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MARKET BUNDLING STRATEGIES IN  
THE HORIZONTAL PORTAL INDUSTRY

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## **MARKET BUNDLING STRATEGIES IN THE HORIZONTAL PORTAL INDUSTRY**

### **Abstract**

The Internet offers opportunities for incremental efficiency gains as well as complete industry redefinition, but the marketplace has been slow to realize opportunities due to problems with value appropriation. In this paper we focus on a particular business activity that emerged due to the Internet: horizontal portals. We show how different strategic industry analysis approaches fail to provide a comprehensive view of industries in the information value system. As the different markets are intertwined, strategic market bundling appears as a superior strategy, and it is from this broader perspective that overall value appropriation opportunities have to be analyzed.

**Keywords:** Horizontal portal industry, information value system, market bundling, value appropriation, value creation.

## **MARKET BUNDLING STRATEGIES IN THE HORIZONTAL PORTAL INDUSTRY**

### **Introduction**

New technologies, and the arrival of the Internet in particular, have shown to have a profound impact on today's businesses. As with almost all technological changes, the early and most obvious changes are of an incremental nature, resulting in cost savings, as it becomes cheaper to do things that we are already doing. More profound effects may be observed over time, as we discover that we can do completely new things with the technology, or that the technological change transforms the nature of the businesses, and opens up new value proposition opportunities [6] in an industry or even creates new industries. The Internet is such an enabling technology [23], allowing companies to influence both their demand and their costs, while at the same time creating "value innovations" [16]. These changes are difficult to forecast and analyze, as industries are reshaped, new markets find their equilibrium, existing markets shift toward new ones, and completely new industries appear in the competitive landscape. One of these new markets is the Horizontal Portal Market.

To foresee the future of an industry, as well as to forecast whether the most prominent business models are viable, one has to differentiate between value creation and value appropriation. Two years ago, it was believed that the disruptive nature of Internet technology changed the fundamentals of business. A new era of competition in which none of the old paradigms were valid was heralded. The collapse of the technology market and the high profile failures of many of the upstart dotcoms have shown us that the old business rules still apply. E-businesses had shown great value propositions on the value creation side, through the reduction of transaction costs, search costs or enhanced customization opportunities [5]. Still, value appropriation appeared to be very problematic. Although new products and pricing mechanisms may help companies in appropriating the created value, recent experience has shown that increased rivalry and constant entry of new competitors, as well as increased market transparency, pose significant challenges to value appropriation by firms.

In this paper we focus on a particular business activity that the Internet has allowed to emerge, horizontal portals, and try to determine whether there are, at least theoretically, some business models that might produce superior returns and sustainability. After introducing the main traits of this industry and analyzing the main value creation and value appropriation drivers, we show that powerful challenges to long-term sustainability exist. Three existing theories 1) product bundling, which has been argued to be a very effective strategy for value appropriation of information goods, 2) vertical integration, which has often been claimed to be a good way to boost efficiencies along the overall supply chain of an industry, and 3) system lock-in, which allows the companies that master it to obtain superior market dominance through the use of network externalities, are insufficient to carry out a

comprehensive strategic analysis of this industry. We claim that in these new competitive environments of information goods it is necessary to adopt a broader point of view that takes into account complementary strategies carried out in different competitive markets. We call this strategy *market bundling* and it appears to be emerging as a powerful road to overall success. We will analyze the strategies of the main leading horizontal portals by introducing the *online value system* [36], showing that horizontal portals are only one of the components of the overall value delivery system. We show how market bundling opportunities have affected in different ways the value appropriation possibilities of the main players and will show how value creation and value appropriation occur on each of the steps by comparing the evolution of the main players in the industry. This analysis provides evidence that a bundled market proposition throughout the value system seems to be a superior strategy. Finally, we will conclude with some conjectures about the long-term feasibility and generalizability of this analysis, pointing out future directions for research.

### Classical Portal Strategies and Product Bundling

In the early 1990's the first horizontal portals were born as simple search engines or directories, offering Internet users an efficient way to filter the immense amount of information available on the Web.

The main initial objective of any portal is to provide a single point of access to data and services that the user needs, or as [30] defines it, a portal is to provide an "entry point, or homepage, for accessing Internet content and services," such as local news, weather, entertainment, games, email, chat room, and pointing end-users to Web sites according to their interests (see [25] for a detailed description of a portal's offering). As [11] states, a good portal should provide many applications, including a search-and-retrieval tool, and should help the user by providing information that might be useful. Hence portals normally include some ways of personalizing and organizing information. Over time, other services have been added to the search engines, including email, chat, entertainment, games, and other information services, as well as the possibility to customize the starting page of the portal, for example with MyYahoo!. Since then, portals have evolved into full-service hubs of electronic commerce, mail, on-line communities and customized news. In this way, portals have consistently been the most visited sites on the Web (Figure 1), playing a "major role in navigating and delivering personalized information tools and content" [24]. Portals that have evolved from search engines or shared bookmarks, are today a major organization tool of the Internet.

