

Google Inc.

Revolutionary business model needs to evolve

MarketLine Case Study

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1. Overview

1.1. Catalyst

Google is one of the world's most valuable and respected companies, and one of the oldest Silicon Valley tech giants. Since its inception the Google has the largest indexing platform for web searches, powered primarily by revenues from advertising space and prioritization in its search results. Its wider ecosystem of products has been carefully built to capture as much attention as possible on the internet, for the ultimate purpose of driving ad-spend on its platform. However, these products' uniquely free-use way of operating and reliance on data and advertising also make them part of the vulnerability of Google's business model. The company needs to diversify to maintain its strength against fierce competitors.

1.2. Summary

Since it rose to prominence as a search engine, Google has frequently found itself with the capital to spin out new divisions across diverse segments. However, the aim of these divisions has always ultimately been to drive the data-collation and traffic which serves the company's online advertising business.

However, in the last decade disruptors have emerged in Silicon Valley which threaten to derail the way advertising works online, the system over which Google previously had a virtual monopoly. Whilst Google and its parent company have become renowned for their innovation, Google itself has a lot to fear from these disruptors.

Amazon, Apple, Microsoft and Google itself are all building voice-controlled functionality into their products and services, including web search. Meanwhile, two players in particular have reached a scale comparable to Google's, and are now beginning to seriously disrupt its previously watertight business model. These companies are Facebook and Amazon.

As it tries to shore up against these and other threats, Google can at least rely on a huge amount of capital for new projects and expansions of its ecosystem. Core products are already diversifying, although the company's forays into cloud services and hardware have had varying levels of success.

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2. Despite a wide range of products, Google is still hugely reliant on ads

Google is one of the world's most valuable and respected companies, and one of the oldest Silicon Valley tech giants. Since its inception the Google has the largest indexing platform for web searches, powered primarily by revenues from advertising space and prioritization in its search results. Since beginning with its flagship product, Google Search, the company has branched out as a subdivision of a larger parent company, Alphabet, and now encompasses a group of free-to-use software products that dominate their respective fields.

These products form an ecosystem which has been carefully built to capture as much attention as possible on the internet, for the ultimate purpose of driving ad-spend on its platform. However, their uniquely free-use way of operating and reliance on data and advertising also make them part of the vulnerability of Google's business model. In 2019, according to Google's annual report, advertising made up 83.3% of the company's revenues.

2.1. Search, Maps and YouTube are the core of Google's ads ecosystem

Since it rose to prominence as a search engine, Google has frequently found itself with the capital to spin out new divisions across diverse segments. However, the aim of these divisions has always ultimately been to drive the data-collation and traffic which serves the company's online advertising business.

2.1.1. Google Search is the world's biggest advertiser

The Google ecosystem which drives the company's advertising revenue has been built around its core product, Search. The Google Search engine was the first successful search engine to index everything on the World Wide Web, make it searchable and, crucially, to hierarchically organize webpages by importance. Launched in 1996, the search engine became so rapidly popular that by 1998 Google was incorporated with the help of a \$100,000 angel investment.

Quickly becoming the ultimate authority on the relevance and importance of webpages, Google is able to promote certain webpages for a fee, which display at the top of search results. In 2020, Google owns over 75% of the global search market, and considerably more if China, where it is banned from operating, is discounted. Perhaps more importantly, in its role as gatekeeper of the internet Google is able to gather data on which webpages are being visited by who, and to create an anonymized profile of each individual user's activity. Armed with this data, Google has single-handedly upturned the advertising market, able to target advertising at individual users with pinpoint accuracy.

However, Google Search no longer promises the limitless growth it once did. Thanks to the emergence of social media, which for many users holds more of their attention than browsing the web, there is now massive competition for online advertising space. Ecommerce is another huge area of the online world where Google been usurped by bigger, tailor-built search engines (see Section 2.2).

