Why world domination can be a good thing

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Introduction

There have been a number of key products and solutions in the world of computing and communications that have changed our world. These include the emergence of a standard platform for the PC, the commercialisation of the Internet and the advent of the iPhone. Without these, and the markets, products and ideas that they have spawned, our lives today would be much poorer. A common theme is making it easier for us all to use and share technologies and resources already available. Behind all of these is an element of monopolistic power and of integration across a wider value chain. This article looks at how this has happened and what we might learn from it.

Examples

In the late 1980s the PC was emerging as a widespread tool. But there was limited interoperability in file types and applications. The MAC and the PC had very limited ability to share files, and even on the PC there were often variants of different tools – for example multiple spreadsheet tools such as Lotus 1-2-3 and others that often did not interoperate. Sharing files across different users could be difficult and cutting and pasting between applications near-impossible. But by the mid 1990s most had consolidated onto Microsoft Office and even Apple provided support for PC-based files. Competitors like Lotus ceased to exist. The upside was a simpler life for all although there were concerns about Microsoft's monopoly position resulting in long-running legal action over browsers. An important element of Microsoft's success was leveraging their ubiquity in operating systems into the office suite of programs.

In the mid 2000's data usage on mobile phones was very limited. Devices were difficult to use and there was little appropriate content available. This was despite a decade of efforts from mobile phone companies and mobile operators. All of this changed with the iPhone which pioneered touch-screens, a completely new operating system optimised for mobile data and the concept of the Apps store (building on the success of iTunes). The iPhone broke the mould of evolution of devices based on common operating systems such as Symbian and interworking across multiple platforms. Leveraging its strong brand image and loyal customer base Apple quickly gained a near-monopoly in smart phones, although this only lasted briefly as other manufacturers reacted. Again, ownership of the operating system helped along with Apple's monopoly of music provision through iTunes. For a time Apple became the world's most valuable company.

In a similar move, Amazon caused the ebook market to become mainstream. Prior to their involvement it was slowly growing with little traction around platform-type. With the launch of the Kindle ebooks became mainstream. Amazon's approach was to link the device tightly to the content through a single store and using connectivity that was embedded and transparent to the user. Kindle devices were locked down to only using content sourced from Amazon.

More recently Google has been increasing its presence on the phone with applications such as Google Now offering the first viable "remote control on life". Google is leveraging its position in phone operating systems (Android) as well as its Gmail and linked calendar in order to bring together a wealth of information on the individual. While not a monopoly, the benefits of using "Google everywhere" are becoming increasingly apparent just as they were with Microsoft in the early days of the PC. Quite where this might lead is unclear but it is possibly the most important ICT development at present.

Common themes

There is much commonality here. Clearly, all of these companies leveraged a strong position often in operating systems, or the equivalent. They are all US companies, mostly West-Coast and were all start-ups, often only a few years before becoming successful (except Apple). Most of them were sufficiently profitable that they could afford to invest in highly speculative activities. All of them had highly charismatic and very powerful CEOs or leaders (Bill Gates, Jeff Bezos, Steve Job, etc). In most cases there was little need for new technology, rather better software that made things easier to use. Some cases involved acquisition of the underlying platform (eg Android) but in many others it was home grown.

Most of these examples have also raised concerns among regulators and the public about monopolistic power, abuse of position, privacy of data and so on. Equally, over time competitors have emerged. Microsoft's position is being gradually eroded by Google and the move away from PCs. Apple's iPhone is now less popular than Samsung devices. The ebook market is still in flux but Kindle is now a platform running on tablets.

Lessons

Most of the major changes in computing and communications are not driven by technology. Often there has been underlying technological improvements, such as in mobile data or touchscreens, but these have not become widespread, languishing until someone simplifies and popularises their introduction. The simplification typically requires integration into operating systems, devices or business models to overcome complexity and lack of common standards. This requires a strong, quasi-monopolistic position (otherwise fragmentation results). So rather than being concerned about dominant players we should generally welcome their emergence and give them some leeway to bring about world-changing concepts. Going further, instead of promoting broad R&D projects across multiple companies it might be better to concentrate resources on a few select entities, or at least refocus industrial policy to recognise the reality of the ICT world. Europe, for example, has singularly failed to be part of any of the case studies reported above despite its apparent strengths in some of the core technologies.

More generally, Governments and regulators have a strong focus on competition. But in a world where there are advantages to all from common platforms and dominant players this may not be appropriate. For example, striving to maintain multiple mobile network operators to keep current prices down might be sacrificing the benefits that a single integrated entity could bring, leveraging their ownership of the network into the device or the application. A focus on standards may not always be appropriate, especially at higher layers. Recall that iTunes was not based on a standard, nor Kindle. All, however, required underlying "bit pipe" standards such as Wi-Fi. The evidence is that

competition does eventually emerge and that clear abuses of power can be addressed using existing powers.

Many of these developments were not predictable – indeed, if they had been Motorola, Nokia, Siemens and Ericsson would all still dominate the handset market. However, it might be instructive to look at an emerging market and ask how we might behave if we wanted to promote a dominant player. A strongly emerging concept is the Internet of Things (IoT) or machine-to-machine communications (M2M). This is a hugely fragmented market with a complex eco-system which might well benefit from a single entity that can pull together a simple-to-use consolidated solution. Who this might be is unclear but perhaps a company that spans a wide range of machines. Companies like GE, Samsung and similar fit this criteria, but not the profile of West-coast start-up identified above. Perhaps someone like Cisco is more likely even if they do not control much of the market for the actual devices. Or perhaps this market is still too diverse for any one entity to be able to pull it together? Or maybe we're still in the equivalent phase of inventing the touchscreen and need to wait a little longer before simple solutions are possible?

Even if we cannot predict where the next world-changing development will occur we should recognise the enormous value it will bring to society and nurture those who might have their own chance of world domination.