**Figure 1. Internet Audiences in the US, June 2002**

Parent Company	Unique Audience	Reach %	Time per Person
1. AOL Time Warner	64,423,267	61.37	0: 37: 28
2. Microsoft	63,540,739	60.53	1: 00: 37
3. Yahoo!	58,694,477	55.92	1: 26: 47
4. Google	22,030,143	20.99	0: 22: 28
5. Terra Lycos	21,222,429	20.22	0: 14: 52
6. About-Primedia	20,082,500	19.13	0: 13: 14
7. Amazon	19,653,434	18.72	0: 14: 27
8. eBay	19,349,775	18.43	1: 42: 34
9. USA Network	15,417,057	14.69	0: 17: 31
10. Viacom Inter.	14,332,141	13.65	0: 24: 35

Source: Nielsen Ratings, 2002.

We have to differentiate between horizontal and vertical portals [10]. Horizontal portals have also been called consumer portals, web portals or public portals, and are generic organizers of information. In contrast, vertical portals, sometimes also called specialized portals, enterprise information portals, or corporate portals, provide information for a particular group of specific interest [33].

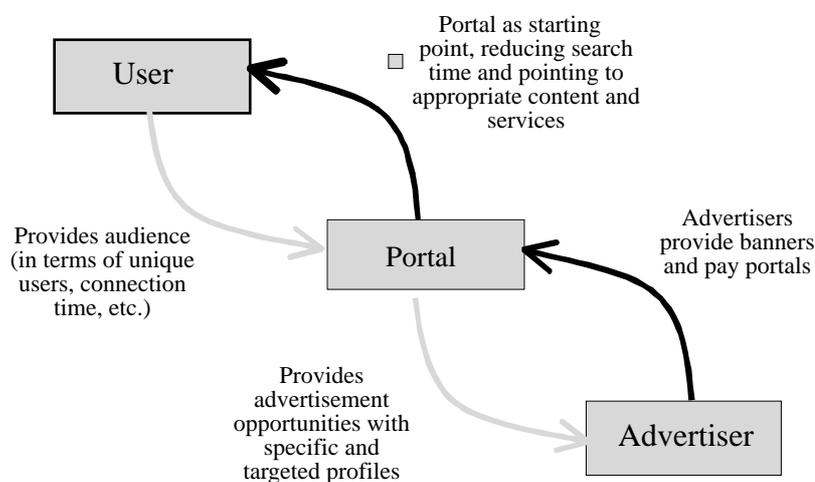
Since many Web-surfers choose to enter the Internet through horizontal portals, these companies are, in principle, in a very powerful position, giving them a huge leverage over retailers and other firms that depend on the portals to flag their presence on the Internet. Nonetheless, with the exception of a few portals, such as Yahoo! and AOL, these businesses are generally not profitable.

### *Value creation and value appropriation in the portal industry*

In order to better understand the competitive dynamics, we will analyze the different strategies in the horizontal portal industry from the perspective of their ability to create and appropriate value. It is important to distinguish between these two dimensions, as sometimes companies do add value for their customers but are unable to appropriate value for themselves, leading to dismal economic performance.

Value is created whenever the willingness to pay (also referred to as reservation price) for an item or service offered exceeds the (opportunity) cost of providing that item or service. In the horizontal portal industry, value is certainly created through a reduction in both transaction and search costs [4], and the creation of new customization opportunities of information or services. By classifying and categorizing information, portals offer their users an enhanced Internet experience, while offering opportunities for targeted advertising to their clients. In addition, portals include personalization features, such as providing an email account, or allowing personalization of the homepage, hence increasing the value for both their users and their clients (advertisers) even further. Figure 2 schematically depicts the basic value proposition of a generic portal.

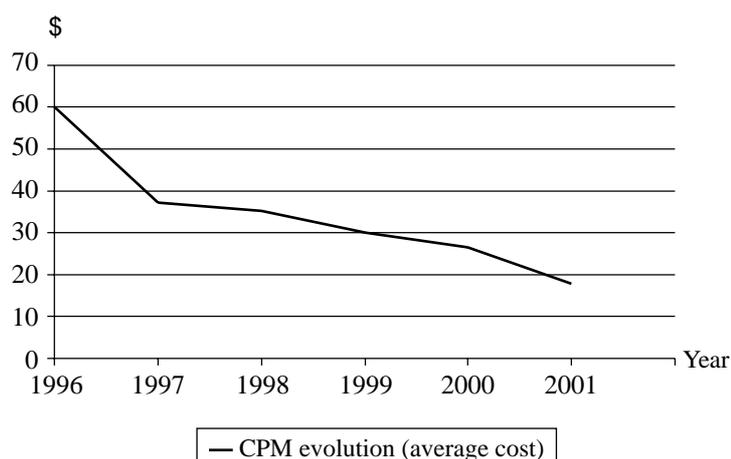
**Figure 2. Basic value proposition of a generic portal**



Nonetheless, value appropriation opportunities are scarce, as they critically depend on fees paid by advertisers. These fees have dropped drastically during the past years (see Figure 3) and portals are facing significant challenges on the value appropriation side.

First, rivalry among portals is intense, with large, deep-pocketed firms competing in the general portal area and an increasing number of special-interest vertical enterprises, such as portals addressing only women (and at least one portal, About.com, that catalogues vertical portals), entering the market. Once such companies have invested in building the necessary infrastructure, hence incurring high fixed costs, they compete aggressively to build the user-base to take advantage of the low variable costs of serving new customers. In addition, as imitation is easy, if a particular tactic seems to be working, there are very few ways to keep the competition from copying it almost instantly. Thus, for example, while Yahoo! was rapidly transforming itself from 1994 to 1998, [35] and [25] show how Excite closely echoed many of Yahoo!'s actions.

