those controlling the company. Google does not pay dividends but shareholders have no cause to complain, as the “A” share price increased to a high of \$1,004 in June 2017 and currently (01/10/17) resides at \$930. This places a value of \$640bn on the “A” shares, making Google one of the top five most valuable companies in the world. The price-earnings (P/E) ratio of 34 may appear to be on the high side, but investors do not seem to mind much where high-tech companies are concerned.

It is worth pausing to consider that Google is toying with the mobile equipment sector. Although Google established the Android O/S, it did not initially seem interested in building the devices to house it but rather partnered with the likes of HTC, Huawei and LG. However, in 2011, Google paid \$12.5bn for Motorola which was no longer a force in the smartphone market. In reality, it was the patents held by Motorola that Google wanted and the manufacturing side was sold on to China’s Lenovo in 2014 for \$2.9bn. This necessitated a massive write-off in the accounts but was in reality far from disastrous.

In 2016, HTC produced the Pixel and Pixel XL with an Android O/S on behalf of Google – these were top-end models with no mention of HTC on the devices or packaging. The HTC purchase in September 2017 did not include its

entire smartphone business – HTC will continue to sell own-branded devices – but Google did acquire half of HTC’s R&D team and a non-exclusive licence for HTC’s intellectual property. The main issue appears to be that as the likes of Samsung seek to set up services for their devices, and Google is threatened by the European Commission, which may force Google to stop enforcing the pre-installation of Android on third-party devices. Google has seen the need to increase its control over the equipment-making sector even though Pixel devices sell only roughly two million units a year.

However, it must also be noted that with the introduction of voice assistants – Google’s own so-called Assistant is a recent innovation – comprising a significant step forward in the use of AI, Google understands the need to put more resources into the integration of hardware and software.

When a service is provided for free, there is no moral ambiguity, but when fees are levied, it can creep in no matter how high-minded company founders claim to be. When Alphabet was established, the Google slogan was changed from “Don’t be evil” to “Do the right thing”.

Unfortunately, practice can diverge from principle in the real world and since the turn of the decade, Google has been fighting attempts by the European Commission to curb what the Commission regards as illegal practices under EU anti-trust law. These practices include the accusation that Google restricts how a website that offers a Google search function can show advertisements sold by other companies and that it limits competition by requiring smartphone manufacturers to pre-install the Chrome browser and the Google search engine in their devices or forgo access to other Google apps. To these practices has recently been added the charge that when responding to

searches, Google gives prominence to its in-house shopping comparison service, Google Shopping.

In June 2017, the EU Competition Commissioner lost patience with Google’s seeming refusal to seek a settlement and fined Google €2.4bn (\$2.7bn). Google was required to pay within three months or find itself subject to a daily fine of 5 per cent of Alphabet’s worldwide turnover. Google is undertaking an appeal, although it has now instigated a change in the way that it presents the results of shopping searches. Ultimately, even fines of billions of euros/dollars will not make much of a dent in Google’s cash mountain.

This case epitomizes the core issue that a company such as Google has to address. On the one hand, it has an enviable record for producing innovative products and services that have improved the lives of their users; on the other hand, it cannot resist protecting what it has achieved by shutting out prospective competitors. To do so is not anti-competitive as such – it ultimately boils down to a question of how much protection is reasonable. Clearly, the EU no longer accepts that Google is “doing the right thing”.

In summary, it is evident that Google has been a great innovator and has reaped the rewards of such behaviour. It has also built up a war chest that has made it possible to take big risks – but which also serves as a means to buy up most prospective rivals (but not, of course, Amazon and Facebook).

However, the ethical dimension is increasingly coming into play where the goliaths of the online world such as Google are concerned. The bottom line is that the more people use Google the more data it collects, and the more data it collects the more it can charge advertisers for access. This is a virtuous

circle for Google, but it is beginning to create a backlash among the general public. Whereas “creative disruption” is hardly a new phenomenon, the likes of Google, Amazon and Facebook have driven the process at unprecedented speed. While it is evident that anyone brought up in the smartphone era tends to have a more relaxed attitude not only to disruption but also to placing most of

the details of their lives in the public domain, this has been seen as essentially a trade-off: you get my data and I get free searching and other services. But privacy ultimately matters. The question is whether it is already too late to restore it.

Wikipedia (2017), “List of mergers and acquisitions by Alphabet”, available

at: https://en.wikipedia.org/wiki/List_of_mergers_and_acquisitions_by_Alphabet

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