

# Technical Innovations

## (Re)shaping the Mobile Sector: the Breaker, the Trojan and... the Shopping Malls

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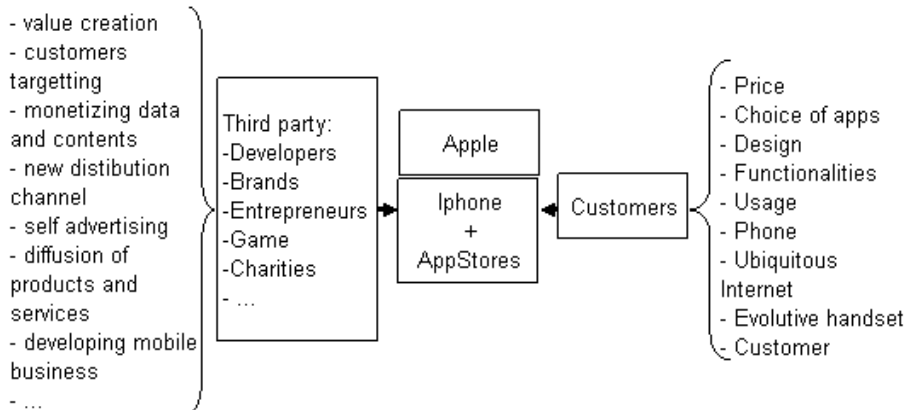
In the recent years, the mobile industry has experienced important changes in its very structure shifting from an operator-centric model to a burgeoning business ecosystem (ANDERSON & WILLIAMS, 2004; BASOLE, 2009; BASOLE & ROUSE, 2009; GUEGUEN & ISCKIA, 2008) made of various players including mobile operating system (OS) providers, software vendors, independent developers, device manufacturers and operators (MNOs and MVNOs). Even if some of these players share the same vision of what will be the future of the mobile Internet their strategic agendas are not yet aligned and most of them consider they have more to lose than to gain through cooperation. For instance, most OS providers claim to support open standards but they have all launched their own OS to differentiate themselves which increases competition. This has resulted in a jungle of OS making innovation even more risky - but still absolutely essential - for the other players and finally decreasing the efficiency of the whole business.

The mobile ecosystem is characterized by an extremely rapid pace of innovation in various complementary domains. In few years, software vendors, OS providers, device manufacturers and network operators have launched their own apps stores, each offering hundreds of applications. Everything started in 2007 when Apple launched its iPhone and opened its App Store subsequently in 2008. Apple's iPhone and its App Store marked the end of "business as usual" and turned the field of mobile applications into a big business, prompting other players to imitate that model: Nokia with its Ovi Store and Google with Android Market to name a few. OS providers also realized they might grab a piece of the pie so they launched their app stores too: App Catalog (Palm), Windows Marketplace (Microsoft), App World (BlackBerry), Android (Google). Of course, device manufacturers such as HTC, Samsung and LG also opened their own versions of mobile

applications platform. Meanwhile, MNOs realized that the world was changing and that they have to push their own standards for applications in search of new revenues and a degree of control over their networks. Yet, some of them are considering app stores as a way to generate cash, selling applications that include the bandwidth needed to use them. They are also trying to provide web-based services (Widgets, Mashups), third party services (social search or recommendation tools), or capabilities to others (long tail content).

Thus, innovation is everywhere in the mobile ecosystem (applications, OS, networks) suggesting that platform-based models will have to bring together various players. The new mobile ecosystem looks like a real jungle in which predators and prey struggle for survival through platform competition. How has this happened? New players entered the industry with rather offensive intentions and disruptive business models. How did they break the market rules of the mobile sector? How did they create a new competition landscape? They simply crafted new business models relying on two-sided value proposition (see figure 1).

**Figure 1 - Two-sided value proposition by Apple**



This two-sided value proposition is implemented through platform strategies. According to GAWER (2009), "a platform is a building block, which can be a product, a technology, or a service, that acts as a foundation upon which other firms can develop complementary products, technologies or services". A platform is in this sense an artefact enabling interactions between different groups of affiliated economic agents.