**Figure 3. CPM evolution, 1996-2001**



Source: Compiled from Media Matrix, Jupiter Communications, and IDC

Second, despite efforts to increase customer loyalty through customization, switching costs for visitors to general portals are low. Unlike several information providers, such as the Wall Street Journal, which charges monthly fees to subscribers, or application service providers, which also charge for their services, most portals have no contract to bind users to their site. In addition, as users become more experienced with the Internet, they may migrate to more sophisticated or focused portals, such as vertical portals. Also, low switching costs limit e-commerce revenue growth since users that initially purchase by passing through the portal and generating commissions revenue may later bypass the portal and go directly to the e-tailer's site for future purchases, thus disintermediating the portal from the transaction process.

Finally, technological changes often require new technological architectures or at least the addition of new technological features to the portal. Because of low switching costs, it is critical to manage such changes well, as delays or interruption in service may lead users to move to competing providers. Maintaining service is complicated by the fact that many portals depend on third parties for critical elements of their architecture.

### ***Increasing value appropriation opportunities through Stickiness and Product Bundling***

To overcome imitation and low switching costs to other portals, firms have engaged in a variety of strategies. First, most of the portals have pursued quick growth strategies [25] in order to gain a cost advantage over their smaller competitors, as well as constructing a strong brand image, which allows them to attract new visitors to their sites, increasing traffic and therefore increasing their advertising revenue potential. Firms are spending large amounts of money and resources to establish and maintain their brands. Due to the large number of competitors, it has become increasingly difficult and expensive for portals to obtain quality television, radio, magazine, Internet and other advertising space.

Second, portals, to be successful, have made efforts to increase their sites' stickiness [27; 40]. This implies keeping visitors at the site for as long as possible and convincing them to return. This allows portals to construct user profiles and get information about the user's characteristics, deriving better demographic and behavioral information from users, which then allows portals to charge higher advertisement fees. Stickiness is achieved by encouraging users to utilize many services and products by often changing content [9, 26], providing local content, offering customized services, and investing in branding [3].

Regarding "distinctive" content, portals are making strong investments to obtain exclusive content that may increase customer loyalty. In this way achieving exclusive contractual agreements, as observed for example during the bidding for the Internet rights of the Soccer World Championships 2002 or Big Brother, is driving content prices up and availability down. Hence, portals are facing additional costs. In addition, it is not clear whether users are willing to pay for improved content. A study by Forrester Research in 2001 reported that consumers are not very likely to pay for any type of content, although this depends on the type of content, as people do pay for instant financial information, online games, and pornography. Even if customers were willing to pay for content, a pricing information services problem exists [18], as the pricing-by-replication scheme breaks down and completely new pricing schemes have to be developed [7].

Still, getting exclusive content is probably not the most effective way of increasing stickiness. On the Internet a second, increasingly important content has emerged. Portal users produce this "content," contained in chats, forums and discussion groups, and therefore its production costs for the portal owner are insignificant. In addition, it creates network externalities<sup>1</sup> as it creates virtual communities, which in turn create stickiness [17] and hence foster further production of more content that again will attract more traffic to the site.

Another strategy that portals have engaged in is product bundling. As [2] point out, "the key intuition behind the power of bundling is that in many situations a consumer's valuation for a collection of goods has a probability distribution with a lower variance per good compared to the calculation for the individual good," and hence more value can be appropriated through the sale of product bundles. Nevertheless, large bundles of goods have received little attention in the literature, as most studies focus on bundles of two goods [31; 19; and 28]. A notable exception is the work done by [2], who provide a way of modeling large bundles, arriving at the conclusion that bundling strategies can lead to a *winner-take-all*

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<sup>1</sup> "Network externalities" (also known as "network effects" or "positive consumption externalities") are defined as value that is produced (it can be on the consumer side or the producer side) that is not directly obtained from the product itself. Consumers get positive value from other people using the network, and therefore value a good or service more highly as the total number of users for that good or service increases.

*effect* as information goods that are unprofitable if sold separately can become profitable if they are sold as part of a larger bundle. Product bundling is a strategy that has been used with varying degrees of success by companies to extract superior rents from customers. In the presence of different segments of customers to whom the same set of products can be offered, if these products have negatively correlated willingness to pay (reservation prices), it can be proven that product bundling increases their rents. A prime example of this strategy is Microsoft's Office suite, as [32] point out. By bundling Word, Excel, PowerPoint and Access, Microsoft has displaced all competition from all segments by leveraging the products that different customers like. Product bundling strategies have been generally applied in the information economy, as in movie distribution, where hits are bundled with not so hot movies, or in news sales, where consumers get discounts for successive purchases.

In the horizontal portal industry all players do bundling to some degree. Basic information provision is bundled with other services such as homepage customization, email accounts, calendaring, instant messaging and hosting services. These bundles lock-in users, and increase a portal's stickiness. Still, most portals provide these and other basic communications services free of charge to users, and have not yet found an effective means of generating revenues from them (although some have recently started charging small fees, especially for so-called "premium" products, like mailboxes with more space or a better web-hosting service). Therefore, product bundling strategies alone seem to be insufficient to ensure a portal's long-term sustainability.

