Apple Versus Google, Season Two

Google and Apple dominate the world of smartphones, thanks respectively to their Android and iOS operating systems. Yet they are not locked in face-to-face competition, being rooted in quite different business ecosystems and models. More importantly, their platforms are differentiated, even if they support the same killer apps, from Angry Birds to YouTube, through Facebook and Uber. This explains why rivalry between the two West Coast firms is likely to last, without one necessarily sidelining the other. But if we turn our attention to the countless application developers, competition is head-on and ferocious. They are all intent on drawing and holding the attention of consumers. They are also in competition with Google, which pre-installs its proprietary apps (Google Earth, Finance, Weather, Maps, Search, etc.). This practice is the focus of criticism by competition authorities. Let's take a closer look at all this, drawing on a new set of economic concepts.

Business Model, or How to Deliver Customer Value and Convert It into Profits

The iPhone, which was launched in 2007, is consistent with Apple's strategy of integrating soft and hardware. iOS is neither licensed nor sold separately. Much the same applies to the App Store. Apps are bundled with the handset, from which Apple derives most of its mobile-related revenue.[1] The iPhone is only open to app developers

and telecommunications operators, yet even this opening is subject to conditions. Apple develops and owns proprietary apps. They are already installed on the phone at the time of purchase and they cannot be deleted, or at least with great difficulty. Some, such as Photo or Safari, contribute to the value of the phone, without generating revenue. Others, such as iTunes, do, thanks to downloads purchased by users.

In addition, when Apple rolled out its smartphone, it signed exclusive agreements with only one operator in each country, limiting access to the latter's customers and requiring the operator to subsidize iPhone sales.[2] At the outset, Apple succeeded in finding an operator in every target market prepared to accept its drastic terms, because the phone, with its big, touch-screen, user-friendly interface, handy design and apps, seemed to be the epitome of a smartphone, despatching precursors such as Blackberry or Nokia to the dustbin of history.[3]

Business Ecosystem, or the Interplay of Collaboration and Complementarity

In contrast, the Google ecosystem, which is based on Android and its application store Google Play, is open and free of charge. A few months after the iPhone launch, a consortium headed by Google and comprising telecommunications operators, handset manufacturers and software developers announced the arrival of phones running Android. They formed a sort of united front in opposition to Apple, a newcomer to the phone business which had proved an immediate success. Google's accommodating attitude encouraged large numbers of manufacturers and operators hurriedly to adopt Android. It not only gave them access to the user interface and source code, but also made no charge for the licence. It even passed on a share of advertising revenue derived from its search engine. On the other hand, with Google Play, manufacturers and operators

had to accept a whole series of proprietary Google apps, which had to be pre-installed and were inseparable from Google Play. Theoretically, manufacturers can develop their own version of Android, but in that case they can no longer install Google Play and lose a share of advertising revenue.

Android is a sort of Trojan horse which has found its way into 80% of the world's smartphones. It has enabled Google to migrate its software from PCs to mobile devices and in so doing extend its publicity-related business. This holds true for its search engine, but also for other high-profile apps such as YouTube. Google has thus adapted its way of working to a two-tiered substitution process.[4] First, the pairs of eyes and mouse clicks of such importance to organizations purchasing publicity are shifting their focus from PCs to smartphones. At the same time, their volume is growing much faster on smartphones. In a similar vein, smartphones make data gathering much easier, enabling consumers' movements to be tracked thanks to the device in their pocket. Second, smartphone users tend to make more use of apps to access services (weather forecast, hotel booking, etc.) directly rather than via the search engine, previously Google's prime source of publicity revenue.

Differentiation, When Products Are No Longer Quite the Same

Android and iOS are differentiated platforms. Apple exclusively targets the upper end of the market, where Android phones also target medium and lower segments. So the average iPhone user is more prosperous. In the United States, the median user of Apple phones earns 40% more than their Android counterpart. A larger proportion of the population of developing countries uses an Android phone. We should point out in passing that the fact that Google's operating system and apps are free has been one of the key factors enabling the unit price of smartphones to drop below $50.

The owners of iPhones also spend more time browsing or phoning, and are more inclined to purchase additional apps. Consumers download far more applications from Google Play than from App Store, but the value of the latter's sales is twice as high.

Multi-Homing: Developing Competition Between Platforms

The vast majority of firms developing smartphone apps target only one platform. They design the software for sale by one or other outlet. The cost of writing software for a specific platform explains why they opt for single-homing. The code in part of an application will need to be changed for it to work under iOS or Android. Making an app compatible with both operating systems doubles its price. Choosing one or the other depends on the type of consumer a firm is targeting, in terms of geography and sociology. On the other hand, it has little to do with the terms in the contract, which are similar. Developers must pay a registration fee of under $100, then pay Apple or Google 30% of revenue from downloads of paid apps and from purchases made using the apps (buying lives or weapons for characters in games, for example).

On the other hand, multi-homing is de rigueur for apps that aim to achieve or have already achieved massive success, and for Web 2.0 or 'social' apps.[5] From the outset, leading developers of games or services write their software for both platforms. The same applies to companies, such as banks, airlines or couriers which interact with their customers. If an app designed for one platform attracts a large number of users as soon as it launches, it will immediately be ported to the other platform.

Of the 2 million apps available on each platform, only a very small number can be found on both App Store and Google Play. But in strictly business terms, multi-homing is the dominant trend, quite simply because on the whole we are all interested in the same apps.

