The New Landscape of Business Platforms

Executive Summary

Platform Companies are disrupting a host of industries—as diverse as airlines, financial services, telecommunications and manufacturing—by means of the way in which they bring together buyers and sellers, price their products and services, and how they re-define industry standards.

Platform Companies have two or more different groups of customers that they have to get and keep on board to succeed. On the one side there are suppliers / manufacturers / partners / developers, and on the other side consumers / users / members.

In technology-based industries the Platform has evolved into a devastatingly effective competitive weapon.

Is the Platform Business Model something that will pass or is it the new wave? The future outlook is that it is likely to expand its footprint across many more industry sectors due to on-going technological innovation, overcapacity in many industries, falling costs of information and communications, and globalization of services and manufacturing.

The **Platform** Scenario

Platform Companies are disrupting a host of industries—as diverse as financial services, telecommunications and manufacturing—by means of the way in which they bring together buyers and sellers, price their products and services, and how they re-define industry standards

In 2005 the Japanese mobile-phone carrier NTT DoCoMo entered the credit card business through a joint venture with Sumitomo Mitsui Card, the second-largest credit-card company in Japan. By joining with Sumitomo, DoCoMo gets a share of the credit card transaction fees—as well as the profits from any interest payments customers make.

Since the launch of i-mode in 1999, DoCoMo's *i-mode* mobile internet service has attracted more than 44 million customers to the service, representing nearly 60 percent of the Japanese mobile Internet market. With such an enormous customer base, the company plans to use *i-mode* as a powerful platform for the delivery of a wide range of financial services.

Welcome to the Platform Company. It's a business model which is disrupting industries by the way in which the Platform brings together buyers and sellers, prices its products and services, and how it re-defines industry standards. In industries as diverse as retail banking and financial services, manufacturing and telecommunications, platform companies are changing the competitive landscape.

Disruption in the telecom market

Take Skype for example, the Internet start-up now owned by eBay; it has a software Platform that is about to disrupt the telecom market. Skype provides a peer-to-peer based communication software which allows anyone with a broadband Internet connection to make free voice over internet protocol (VoIP) calls from Skype to Skype, and cheap calls from Skype to any traditional phone in the world (or the other way around). Its ability to provide free services, its inherent global scale in terms of customers and its unexploited potential related to distribution channels suggest that Skype is only beginning to have an impact on the telecom market.

Skype builds extensively on partnerships. While it focuses on its Skype software platform it collaborates with partners for most other activities and resources. While Telcos rely on cumbersome billing systems, Skype relies exclusively on outsourced prepaid systems (mostly credit card based) and payment solutions. Skype's efficient cost structure is fundamental to its disruptive potential. Skype has very low marginal costs and its fixed costs are mainly related to software development. While it is possible for Skype to offer certain services for free this is much more difficult for a Telco which has to maintain a costly infrastructure.

The strategic driver is "get all sides on board"

Platform Companies have two or more different groups of customers that they have to get and keep on board to succeed. On the one side there are suppliers / manufacturers / partners / developers, and on the other side consumers / users / members / brokers.

Attracting these different groups of customers gives rise to a "chicken-and-egg" problem. In order to attract buyers, a Platform should have a large base of registered sellers, but these will only be willing to join only if they expect many buyers to show up on the Platform. The strategy of Platform Companies hinges crucially on getting all sides on board—by solving the "chicken-and-egg" problem.

Solving the "chicken-and-egg" problem

One common way to overcome the chicken-and-egg problem is to obtain a critical mass of users on one side of the market by giving them the service for free or even paying them to take it. Especially at the entry phase of firms in multi-sided markets, it is not surprising to see precisely this strategy. Diners Club gave its charge card away to cardholders at first – there was no annual fee and users got the benefit of the float.

Another way to solve the chicken-and-egg problem is to invest in one side of the market to lower the costs to consumers on that side of participating in the market. Microsoft provides a good example of this. It invests in applications writers by developing tools that help them write applications and providing other assistance that makes it easier for developers to write applications using Microsoft operating systems.