### **Strategies to Increase value appropriation possibilities: Toward Market Bundling**

All the challenges to value appropriation discussed in the previous section have led horizontal portals to seek new sources of revenues, abandoning the classic pure portal models [12]. Some horizontal portals have chosen the route of offering Internet Access. Yahoo!, for example, has teamed up with SBC to offer broadband access using DSL technologies<sup>2</sup>, and Terra-Lycos offers ADSL access in Spain and Latin America using lines from third companies. Others, like AOL, have extended their reach backwards in the distribution system, purchasing proprietary content by acquiring one of the leading media companies, Time Warner, in what was the largest company merger at the time. Another fundamental player, Microsoft, has ventures in proprietary content, horizontal portals, access, and obviously operating systems and browsers. These more recent strategies have so far proven successful in increasing the revenue possibilities of the portals that have pursued them, with notable improvements in their profit and loss statements<sup>3</sup>.

From a theoretical standpoint these moves go beyond product bundling, as they combine product offerings from different industries (access and portal). One could see these moves as 1) vertical integration, or 2) trying to achieve system lock-in [14].

In terms of vertical integration, portals entering the IAP business could be thought of as integrating forward, just as IAPs can play the role of a distribution channel for the portal content. The strategy literature [29; 13] describes a number of reasons why companies engage in forward or backward vertical integration. These reasons are: 1) reduce transaction

<sup>2</sup> SBC is the parent company of Pacific Bell, Southwestern Bell, Ameritech, and SNET.

<sup>3</sup> Yahoo! posted profits in Q2 2002 for the first time since Q3 2000, and Terra-Lycos has reduced its losses 36 per cent from 2000 to 2001 and is already the largest provider of ADSL access in Spain.

costs, 2) defensive market power, like securing scarce inputs, exclusive distribution channels, or raising barriers to entry, or 3) offensive market power, such as providing market intelligence. None of these reasons explain why horizontal portals enter the access business, nor vice versa. Transaction costs are clearly not reduced, as they are inexistent between access providers and portals, and securing scarce resources can hardly be the case, as there is ample supply of access. In fact, one might even claim that these “diversification” moves of portals will dilute their focus and should be contrary to their interests. In a similar way, companies that operate in profitable markets, such as Microsoft in the operating system and software markets, have entered clearly non-profitable markets.

The case of system lock-in occurs when companies exert such market dominance that clients are basically forced to purchase from them, not necessarily because of the intrinsic characteristics of the product, but because of the existence of the so-called “complementors” that add value to the original product [14; 22]. Classical examples are Microsoft's Windows and the Yellow Pages directories. Through smart, and sometimes aggressive, strategic moves Microsoft has a commanding share of the operating system market. In this situation, software companies write new software for the Windows platform because it is the dominant system, and users buy Windows because it has the most modern software available. The Yellow Pages are in a similar situation. There is no proprietary technology to speak of, but the books with the most circulation attract more advertisers and therefore are sought out by users, thus reaching even higher circulation. New entrants have an extremely hard time selling ads and reaching any significant circulation. Both are examples of what is sometimes termed *indirect network effects* as they leverage the power brought about not by their own products but by the complementors. Complementors are products for which utility to the client is positively correlated with utility for the supplier, such as software in the Windows case and advertisers in the Yellow Pages.

Still, the system lock-in rationale does not explain the diversification movements of the horizontal industry. No indirect network effects are in place between portals and IAPs, nor between portals and content providers. As a matter of fact, it might be counterproductive to limit access to the portal to the subscribers of the proprietary IAP, as it will limit market reach, one of the essential strategies for horizontal portals.

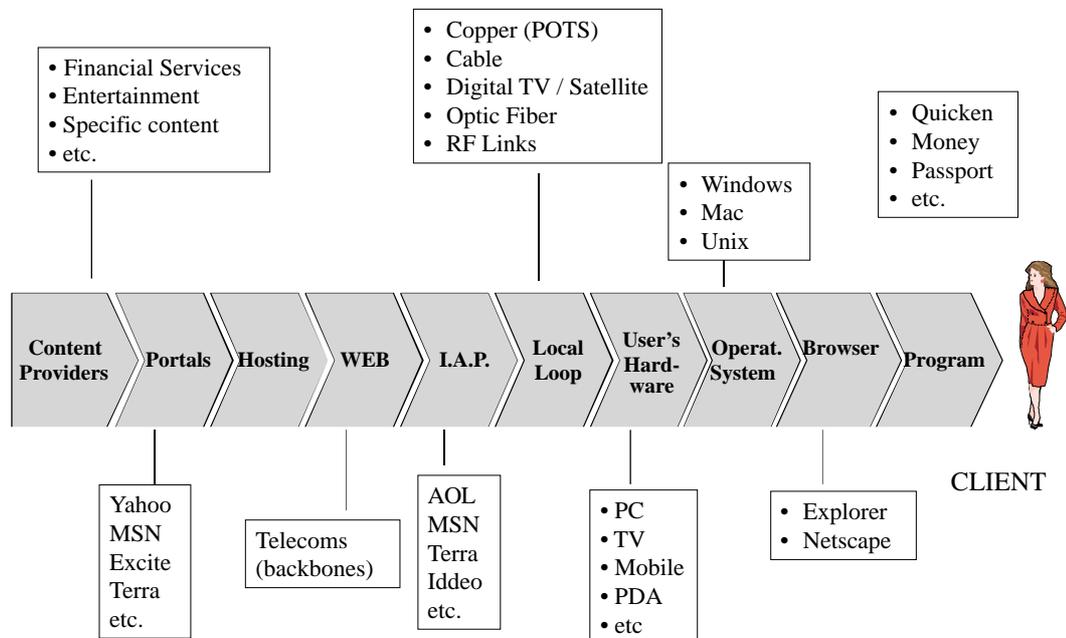
From this analysis, then, we contend that these theoretical approaches do not explain why horizontal portals that have entered the access and proprietary content business have improved their economic performance.