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## Platform economics

The emergence of platforms often supposes the existence of market failures and hence of unexploited market opportunities. Market failures arise because of lack of markets for some products or services, information asymmetries or anti-competitive behaviours. These failures lead to inefficiencies. They should be interpreted as missing opportunities of two kinds:

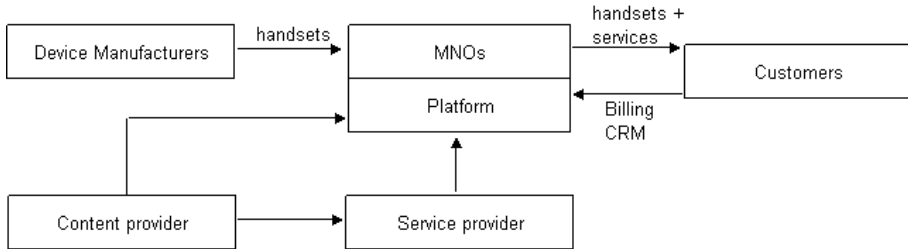
- missing mutually profitable exchanges or transactions: some market segments are not addressed or consumers make wrong consumption decisions;
- missing collectively profitable innovations.

These missing opportunities have multiple sources. The most important are: the lack of coordination arising because of asymmetries of information, uninformed consumers, high transaction costs, spatial dispersion of consumers and buyers, temporal dispersion of consumers, dispersion of resources, inadequacy of technology, etc. If these exist on a particular market, then its structure is neither adequate, nor efficient.

A remedy to a market dysfunction is to create new market conditions and structures. In such a context, platforms strategies can arise: platform holders are literally "market creator". They will manage to correct those market failures. By providing economic agents with relevant information and resources, the platforms will ease the implementation of these missing opportunities (exchanges and innovation). As argued by HAGIU (2009), platforms perform then two functions: "reducing search costs, incurred by the platforms' multiple constituents before transacting, and reducing shared costs, incurred during the transactions themselves". In this sense, the platform does not necessarily monetize the interactions as such but rather their implementation.

The starting point in the mobile industry (market failure) is the so called "mobile Internet" and the foreclosure by the MNOs of the markets opportunities for Internet and ubiquitous applications. Their control of the value chain relies on their privileged access to the customers. Indeed, selling ubiquitous services or applications requires reaching mobile operators' customers. The MNOs control all flows from and towards their customers' bases (see figure 2): billing (financial flows), CRM, data flows, etc.

Figure 2 - MNOs-centric value chain of the mobile sector



The most threatening forms of competition do not necessarily come from the market (face to face competition) but are nowadays the consequence of the intrusion of dominant/powerful firms in adjacent markets (side-competition). The new players in the mobile industry are no absolute beginners. They are "big guns" in their own industries with strong market position (Apple, Google, Microsoft, Amazon, ...) looking for new business opportunities in adjacent markets. They share the same shaping vision (HAGEL *et al.*, 2008): Internet is unique, ubiquitous and net neutral! This vision of the Internet opens huge market spaces and business opportunities for the next decade. But it has to be implemented. Platform strategies appear as a powerful tool for this implementation.

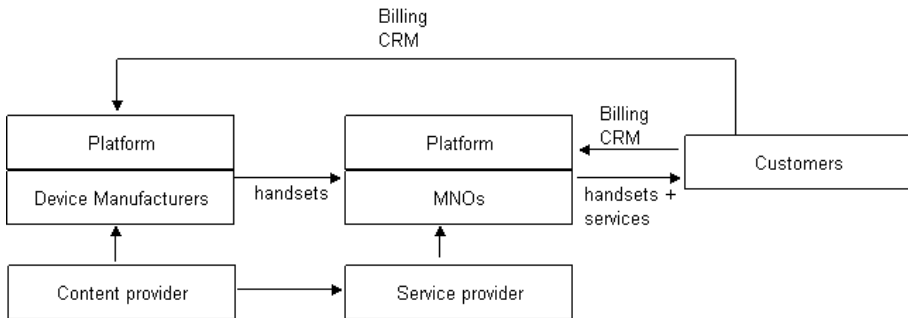
While implementing platform strategies, those players do not follow a generic strategy. They all find their own way in order to explore business opportunities within the mobile ecosystem. In this paper, we describe the two main models of side-entry in the mobile market: the Breaker (1) and the Trojan (2). We then discuss some of their impacts on the mobile market's structure. Based on these findings, we examine in a second part of the paper a possible reaction for the mobile network operators: the shopping mall's strategy (3). By reversing the platform sides' logic of the new entrants, mobile network operators can act as shopping malls and make other platforms pay for their own audience (mobile subscribers). To conclude our discussion we address some questions related to competition policy and electronic communications regulation.