Providing low prices or transfers to one side of the market helps the platform solve the chicken-and-egg problem by encouraging the benefited group's participation – which in turn, due to network effects, encourages the non-benefited group's participation.

Pricing decisions - both the structure and level of prices matter a great deal

By charging more to one side of the market and reducing the price paid by the other side, Platforms bring both sides on board. For example a nightclub provides a platform where men and women can meet and search for interactions and potentially dates. The club needs to get two groups of customers on board for its platform to have a service to offer either one. It needs to get men and women to come.

Moreover, the relative proportion of men and women matters. A singles club with few women will not attract men, and a club with few men will not attract women. Pricing is one way to get the balance right. The club might want to offer women a break if they are in short supply (through a lower price or free drinks). Or it might want to ration the spots to ensure the appropriate number of women. Popular clubs typically have queues waiting outside, and attractive women are picked out of line disproportionately.

Product design decisions also matter

Getting different groups of customers on board and keeping them on board also hinge crucially on product design decisions. A simple example is a shopping mall. Shoppers would prefer to get to stores in the least amount of time. Merchants would like to maximize the amount of foot traffic outside their stores and therefore the number of potential shoppers. Shopping malls are sometimes designed to encourage shoppers to pass by many stores—for example by putting the up and down escalators at different ends of the mall.

DoCoMo ensures that participation in *i-mode* has distinctive benefits for its partners. DoCoMo's content partners occupy pride of place on the standard menu on all *i-mode* handsets. They also benefit from i-mode's innovative micro-billing system, which allows DoCoMo to charge users small fees for each site they visit and transfer a portion of those fees to the relevant content providers after collecting a 9 percent commission. Finally, *i-mode* partners benefit from DoCoMo's extensive research into how subscribers use the system, which in turn has informed how the partners design their Web sites for easy viewing and use on mobile devices.

Advertising-supported media are another obvious example. Viewers would like to gain access to the content in the most convenient way. Some magazines are laid out to make it difficult to even find the table of contents or to find the continuation of an article without thumbing through many advertisements. Television watchers might benefit from having advertisements clustered at the

beginning or the end of each program, but free-to-air television providers typically intersperse the advertisements and precede them perhaps with a cliff-hanger to discourage viewers from taking a long break.

DESIGNING A PLATFORM BUSINESS

Platforms provide services whose purpose is to help agents with specific needs find other agents with matching characteristics and conclude transactions. These include advertising, certification, legal support, loan and credit facilities, research and development, search, screening, and so on.

They play a valuable role in markets where there is a lot of differentiation and dispersion of buyers and sellers, for example in real estate markets, financial markets and banking activities, distribution, and so on.

Building the Platform

For many Platforms there are large fixed costs of providing the platform, including R&D, software development and the construction of specialized facilities and systems. This leads to scale economies over a wide range of transaction volumes. For example, card payment systems have to maintain networks for authorizing and settling transactions for cardholders and merchants. The costs of developing, establishing, and maintaining these networks are somewhat independent of volume.

To take another example, there is a fixed cost of developing a software platform but a low marginal cost of providing that platform to developers and end users.

Diseconomies may set in at some point for various reasons on one or both sides. For example, to persuade existing end users to upgrade their existing software platforms software, platform vendors have to add features and functionality. Many of these improvements may be designed to encourage application developers to write new or improved applications for the platform that in turn benefit end users.

As software platforms have gotten larger and more complex however, it has become more expensive and time consuming to add features and functionality. The most recent version of the Apple operating system took four months longer to develop than the previous version. Microsoft's forthcoming operating system has also been plagued with delays.

To integrate or dis-integrate?

Platform boundaries—what is done inside the Platform Company and what is done by suppliers—can be decided in the context of three primary goals:

- To consolidate control around assets so as to "regulate" the functioning of the Platform as a whole
- To integrate internally those activities that risk coordination problems with suppliers
- To "open" platform boundaries in response to competitive pressures on cost and performance.