After the discussion in the previous sections, we consider it insufficient to conceive of the latest moves of horizontal portals as just another way of increasing revenues; rather, there are certain peculiarities of the portal markets that make it essential for these companies to enlarge their businesses far beyond basic access and content provision. We argue that in fact the level of analysis has to be shifted even further, as the product bundling, vertical integration and system lock-in explanations adopt all too narrow a view. Therefore, and following some incipient work such as that of [2] and [15], we introduce the term *market bundling*, understood as the bundling of products across different markets in the absence of negative reservation price correlation and market dominance reasons for vertical integration. Market bundling strategies impact the basic market structure and change the basic rules of competition within each market. In this way, firms that compete in one market have to understand the competitive dynamics of apparently unrelated markets, taking into account strategic moves of firms within these markets. As we will show in the next section, the horizontal portal industry is one of these markets in which a market bundling logic may apply.

## Market bundling and the information value system

As we have argued, the horizontal portal industry is subject to market bundling strategies, and has to take into account the competitive dynamics of markets that may seem a priori unrelated to the portal business. Hence it is necessary to analyze the competitive dynamics of horizontal portals within a wider network, taking into account all necessary players that are involved in bringing content to the final customer. We will do so by introducing the *online value system*, briefly depicting the main traits of involved markets, in order to analyze how portals that are carrying out market bundling strategies are achieving superior business propositions to those competing only as pure portals. The online value system, described in [36], is schematically depicted in Figure 4. We favor the “value system” nomenclature over “value chain” because each of the stages of the proposed system is an industry in itself, as we will describe below.

Figure 4. Some leading portals’ stock evolution



Although horizontal portals and their complementary businesses of access and content providers are our main focus of attention, we will first quickly describe all components of the model. We will do so by having a hypothetical client (or user) access a proprietary-content provider. Her electronic commands via keyboard, touch-pad or possibly speech will be dealt with by intermediaries along the chain, whose involvement is necessary to fulfill the request, and who have the capability of returning the value that the user is willing to pay for (that is, gaining the desired digitized data in useful and appealing form).

To access any information, the client must have some kind of device to connect to the network. However, no longer does it have to be the traditional PC. Message-enabled mobile phones, satellite-connected personal digital assistants (PDAs), high-speed game-playing equipment, and other elaborate apparatus are being adapted to Web interchange. Such devices consist of three basic elements: the “nuts-and-bolts” hardware itself, the operating system, and the Web browser. In some instances there is also dedicated special-purpose

software, e.g.: software that dials out, or software that downloads data from several banks to provide a consolidated financial statement.

Linking this device to the networked universe is the local loop, which connects the user with the Internet Access Provider (IAP)<sup>4</sup>. IAPs take the signal from the user's computer and route it to the Web via an access node. The signal is carried through backbones and routers to the destination host. The user can request the information she wants by utilizing a browser such as Netscape or Internet Explorer; finding it via a horizontal portal that consolidates third-party content; or with progressively more ease, by going directly to the proprietary content provider itself. A detailed analysis of each step, as well as the basic competitive strategies of the companies operating in them, and their inter-relationships, can be found in [36].

### ***Hardware, Operating System and Browser Providers***

These three steps of the value system are often overlooked and may play an enormous role in the possibilities of value appropriation by horizontal portals, in particular operating systems, which are subject to very strong network externalities. As has been described in many publications [14; 39], Microsoft's Windows operating system has an extraordinary market share in the PC world, but not by being the best product for its price, nor by providing complete customer solutions. Having played its cards accurately and locking in a large number of software developers, Microsoft has managed to maintain a commanding 90% market share of operating systems. With this extraordinary share, Microsoft is assured of having its software manage the first images that a user sees when the PC is turned on. This, together with aggressive partnership agreements with electronics and computer superstores, has helped Microsoft to become the number two IAP in the US, with 9 million subscribers in Q3 2002, second only to AOL.

Dominating the OS step has allowed Microsoft to be the leading browser provider as well, an "industry" where Microsoft was absent until the late nineties [8]. Although there is no strong evidence to that effect, an eventual monopolist position at the browser step could force portals and service providers to use particular hosting software to ensure compatibility with an eventually non-open standard browser. Also, a complete dominance of the browser market could hypothetically favor access to certain information sites in the same way that game consoles only run software from the same producer. And finally, having a strong presence in the portal market, as MSN has achieved, may also help in pushing forward other markets, in particular the profitable hosting software market.

### ***The Internet Access Providing Industry***

Pure IAPs are businesses that provide services to connect individuals and companies to the Internet. IAPs mainly generate revenue by charging user subscription fees.

Currently consumers have several ways to connect to the Internet (DSL, cable, wireless) though most still connect through "plain old telephone service" or POTS<sup>5</sup>. In this

<sup>4</sup> By and large, the local loop today is composed of a traditional twisted-pair of copper wires belonging to the local phone company. Faster, and therefore increasingly popular, alternatives to the twisted-copper local loop are cable television, fixed wireless (radio frequency and optical), and mobile wireless.