### **The breaker**

Before its June 2007 release, many observers claimed that the iPhone would rewrite the rules of how companies competed in the mobile landscape, calling it a "game changing" device. The iPhone represents a new and disruptive way to use mobile Internet. It provides consumers with a direct access to the App Store via iTunes i.e. Apple's platform. This brings a

rich web experience to mobile device users. Apple succeeded to some extent by the direct billing (via iTunes) which is a sort of direct-to-consumer strategy. With its iPhone, Apple has clearly changed the industry rules bypassing the MNOs platforms (see figure 3): Apple has created a breach in the mobile value chain by diverting audience and revenues towards its own platform. Furthermore, the iPhone has also boosted competition among manufacturers expanding the mobile phone market - especially for the smartphone segment.

**Figure 3 - The Breaker - Apple bypasses the MNOs' platforms**



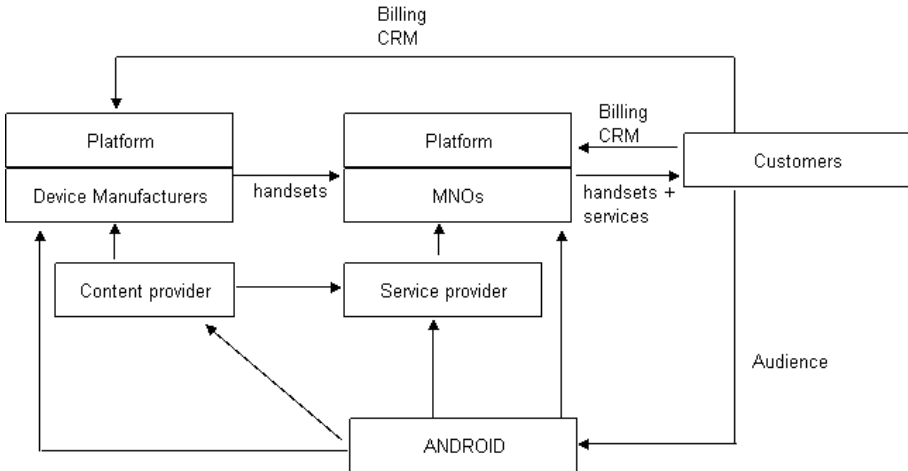
To some extent, Apple's strategy succeeded because the iPhone was a really superior product far beyond what was on the market in 2007. As with the iPod some years earlier, the whole design and ease of use have been the obvious focus in Apple's project. However, much water has flowed under the bridge since the iPhone release and a lot of iPhone killers came out from competitors. Today, there are many other smartphones that are truly better than the iPhone itself in most of their characteristics. Regarding the iPhone 3GS, it is very similar to the first iPhone, which suggests that Apple did not upgrade this product as needed to keep away from competition. According to several reports (Strand Consult, 2009; Yankee Group, 2009), most operators have lost money with the iPhone which was quite predictable.

Yet, it is not clear if Apple's iPhone strategy will be a sustainable one. As a result, many analysts now believe that Apple's advantage is going away and that the decline of the iPhone has started. The mobile ecosystem is still rapidly evolving but there is something very interesting with the Apple case: while the promoters of openness often advocate that customers and developers are the main winners with open systems and open source, Apple clearly showed - until now - that this can be achieved through good old proprietary systems illustrating that a well-managed closed system can deliver profit. Maybe it won't last, but right now it's true.

**The Trojan**

In 2007, Google revealed its broader mobile strategy and released Android, a Java-based operating system that runs on the Linux 2.6 kernel. Google's approach is quite different from Apple's position. Indeed, Google doesn't provide a mobile handset but a software platform for devices. Android was launched under the Open Handset Alliance (OHA), a group of 34 technology and mobile industry leaders. Under Google's leadership, these companies will work together to create both a more open cellphone environment and a better customer experience. Android is free and open, which means an opportunity for extending Google's value proposition: organizing the world's information. Google's model (see figure 4) is more pervasive and at the same time more discreet (like a Trojan). Based on openness, interoperability and network effects, its main focus is to encourage open source applications and then to attract a massive audience. This audience will be monetized on the advertising market i.e. Google's core business. When related with Android Market (Google's App Store), these two initiatives are effective in keeping up with the Google business model of advertising.