2.1.2. AdSense bolsters Google Search's ad-revenues

After Google Search, AdSense is perhaps the most straightforward contributor to ad-related revenues for Google. AdSense is a third-party advertising platform, which acts as a middleman between websites and advertisers. In addition to simply placing ads itself and taking the whole fee from advertisers, Google uses AdSense to enable websites to monetize their own online space. Advertisers bid for space through AdSense in constantly-rolling online auctions, with the higher bidder taking the space. AdSense itself takes between 32%–49% of ad revenue from a placement, with the rest going to the website.

Figure 1: The core products and services of the Google ecosystem.



Source: Google

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2.2. YouTube has unfulfilled potential as the world's second-biggest search engine

The video-sharing website YouTube was bought by Google in 2006 for just \$1.65bn, in what was one of the savviest acquisitions the company has made. YouTube is now by far and away the world's largest video-streaming platform, with its nearest competitor Netflix a long way behind. According to Google, approximately 100 hours of video content are uploaded to YouTube every minute. Its huge audience share and the particularly attention-grabbing format of its video ads make it a big contributor to advertising spend.

However, revenue conversion is still a weakness for the service. Its advertising contribution remains far behind that of Google Search, and it has often been noted that its abundance of alternative revenue streams are either underutilized or altogether dormant. For instance, with one billion users in 2019, according to its parent, YouTube is by far the world's most listened-to free music streaming service. However, the equivalent paid service YouTube Music, which is ad-free, is beaten by the likes of Spotify and Apple Music. Similarly, whilst YouTube far outpaces the paid streaming service Netflix in viewership terms, the latter has almost 200 million more subscribers than YouTube has been able to convert to its paid service, YouTube Premium.

2.3. Google Maps contributes data for ads from offline activity

One of Google's best-known services besides its web search engine is Google Maps, the locational search engine and GPS service. Together with products like Google Earth and Street View, Maps has bolstered Google's reputation as a data powerhouse, collating vast amounts of information to fuel its market-leading route planner.

Whilst not a direct revenue generator, the locational data which Maps in turn gathers from its users is hugely valuable. It contributes to the Google ecosystem in two key ways.

Firstly, Google Maps enables advertisers to push products directly within the app. Targeted ads sit alongside search results for locations, or for specific services within those locations, such as restaurants or shopping centers. As a hugely popular extension of Google Search, Maps fulfills the same essential functions: capturing attention online with a market-leading information service that users utilize every day, and making advertising as targeted as possible.

Secondly, data gathered about users on Google Maps enriches the overall data profile of a user with information that is arguably just as valuable for advertisers as web searches. Locational data gathered with Maps is usually dynamic, and becomes richer when users access Maps repeatedly on the same device. Data can be collected not only about the whereabouts and interests of a user at one time to target ads which are relevant at that time, but also to predict future whereabouts. This fuller picture of user activity on and offline is Google Maps' unique contribution to Google's advertising business.

2.4. Chrome, Gmail and Android bring users into the Google ecosystem

A suite of products which are free to consumers – or at least free to download – has been important for gaining Google market share in numerous verticals. The objective of all of these is to boost Google's brand power beyond search and to draw users into its data and advertising ecosystem.

2.4.1. Google Chrome is crucial to Google's success despite being free

As well as search, Google owns the lion's share of the web browser market (around 60%). Most browsers are free, and Google's Chrome browser is no exception, but it is nonetheless crucial to the company's advertising business for two reasons.

Firstly, by offering a familiar user experience and market-leading browsing performance, Chrome maximizes user attention online that goes through Google. Through the mediator of Chrome, Google is able to gather more data on users than it might simply through search. One of the most basic ways it does this is to encourage users to sign up for a Google account. So long as users are signed into their Google Account (which does not automatically sign out on Chrome), their activity online can be more closely monitored, enabling for more precise placement of advertising.

Secondly, Chrome saves Google a vast amount of money on fees paid to other browsers. Whenever a minority of users turn to other browsers, such as Mozilla's Firefox or Microsoft's Edge, and use Google Search, those browsers earn commission for hosting Google and enabling that search. For instance, when Mozilla signed a deal in August 2020 to make Google its default search engine, it signed itself up for an estimated \$400m per year in commission fees from the tech giant. Larger companies are even more costly for Google. In 2019, it paid Apple an estimated \$1.5bn to be the default search engine on its Safari browser in the UK alone. Google therefore makes an enormous saving through having the world's most popular web browser.