<sup>5</sup> This method involves: 1) dialing up to an IAP over a modem and sending data requests over the telephone line; 2) the IAP then sends the data request over another telephone line to the appropriate server; 3) the server sends the requested data back to the IAP; and 4) the IAP sends the data to the individual requesting it.

straightforward stage of the value network, then, the IAP's value proposition basically consists of receiving a phone call and connecting the caller to the Internet, identifying that caller only so as to bill him. Thus defined, an IAP is simply a bridge, using its infrastructure to connect a user to a node of the network. IAPs provide an essential service to Internet surfers, yet value appropriation is difficult, and only a few IAPs are profitable. First, barriers to entry are low, in particular for dial-up IAPs because of the relatively inexpensive infrastructure required to start providing access. Second, acquiring users is expensive, requiring large investments in advertising to build brand. Third, client-switching costs are low because there is little opportunity for pure IAPs to differentiate themselves.

This commodity status of access<sup>6</sup> has led to a price war in this stage of the value chain. Having to resort to cost competition, size becomes a critical factor. For instance, in the U.S., although only 20% of IAPs operate on a national level, they generate over 80% of the total revenue<sup>7</sup>. Large IAPs have significant economies of scale in purchasing access at lower rates.

Taking advantage of their brands and their relationships with customers, the telecoms have established their own IAP functions. This trend has increased the pool of providers, which in turn has increased the level of competition. In addition, along with telephone firms and independent IAPs, cable and satellite companies have become contenders in the race to deliver broadband service, and are offering competitive alternative ways of providing access to the Internet, increasing the price pressure further.

As most IAPs are engaged in significant branding efforts, bundling appears as a natural way of leveraging their brand to other steps of the value network. These include value-added services such as email (for which there is a limited willingness to pay), some horizontal portal functions, hosting services for businesses that are migrating to the Web, and the offering of multiple access technologies.

### ***Content Providers***

*Content providers* include individuals or companies that develop and/or distribute goods that can be digitized, such as text, data, audio, and video. For the purpose of this paper, we will consider *E-commerce providers* – those individuals or organizations that trade or facilitate trade over the Internet – as a particular kind of content provider that have a delivery component, be it digital (like selling MP3 music files) or physical, like Amazon.com.

The content provider segment, then, consists of a large and varied range of companies whose value proposition consists of the production and/or delivery of information, entertainment products, such as news, music, and movies, or information about physical goods like books, records, or groceries<sup>8</sup>.

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<sup>6</sup> Regulation is important in determining the revenue model IAPs can pursue (see [34]). In most U.S. markets, consumers pay a flat rate for local phone service, regardless of the number or duration of local calls. This is referred to as unmetered service. In Europe, however, local calls are metered – on top of a flat monthly rate, users are charged based on the total minutes of local calls made. As a result, IAPs in the U.S. may generate revenue by charging a monthly access fee, usually around \$20, while in Europe, in order not to increase the total amount for accessing the internet, IAPs provide free access and generate revenue by taking a percentage (from 5% to 25%) of the metered fees customers pay for the local calls made to access the Internet.

<sup>7</sup> CyberAtlas.com, "National ISPs Still Kings of the ISP Hill," September 28, 2000.

<sup>8</sup> Content providers can be originators – those who create the content, such as writers or musicians–; and or packagers – those that traditionally have packaged and often delivered this content, such as movie producers, newspapers, or book publishers. In our analysis, we consider both types as proprietary content providers.

As [37] has highlighted, information goods have some particularities that make their economics special, such as defying the basic economic law of scarcity, their very high fixed (production) costs, and their relatively minimal reproduction costs. As a consequence, profits increase rapidly as sales increase, assuming an adequate pricing model can be applied. In addition, there are normally no capacity limits to the production of additional copies.

This reduced cost of reproduction and distribution makes managing intellectual property critical [37]. In the music industry, for example, musicians and record producers are battling to protect their property against rights to download music using MP3 and Web sites like Napster, Gnutella, Audiogalaxy and Kazaa. Content packagers that package unique content (such as books or music) are threatened with disintermediation as the changing cost and distribution factors enable originators to bypass them. As a result, access to exclusive content is critical in order to achieve differentiation and avoid disintermediation. Competition for such content is intense, causing prices, and therefore barriers to entry, to rise. On the other hand, information commodities such as CD phone books are not viable because competition tends to push the price to marginal cost, in this case essentially zero. As a result, giving information away on the Internet is no surprise.