The choice of integration models has had a dramatic effect on the evolution of the personal computer industry. Apple bundled its proprietary hardware platform with its proprietary software platform. IBM did not. The company offered several compatible operating systems developed by third party vendors and permitted vendors to license these operating systems to other hardware vendors. IBM tried to thwart the cloning of its hardware platform, but it did not succeed.

Microsoft widely licensed the operating system it had developed for the IBM PC, which ultimately led to intense competition among purveyors of the hardware platform. Despite some experiments with licensing its operating system, Apple continued to follow an integrated strategy.

With the benefit of hindsight, was Apple's strategy foolish and Microsoft's brilliant? At the time, both strategies had advantages and disadvantages that left it unclear which strategy would prevail. Apple could coordinate the hardware and software platform, realize possible benefits from integrating them tightly, and ensure the quality and reliability of the combined system.

Microsoft, for its part, could benefit from hardware competition and perhaps from specializing in what it knew best-writing software. But the company could not test any single hardware/operating system combination as intensively as Apple could, and thus it could not do as much to ensure overall system quality and reliability.

Pricing is critical, but not as we know it in traditional businesses

Understanding how pricing can be used to maximize the joint benefits to both types of customers is critical to success in Platform businesses. Platforms must choose not only a price level for their service but also a price structure for buyer versus seller transactions, in order to make money overall.

Setting a high price on one side tends to call for a low price on the other side as attracting members on that other side becomes more profitable. Accordingly, it is quite common for a platform to charge below-cost (perhaps zero) price to one side and high prices to the other. So relative prices do not necessarily reflect relative costs in almost all Platform markets. Otherwise, shopping malls would charge consumers for entry, Adobe Acrobat would charge the same for Adobe Reader as Adobe Writer, and users would pay to search the Internet.

The optimal price structure depends on a number of factors:

- How demand responds to changes in price on both sides of the Platform
- The intensity of the feedback effects; that is, as the number of buyers or sellers on the Platform increases, how does the rate of attraction of new buyers and sellers change
- The marginal costs that result from increasing output on each side.

For many platforms it may also be possible to charge two different kinds of prices: an access charge for joining the platform and a usage charge for using the platform.

As a results of these factors, the Platform pricing model will be very different from the pricing models used in traditional businesses.

Product bundling to widen the scope of potential customers

When there are fixed costs of producing and distributing products but low marginal costs in adding component products and services to the Platform, it is possible to lower costs and stimulate demand by combining components that appeal to different groups of customers. Hardware and software typically include many features that most consumers never use. However, by including these features vendors expand the number of consumers who find the product valuable at the offered price.

COMPETING IN PLATFORMS MARKETS

Building an early lead and achieving scale

Many Platform markets are "tippy": the coexistence of incompatible products may be unstable, with a single winning standard dominating the market. The dominance of the VHS videocassette recorder technology and the virtual elimination of its Betamax rival is a classic case.

Tipping can also characterize markets with important economies of scale or learning effects. But in Platform markets it is not the level of current sales that determine the winner. Instead, *expectations* about the ultimate size of a market are crucial. Buyers who join what turns out to be a losing Platform must either switch, which may be costly, or else be content with a lesser offering than those who associate with the winner.

Since buyers' purchase decisions are therefore strongly influenced by their forecasts of future sales, there can be large rewards to affecting these expectations. In these circumstances, victory need not go to the better or cheaper product: an inferior product may be able to defeat a superior one if it is widely expected to do so. For example, the initial success of MS-DOS is usually attributed not to any technical superiority, but to the fact that it was supported by IBM.

So the lesson is: build an early lead. Platform markets tend to display inertia; that is, once a technology is known to have a substantial lead in its installed base, it is difficult for it to be displaced even by a technically superior and cheaper alternative. Consequently, establishing a large installed base quickly and visibly is important. Because rival firms wish to affect consumers' expectations about the size of their eventual installed base, we might expect especially intense early competition if sales figures are observable to users. In these circumstances, obtaining an early lead may determine the outcome of the race because it may be very difficult for laggards to catch up. If the installed base is only imperfectly observable to consumers, there is scope for puffery, since appearances may count as much as does

reality. Sales figures can be exaggerated in a number of ways-for instance, by counting giveaways and internal users as if they involved sales to customer s - and a rival's sales figures can be debunked.