2.4.2. Gmail has a huge audience with low levels of monetization

The next software-as-a-service (SaaS) market where Google comes out easily on top is email. The Gmail platform is, like Chrome, an essential driver of Google account sign-ups, and is therefore important for tracking user-activity to optimize ad-placement.

The less successful part of the Gmail model is its on-screen advertising. Simply gathering data from users' email accounts, in addition to or instead of their web searches, Gmail targets advertising on both its in-browser and in-app versions. However, in order to compromise on the user experience as little as possible, Gmail places ads at the top of users' in-boxes in the form of small, expandable banners that look like emails. These have far less screen presence than the ads which Google places on websites, and only a very small proportion of its overall advertising revenues come from Gmail accounts.

2.4.3. Android pays for itself, but is also crucial to the wider advertising model

The stunning return on investment from Google's YouTube acquisition could be said to pale in comparison to its 2005 purchase of the mobile operating system Android. It reportedly paid just \$50m for Android, and in 2020 between 80%–90% of phones bought each quarter run its operating system. Besides search, this is perhaps the greatest monopoly Google has in any market, especially considering that the smartphone and tablets market is highly concentrated. Android's partnership with Samsung, the world's best-selling smartphone manufacturer, has of course been key to this success.

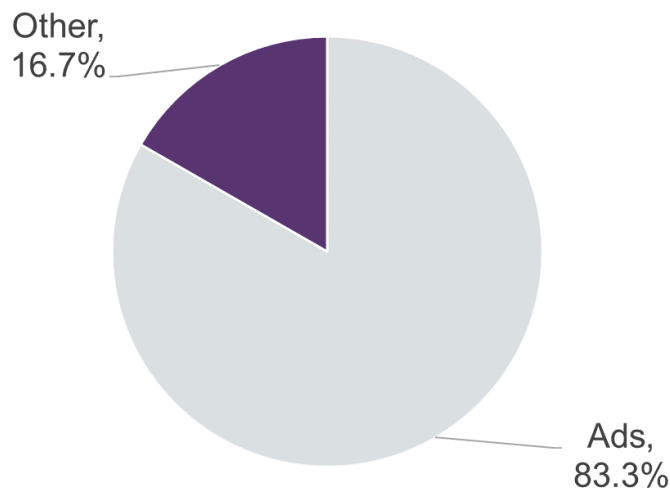
Much like the Chrome web browser, one of Android's most important contributions to Google's balance sheet is the saving it delivers on fees to other companies. The main competitor in play here is Apple, whose iPhone is the only real contender to Samsung's smartphones. As mentioned in Section 1.2.1, Google already pays billions of dollars to Apple each year to have its search engine be the default for Apple's Safari web browser; the majority of Safari usage happens on iPhones. Therefore, for every percentage point of market share Google holds over smartphone operating systems, it saves millions of dollars in commission payable to its biggest competitor in the market.

In addition to these savings, Android makes an obvious contribution to perpetuating the Google ecosystem, and therefore in optimizing the company's ads. Like all of Google's other services, Android does not directly generate revenue. Smartphone manufacturers incur costs from licensing through third-party companies, but Google itself does not directly charge them to use the operating system or its services. This is because of the data that Google compiles from widespread use of those services, the data which is fundamental to the targeting of its ads.

3. Google's data-driven ads model faces multiple threats

In the last decade, disruptors have emerged in Silicon Valley which threaten to derail the way advertising works online, the system over which Google previously had a virtual monopoly. Whilst Google and its parent company have become renowned for their innovation, Google itself has a lot to fear from these disruptors. Its dependence on advertising and uniquely free-to-use suite of products have become critical vulnerabilities. In the coming decade, Google's business model can therefore be expected to shift towards monetization of its products beyond advertising, but the exact future of the model is anything but certain.

Figure 2: Advertising revenues versus other revenues on Google's balance sheet (2019).