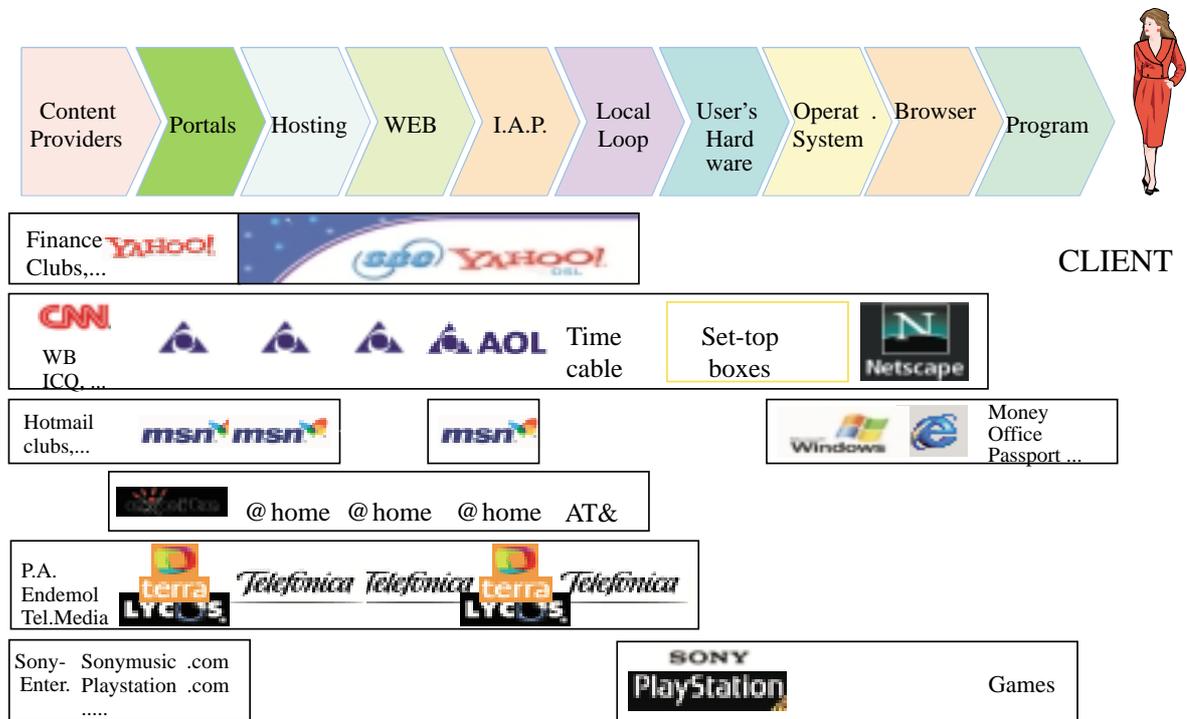
To increase their revenue, content providers use price discrimination opportunities through versioning [32], bundling [1, 2], customized bundling [15], and micropayment systems [20]. These possibilities, together with allowing users to selectively choose or personalize information they want to receive, are mainstream facilities for information providers and have evolved from being differentiating factors to strategic necessities.

Because the Internet enhances a firm's ability to learn about individual customers, firms can more effectively identify customer groups and offer different prices to different segments based on their level of demand. Even if groups are difficult to identify, a versioning strategy can be used [32]. In this case, firms can offer different versions of the same product and customers can self-select the appropriate version based on their needs or level of interest (e.g.: charging more for earlier releases than for later releases of the same product, or charging more for full access than for limited access).

### ***Market Bundling in the Horizontal Portal Industry***

All main individual markets of the online value system, with the exception of operating systems, have some "industry characteristics" that make them quite unattractive, with low long-term profit expectations. In the heady days of the Internet bubble, horizontal portals were heralded as the gate-keepers of the Internet and were valued according to the number of visitors they had. Since the bubble burst in March 2000, portals have been trying to increase their sources of revenue by entering different markets, and competing with product portfolios that go beyond the traditional production extension described in Section 2. Figure 5 presents again the online value system with a representation of the positioning of the different leading portals, showing how all are engaged to a greater or lesser extent in market bundling strategies.

Figure 5. The online value network (Valor and Hess, 2002)