An installed base advantage might also be achieved by "penetration pricing," the technique of offering low prices to early customers so as to build up an installed base and influence the choices of later adopters.

Attracting the suppliers of complementary products and services

A Platform company always wants complements for its product to be generously supplied, and complements for its rivals' products to be scarce. Influencing the supply of complements is thus an important tool both for establishing a new network technology and for competing against a rival.

In the nascent PC software industry in the 1980s and 1990s, both IBM and Microsoft encouraged independent developers to write applications software for their operating systems as they competed to make OS/2 or Windows the industry standard.

Well before launching *i-mode*, DoCoMo created a series of partnerships with content providers. Through these alliances, the company was able to assemble a critical mass of rich content and services that made i-mode immediately attractive to consumers. Only three years after launching *i-mode*, DoCoMo had 30 million subscribers and had penetrated 45 percent of the Japanese market for cellular phones.

Multi-homing and Platform compatibility

Customers often choose to join and use several platforms—a trend known as "multi-homing". Customers find certain features of different competing platforms attractive and therefore rely on several. Payment cards are an example of multi-homing on both sides. Many cardholders carry multiple credit cards, and most merchants accept credit and debit cards from several systems.

Multi-homing is the users' response to an environment of non-interconnected Platforms. For example, in the absence of common listing, the seller of a house may want to enter non-exclusive arrangements with multiple real-estate agencies in order to reach a wide range of potential buyers; alternatively the buyers may deal with multiple real estate agencies.

Because different payment card systems are not interconnected (a Visa cardholder cannot use her card at a merchant who accepts American Express or MasterCard, but not Visa), merchants often accept and consumers often hold multiple cards.

Compete or cooperate?

A Platform's basic strategic choice is whether to make its Platform compatible with those of rivals, thus competing *within* a standard, or to make them incompatible, resulting in competition *between* standards. Many markets face a strong trend toward *standardization* – the adoption of a common standard by all market participants. This leads markets toward "winner-take-all" outcomes where a single standard emerges victorious, while the others disappear.

These battles—known as *standards wars*—can arise in two ways. First, a new "technology" may come to market that is fundamentally incompatible with the old. This is the case with analogue versus digital music recording. A second possibility is that producers could intentionally design technologies to be incompatible. Home video game systems are an example of this sort of incompatibility. In this case rival producers choose incompatibility.

CONCLUSION

To be sure, the Platform Business Model has always been with us. Dating agencies and nightclubs which cater to men and women; airports which cater to airlines and passengers; shopping malls which cater to buyers and sellers; conferences which cater to speakers and to audiences; debit and credit card payment schemes which cater to cardholders and merchants; and employment agencies which cater to employees and employers.

However, it is in the technology-based industries—such as PCs, Video Games, PDAs, smart mobile phones, and digital content devices (eg. the iPod)—that the Platform model has evolved into a

devastatingly effective competitive weapon. It led to markets with "winner-take-all" outcomes where a single standard emerges victorious, while the others disappeared.

Is the Platform Business Model something that will pass or is it the new wave? The following drivers of change suggest that it is likely to expand its footprint across many more industry sectors:

- Expanding technological innovation which means new products creating whole new levels of demand, and new mechanisms to disrupt traditional industries

- Recurrent overcapacity in many industries, which allows the Platform Company to re-invent the industry cost model

- Rapidly falling costs of information and communications infrastructure, which allows the Platform Company to outsource its processes—and match buyers and sellers seamlessly

- Globalization of services and manufacturing, so that products and services can be produced wherever costs are lowest.

If it hasn't already arrived, the Platform Scenario will be coming to your industry soon.

About the Author

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