Source: Google

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3.1. Voice search threatens to erase on-screen ads

In 2018, Forbes magazine predicted that by 2019 the search engine optimization (SEO) market would be dominated by voice search. Amazon, Apple, Microsoft and Google itself are all building voice-controlled functionality into their products and services, including web search. Whilst the Forbes prediction proved to be a slight overestimation, voice search is without doubt a real and present danger to Google's primary way of making money.

The chief consequence for Google is the reduction of available advertising space. Whilst on-screen ads can and do proliferate on webpages viewed on phones and computers, as essential revenue sources not only for Google but also for most publishers, this kind of visual clutter will obviously be more detrimental to the user experience in audio search results. If the aim of voice-controlled devices is to make the experience of using them more seamless and automatic, then internet search results will need to deliver the best results instantly, without reading off a list of ads. The attention-grabbing objective of visual ads is simply not compatible with this experience.

As in almost every other field, although in this case slightly ironically, Google is often ranked as the leading proponent of voice-search technology. Its parent company's practically limitless stores of capital have enabled it to develop voice assistants – Google Voice Search and Nest – which are consistently rated as technically-superior to competitors like Amazon's Alexa, Apple's Siri and Microsoft's Cortana. Google's determination to stay ahead with this technology is founded on the same logic as its excellence in web browsing and smartphone operating systems. If it falls behind, it faces the prospect of paying huge sums of money to its competitors to be hosted on their voice search applications.

That prospect became a little more real in September 2020, when Apple released its iOS 14 software update for the iPhone. The update came with its own internet search, subtly included as a new addition to the iPhone's internal search and not powered by Google. This strongly suggests that Apple is building up its own web search capabilities to challenge Google, but a browser-based search engine would be a strange move for Apple, which lacks Google's formidable reputation in that sphere. Instead, it would make more sense for Apple to be building its search capabilities to complement its already-pervasive Siri application. Apple's mobile operating system is the second most widely-used after Google's, and it is taking clear steps towards voice search supremacy.

3.2. Facebook has moved aggressively into Google's advertising territory

For more than a decade, Google was practically unchallenged in its key markets; its monopoly over data-based advertising and its free apps made it a Silicon Valley stronghold. However, two players in particular have eventually reached comparable scale, and are now beginning to seriously disrupt Google's previously watertight business model. These companies are Facebook and Amazon, and they have proven far more aggressive than Google in their quests for expansion.

After its incorporation in 2004, Facebook, which operates some of the world's largest social media platforms, rose fairly rapidly to challenge Google's dominance of online advertising space. It did so by creating new space, which in terms of user concentration on a single site has seen unprecedented demand. Facebook's model is fundamentally the same as Google's: it collates data about its users' activities on and offline – including on other sites, using cookies – in order to sell targeted advertising space.

Facebook's strategy is centered on maintaining high numbers of monthly and daily users by making its platform as engaging as possible for the global population. New features are constantly being updated to the platform to retain users and engagement with ads. In 2015, Facebook introduced features like "Why am I seeing this ad?" and Ad Preferences, so that consumers could control what ads they saw on the site, making them more likely to engage. Facebook is continuing to develop ways that consumers can mitigate the ads they see which eases the threat of ad fraud and increases the likelihood of interaction.

According to eMarketer, Facebook's share of online advertising in 2020 stands at 19.2%, versus Google's 36.2%. Whilst the next two rivals, Amazon and Snap, have done a lot to erode the shares of both these companies, Facebook has had the most severe impact on Google's share specifically.

Despite a US antitrust hearing in June 2020 which gave the whole of Big Tech bad press for aggressive market tactics, upon closer inspection Google has behaved with less aggression than the likes of Facebook. In doing so, it has arguably missed key opportunities to slow its rival's erosion of its advertising revenues.

A particularly high-value case of aggressive behavior from Facebook which was detrimental to Google was its acquisition of Instagram in April 2012. Having already taken a chunk out of Google's advertising market share, Facebook took control of another hugely successful social media platform and in doing so gained valuable advertising space. Facebook reportedly paid \$1bn for Instagram, which would have been a drop in the ocean of Google's available capital at the time. The fact that Google did not make any acquisitive moves to halt Facebook's advance when its IPO took place one month later, with the company floating at \$50bn, was indicative of a far less aggressive strategy.