**Figure 4 - The Trojan - Google's pervasive model**



These two models seem to converge: Apple has recently announced (April 2010) iAd mobile advertising platform. Apple seems to include a Google-like platform within its own platform. It unveiled its revenue-sharing model with developers: 60% of ad revenue for them while Apple will handle all sales and inventory. The model looks rather disrupting in its structure:

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Apple gets a new side - the content publishers - of the mobile market on board. However, even if Apple and Google's models look similar they are very different. This difference lies in their respective vision of the mobile Internet and especially whether the future of mobile Internet will be about the browser or applications. Their "shaping visions" conflict: an application-centric vision (Apple) *versus* a browser-centric vision (Google). To better understand this clash we have to keep in mind that Apple and Google's core businesses are quite different. This genetic difference is partly responsible for their conflicting visions.

Apple generates revenue from the hardware it sells and applications that run on its products. In the Apple's vision, hardware development, software development and applications development are fully under control. In such a model, the whole activity is focused on mobile applications not on the browser. This application-centric approach allows Apple to keep control of the content and the way to access this content. In addition, Apple recently announced that iPhone OS 4 will not support Flash CS5 which clearly reflects Apple's applications-centric approach.

In contrast, Google generates revenue from the content it gathered but this content is neither created nor controlled by Google. In approaching the mobile Internet, Google offers an open-source mobile operating system (Android) and a bunch of services in the cloud via the browser. In Google's vision, the future of the mobile Internet lies in web-based applications accessible via a browser, rather than native software coded to run on specific smartphone operating systems. Compared with Apple, Google's model promotes openness both in terms of content and software and services development.

### ***The Shopping Malls***

For mobile network operators, hard times will probably follow this value migration. MNOs have three main ways to react.

The worse is to become passive network access providers: this may induce lower revenue. In this basic model, the MNOs will charge the customers a flat rate for access to the mobile network (voice, data, etc.). However, this model can provide MNOs with stable or even increasing revenue if they sophisticate their pricing models: they can for instance reinforce their market segmentations by creating different levels of access

(from basic to premium) differentiated in terms of ubiquity, quality of services, etc.

MNOs may imitate Apple and Google platform's strategies: however, imitation means being a follower, less innovative and hence gaining less profit. This will also create a tendency to commoditize or to standardize mobile platforms and applications.

An interesting eventuality for MNOs lies in the possibility of reversing the platform logic. The industry, previously MNOs-centric, is becoming more and more platforms-centric. A network, as such, can be interpreted as a platform: an artefact serving the interactions between groups of actors (consumers and developers for instance). Today, the mobile network appears as an artefact facilitating the interactions between mobile subscribers on one side and developers and advertisers on the other side of the platforms. In the current model, there are two paying sides: final customers pay for mobile services and applications, advertisers pay for an access to the mobile audience. In such a context, MNOs can conceive a shopping mall strategy. In this case, the "merchants" (proposing applications, services and handsets) and the advertisers will have to pay for some space in the shopping mall (the network). The customers can be charged or not depending on MNOs revenue models (quadruple play rate, premium access without advertising, etc.). Actors like Apple or Google will have to pay to access the mobile audience: the pricing model can take different forms (rebates on devices, a percentage of advertising revenue, etc.).

### **Policy recommendations**

These strategic moves in the mobile sector create new market and a new competition's conditions. In this sense, it seems to be consumers-friendly: more innovation, new products, new services, lower prices... "Laisser faire" under control: this is the best recommendation for policy makers. However, platforms do not necessarily rely on market failures: they are not necessarily implied by natural multi-sidedness of the industry. Multi-sidedness can be created artificially by a group of players in order to capture the whole value of the market or to raise barriers to entry (protecting a core technology from disruption, a proprietary standard, to reinforce the dependency of developers, etc.). Hence, competition policy has a role to play in avoiding and punishing that kind of behaviour, and by scrutinizing market concentration.



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