Just twenty of them account for 80% of all downloaded apps.[6] No mistake! We really mean twenty apps and not 20% of all apps. In other words, there is no need for consumers to opt for iOS or Android to use a specific app. Regardless of which smartphone you own, you can access Facebook, YouTube, Uber, TripAdvisor, Angry Birds, Instagram and Shazam, big banks, national rail operators and such. Alongside them you will find a myriad others catering for niche audiences, among which you will no doubt find just what you want. So as both platforms offer the same services there is every reason for their co-existence to continue.

When Apparent Economic Abundance Conceals Scarcity

The average user does not install many apps – thirty or so in the USA and France. They only use a much smaller number in a regular way, for two, separate reasons. They lack the time needed to find more apps, download them and learn how they work. They lack sufficient room on their phone too, with its cluttered display and saturated storage. So space is at a premium, all the more so because the visibility of apps depends on rankings, such as the week's 10 most popular games or the month's 20 most popular cooking apps. To stand a chance of getting onto one of these lists, contenders must spend huge amounts on marketing and publicity, particularly on social media.

The world of mobile apps has become ultracompetitive. Developers must vie with dozens of similar products and hundreds of others of the same type (games to develop toddlers' motor skills, how best to match food and wine, etc.). But above all they must cope with a much larger number of totally unrelated apps, also out to catch the attention of prospective users.

There might be apps of interest to you among the millions of apps with a small or perhaps non-existent audience, but it is akin to finding a needle in a haystack. There is no effective tool for tracking

down just the right app, nothing like the Internet search engines which seamlessly connect individual queries with a stupendous mass of data. So it is an upward struggle to make full use of the many apps that only interest a few people.

Tying to Make Two Products Inseparable

Competition authorities on both sides of the Atlantic are concerned about Android's hegemony. In Russia, the Federal Antimonopoly Service found that Google had 'violated antimonopoly legislation in part of abuse of its dominant position'. The European Commission has fined Google €4.3 billion and the US Federal Trade Commission has started an inquiry.[7] The concern is that Google may be forcing phone manufacturers, wishing to gain access to Android and Google Play, to pre-install proprietary apps.

Google's licensing contracts tie use of the Android operating system and Google Play to installation of other apps such as Google Search, Chrome and YouTube.[8] In so doing, the Mountain View colossus is allegedly preventing phone manufacturers from choosing similar, rival apps, or developing their own set of apps and installing them as they choose on their phones. So the thrust of this claim is that manufacturers can differentiate their handsets with regard to technical performance and innovative design, but they cannot do the same with their apps. Unless of course they agree to do without the almost inevitable suite of Google apps.

This case is reminiscent of the conduct remedies and fine the European Commission imposed on Microsoft. Brussels concluded that the firm had broken EU competition law by tying proprietary Media Player software to its Windows operating system, a practice that obstructed competitors. It was quite possible to buy a PC and subsequently download other media players, but their developers had little chance of winning over a PC user base equivalent to Microsoft's. The applications tied to Windows benefited de facto from the system's

omnipresence on PCs worldwide. Furthermore, when consumers buy a new machine they tend not to tweak the default setup. Only if they have much higher expectations of a competing product's performance will consumers remove pre-installed software. Otherwise, there would be little incentive to waste time finding out about the price and features of possible substitutes then downloading them. Under these conditions, it is an uphill struggle for Dailymotion to compete with YouTube, which is pre-installed on 80% of the world's smartphones, excepting in China. This is because the Chinese authorities have outlawed Google Play and many of Google's proprietary apps. Phone manufacturers have developed various versions of Android, taking advantage of it being open software. Competition and innovation in apps seems to be stronger there, offering consumers more choice. But there is a downside: the diversity and fragmentation of operating systems and apps reduces the size of platforms and entails compatibility problems.

In a few years, after the decisions of the Court of First Instance and the European Court of Justice in Luxembourg, in the event of two appeals, we shall find out whether the EU thinks Google's tied apps jeopardize consumer interests.

In the meantime, the focus of competition will probably have shifted. Innovation gallops on, whereas anti-trust law primarily disciplines past behaviour. At present there is an app for everything and everyone, even if we don't know how to find them. The app business is mature. By the time the various authorities have issued their rulings on Android, competition may have moved to chatbots. In case you're not familiar with this concept, a chatbot gets round the need for apps, talking to users to answer messages addressed to them. It can, for instance, book a flight, set up a meeting or order a take-away meal. Facebook and Microsoft have apparently got a head start in this field, which depends on artificial intelligence.

Soon there may be a chatbot to answer all your questions on economic analysis of competition!

Notes

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2. Winter, J. (2014), 'Success factors of mobile business ecosystems. From hardware-centric to content and advertising-based business models', Licentiate Thesis, Department of Computer Science and Engineering, Helsinki, Finland.
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4. Moore, J. (2006), 'Business ecosystems and the view from the firm', *Antitrust Bulletin*, 51(1): 31–75.
5. Gabszewicz, J. and Wauthy, X. (2005), 'Two-sided markets and price competition with multi-homing', Université Catholique de Louvain, Core discussion paper 2004030.
6. Bresnahan, T., Orsini, J. and Yin, P-L. (2014), 'Platform choice by mobile-app developers', Institute for Economic Policy Research, Stanford University.
7. Antitrust: Commission fines Google € 4.34 billion for illegal practices regarding Android. European Commission Press Release, 18 July 2018.
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