Alongside other Big Tech heavyweights, Google might be praised for its comparative tolerance of diversity in the marketplace, but it is also clearly vulnerable to the acquisitiveness of those heavyweights. Facebook broke its own record in

2014 with its acquisition of the messaging platform WhatsApp for \$19bn, beating Google's largest-ever acquisition, \$12bn for Motorola Mobility in 2012.

3.3. Amazon is Google's biggest competitor since Facebook

Amazon is another tech giant which has behaved aggressively to the detriment of Google. However, putting aside the M&A activity which has given Amazon divisions like Whole Foods Market, the main strategy that has come to disadvantage Google is its aggressive monopolization of ecommerce.

3.3.1. Aggression is built in to Amazon's business model

Various estimates have Amazon's share of ecommerce in 2020 at around 45%. From starting out as a cut-price bookseller, the company has famously come to dominate ecommerce across categories by attracting third-party sellers and then copying their products. Whilst this is not a familiar tactic in the world of business, it does constitute the kind of aggression that has rapidly usurped Google's hold on its own markets.

3.3.2. It has become an effective search engine for ecommerce

Before Amazon rose to its current heights – a time which is difficult to pinpoint since it has enjoyed double-digit growth over much of the last decade – Google was the de facto ecommerce search engine. As in all the verticals which it mastered online, it achieved this position not through targeted strategy, but through its brand-power. Google Shopping launched early on in 2002, but Google's real power remained in its basic search function, which was the number one way to find any kind of product and seller. Now Amazon has gained comparable brand power across North America and most of Europe, and brings a targeted strategy with it. Amazon's ability to stock practically any type of consumer product and undercut any significant competitors on price and shipping times has effectively made it a search engine like Google, only specializing in ecommerce.

3.3.3. Amazon is becoming less reliant on Google for ads

Thanks to its new status as a go-to search engine, Amazon is now able to naturally come out on top of Google search results without paying Google for the privilege. In other words, it is so popular across categories that the Google search algorithm ranks it top for most ecommerce searches automatically. Due to the massive contribution of Amazon to AdSense, which has grown in proportion to its success, the prospect of Amazon reducing its reliance on Google to drive traffic to its site is a frightening one for the company.

3.3.4. Amazon is competing with Google for more than search

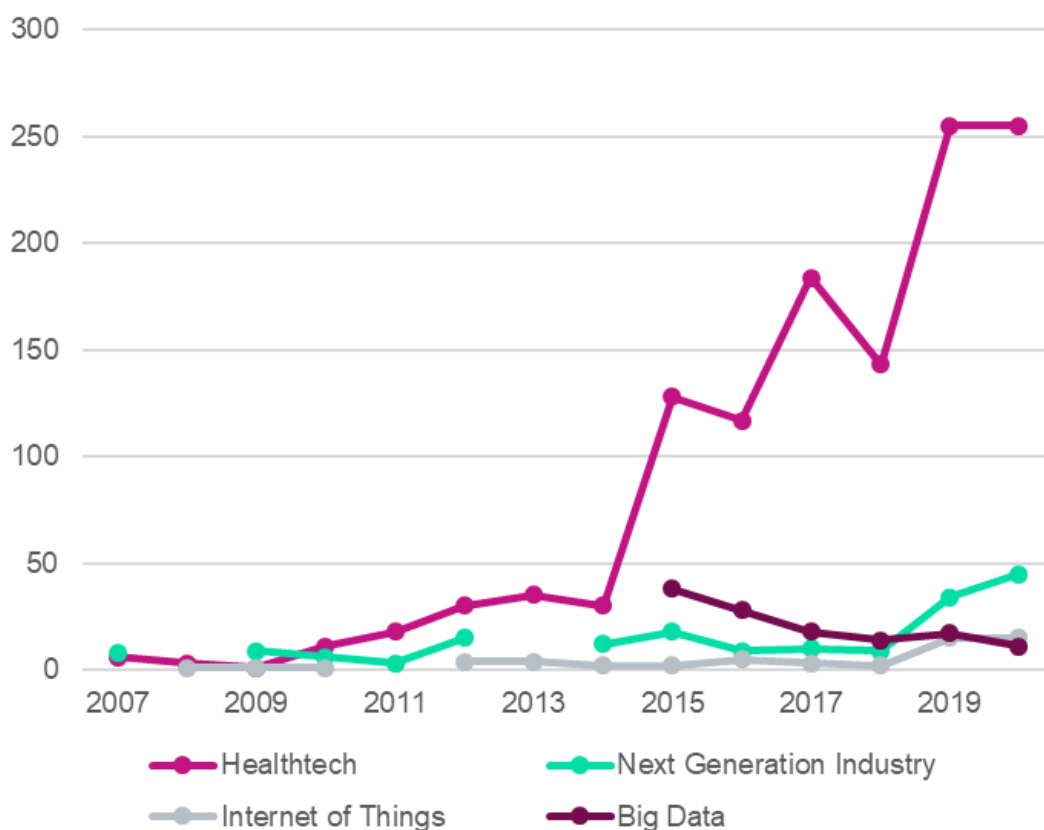
In 2018, Amazon brought its disparate advertising functions together under one brand, Amazon Advertising, signaling a serious bid to go after Google and Facebook in the competition for online advertising space. At a new flagship event in October 2019, called AdCon, the company showcased its advertising products, which has been growing since it acquired an ad server and optimization unit from the ad-tech company Sizmek in May 2019. It held around an 8% share of the online ad market in 2019, according to eMarketer, and is growing rapidly.

Like Apple, Amazon also threatens Google's bid for leadership in the voice search market. Its Alexa personal assistant is one of the best-selling on the market, giving it an important foothold in the emerging voice search market which Google needs to fight so hard to control (see Section 2.1). Once again, its aggression in this market is likely to win out against Google's more tentative, R&D-heavy strategy.

Perhaps the newest frontier where Amazon is facing off against Google is in healthcare. Both companies have clear interests in healthtech, although these are currently being pursued under a separate division of Google's parent company Alphabet. During the COVID-19 pandemic, Amazon has moved faster than Google in asserting its brand in the healthcare sphere. Amazon, having long piloted its Amazon Care service as an internal service for employees, began delivering testing COVID-19 in early 2020. This was widely seen as an early prototype of services Amazon will run through its Alexa assistant and wearables, monitoring health indicators and automatically pushing treatments remotely, the same way it monitors consumer preferences and pushes products on its ecommerce site.

In the meantime Google, which has had hit-and-miss attempts at its own wearables for monitoring health indicators, formed an unprecedented partnership with Apple to offer a COVID-19 track-and-trace app on the two companies' smartphones. This collaborative approach was again indicative of Google's friendlier attitude towards pushing its products, in direct contrast to the aggressiveness with which Amazon has eroded its market share in other areas. As the healthtech market continues to grow far more rapidly than other areas of medical technology, Google will be fighting a determined competitor.

Figure 3: Growth in volume of M&A activity in healthcare by segment (2007–20).



Source: GlobalData Healthcare Deals Database

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3.4. Regulations could derail Google's ever-growing data store

As discussed in Section 1, Google's prowess in online advertising has come from the still-unrivalled depth and breadth of the data on users' activity which it can leverage for precision-targeting of its ads. This means that since 2016, during a period of heightening awareness of and anxiety over the use of consumer data, regulation is one of Google's biggest threats.

The EU is the primary source of regulation that Google has to worry about. When the EU's GDPR was put into force in 2016 to create a framework for data protection, where users must be allowed to opt-out of use of their data, it quickly became the standard across much of the world. The next big piece of regulation expected from the bloc is the Digital Services Act (DSA), which will aim to enforce data-sharing among tech companies to loosen the grip that firms like Google and its rivals Facebook and Amazon have on online marketplaces. For Google this could mean losing even more advertising market share to smaller players, increasing the imperative to diversify and bolster its other revenue streams.

4. Alphabet's war chest affords Google numerous opportunities to diversify

The success of Google's core business model has enabled it to amass tens of billions of dollars' worth of capital for investing in new ventures. Whilst much of this capital is distributed among the various other divisions of Alphabet, Google has enough of its own resources to rapidly diversify its business. Core products are already diversifying the Google ecosystem, although its forays into cloud services and hardware have had varying levels of success.

4.1. Google Drive could move into the B2B market

Since 2012, Google has had its own play in the B2C cloud services market, which has rapidly expanded in the eight years since its entry. Unusually, Google came to the cloud much later than the incumbents; Box had been around for seven years, Microsoft's OneDrive for five years and Dropbox for four. Nonetheless, with the pervasiveness of its ecosystem and free products, Google has rapidly risen to become one of the leaders of the B2C market, ranked second to Dropbox.

A key to its success here is Google Docs and the associated G Suite range of productivity tools. These are free to use like its other products and make collaboration using Google Drive a more comprehensive and accessible option than any other competitors, including Dropbox.

The next frontier for Google in the cloud is B2B cloud services, where Amazon's AWS and Microsoft's Azure are currently leading the way. As Google fights to diversify, the B2B cloud market is arguably one area that is less prone to monopolization by rivals, and could generate billions of dollars' worth of growth.

4.2. Pixel phones and laptops remain important despite low impact

An area where Google's entry to the market has been less successful is consumer hardware, but this is still an important area worth pursuing as the company diversifies. Google has mounted determined attacks on the smartphone market, dominated by Apple and Samsung and already hosting an emerging contender in the form of China's Huawei, and the laptop market, which at least in terms of onboard software is also highly concentrated between Apple and Microsoft.

Google's hardware bets have already faced challenges, due partly to its ambiguous position in the marketplace and partly to its two-pronged attack on the laptops segment. The former point is particularly problematic for its Pixel smartphones, sales of which have failed to impress its competitors.

Because Google's foray into hardware has come mainly from a critical need to diversify, rather than from an organic opportunity, there is no obvious position for it to fill in the smartphone market. Samsung, the market leader, targets every possible consumer category with an extensive range of diverse products. Meanwhile, Apple's success alongside Samsung, especially in profit terms, comes from its fiercely loyal customers who prize the high-priced exclusivity of its devices. Where Google fits in between these two manufacturers is difficult for these reasons, not to mention the fact that Samsung already hosts Google's software, making it difficult to differentiate the user experience of its Pixel phones. This difficulty of differentiation also plagues its Pixelbook laptops. Whilst the latter do have a strong position to fill in the market – low-cost, lightweight devices for non-business users – their Chromebook operating system was launched previously on Chromebook laptops produced by other manufacturers.

Despite these drawbacks, Google is in the hardware market and would do well to stay there. As the devices landscape changes in the next decade, particularly with the growing popularity of wearables, a strong hardware brand will be important for growth beyond ads and data.

5. Appendix

5.1. Abbreviations and acronyms

Software-as-a-Service (SaaS)

Search engine optimization (SEO)

Digital Services Act (DSA)

5.2. Further reading

Dell Technologies: Company set to become a leader in cloud and edge computing (2020), MarketLine Case Study

Apple Inc.: The world's most valuable company has perfected the luxury tech business model (2020), MarketLine Case Study

Healthcare Tech: Critical breakthrough for the sector amid COVID-19 crisis (2020), MarketLine Analyst Insight

Amazon & Big Tech: Subcommittee hearings only a warm up before EU's upcoming report (2020), MarketLine Analyst Insight

Health-Tech Start-ups vs Big Tech: Tech giants are advancing on telemedicine and eHealth (2020), MarketLine Analyst Insight

Amazon, Apple, Facebook & Google: Too big to fail, too big to regulate (2020), MarketLine Theme Report

6. Ask the analyst

We hope that the data and analysis in this case study will help you make informed and imaginative business decisions. If you have any questions or further requirements, MarketLine's research team may be able to help you. The MarketLine Research team can be contacted at ReachUs@MarketLine.com.

7. About MarketLine

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Established in 1997 when the Internet was in its infancy, we recognized the need for a convenient and reliable data service to help our clients understand local and global markets and the companies operating within them.

In today's information-rich world, sifting fact from fiction to pick out what's relevant and what's up to date has become the new 'holy grail' in business information provision.

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