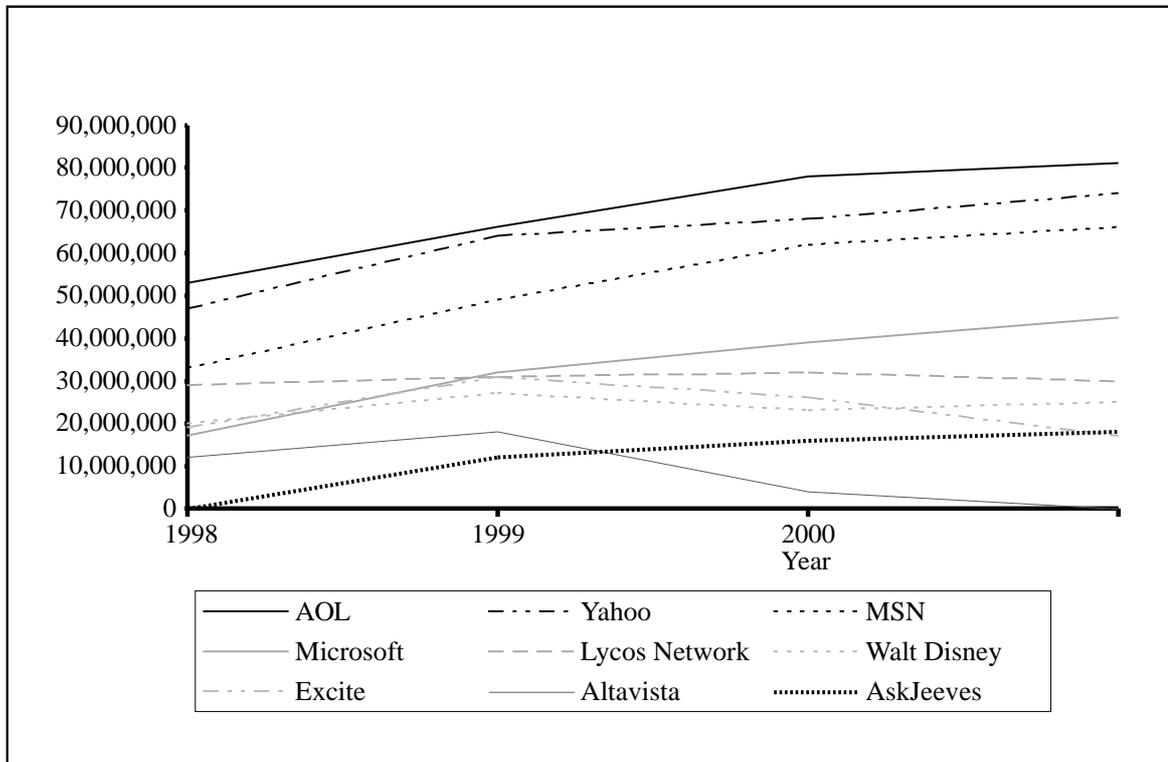


The different competitive positioning of horizontal portals highlights the difficulties they have in attaining profitability. Entry barriers, customer switching costs, and cost differentials have traditionally been essential sources of competitive advantage throughout many industries, and this has not changed in the Internet age. Browser developers, Internet access providers, horizontal portals, and proprietary content generators compete in industries that have structural deficiencies and fail to provide sustainable returns to the firms competing in them. IAPs have relatively low entry barriers and customers have essentially zero switching costs. Browsers must comply with open standards for communications and are extremely hard to differentiate, with users being able to switch from Internet Explorer to Netscape with a single download. Horizontal portals without proprietary content have very low stickiness, and are not able to retain visitors for long periods of time, lowering dramatically their possibilities to get advertising revenues. Content generators need outlets for their products, and with the incredible myriad of distribution channels the Internet offers, their product can get very diluted before it reaches the intended customer.

Market bundling strategies allow for synergies across different steps of the value system, and change the main rules of each of the markets. By combining IAP activities with a horizontal portal, proprietary content, and in some cases a browser, companies can provide the stickiness of the content, the differential speed of the IAP for that content, and the indexing capabilities of the portal and browser. If successful, this strategy will generate recurrent visits enabling targeted advertising in addition to the revenues of the IAP, while greatly increasing switching costs and making competition much more difficult for the companies operating in a single step of the value system.

The success (at least temporary) of these strategies is evidenced in Figure 6, which demonstrates that only those portals that have engaged in market bundling strategies have been able to survive.

Figure 6. Monthly Average of Unique Visitors of Main Global Portals



The portal property with the most visitors is the AOL-Time Warner group, the company that competes throughout the entire value system, from browser to proprietary content (including its own IAP and infrastructure from Time Cable, as well as its own portal). We can say that AOL follows the traditional rules of vertical integration: eliminate intermediaries, exploit economies of scope, and leverage the brand in different industries. Also, as [29] have stated, they leverage new economy factors such as increasing network externalities through synergies across different steps of the value chain.

Integration also allows doing bundled pricing. Users need an IAP, and they will shop around for the best price/quality ratio. If a particular IAP provides more than just access, including some content that the user is willing to pay for, such an IAP is likely to get the user's access business.

In contrast, those companies that follow market focused strategies have run into trouble. In particular, offering technology alone is not a sustainable business proposition [10]. Consider Altavista and @home: these two companies competed with technology in two different industries, search engines and broadband IAP. Their inability to be permanently the superior technology and the lack of stickiness of their product made them disappear in the face of better technology (Google v. Altavista<sup>9</sup>) or cheaper cost/bandwidth (ADSL v. @home).

<sup>9</sup> In a very similar manner one could think that Google's business model is very risky, as it is dependent on the superiority of its technology. If a superior search engine appears, one could think that people would switch to it within a few months.

At the extreme, one could consider that the most value capturing strategy would be one that included chat and communication services within the IAP-portal bundle, making it impossible for non-clients to access the services. This risky strategy has the most powerful network externalities, and if a company could establish itself as the largest IAP-chat-messaging provider, it would undoubtedly dislodge all competition and reap enormous profits. Just consider Microsoft's strategy with its Messenger, Hotmail and Passport. If these services become prevalent, one could imagine a move that made them available only to users that switched to MSN.com as IAP, thus capturing that part of value from the system as well.

## **Conclusion and Implications**

Entry barriers, customer switching costs, and cost differentials have traditionally been essential sources of competitive advantage throughout many industries, and this has not changed in the Internet age. Browsers, IAPs, horizontal portals, and proprietary content generators compete in three industries that have structural deficiencies and fail to provide sustainable returns to the firms competing in them. Browsers have been engaged in a browser war and are given away for free. IAPs have relatively low entry barriers and customers have essentially zero switching costs. Horizontal portals without proprietary content have very low stickiness, and are not able to retain visitors for long periods of time, dramatically lowering their ability to attract advertising revenues. Content generators need outlets for their products, and with the incredible myriad of distribution channels the Internet offers, their product can get very diluted before it reaches the intended customer.

Analyzing the horizontal portal industry, we have shown that traditional competitive strategies, including product bundling, vertical integration and system lock-in, do not provide long-term sustainable solutions. Instead, horizontal portals are part of market bundling strategies within a broader value system, in which strategic actions taken in one market affect other markets and actually may reshape an entire market structure. Hence, value creation has to be conceived from a market bundling point of view.

In this paper, we have only offered a first insight into this reasoning, and empirical validation and generalization has still to be done. Nevertheless, we think that the market bundling logic applies to all industries in which information plays a key role, either because 1) it is the content itself (such as the media industry), 2) it is the subject being transmitted (such as the telecommunication industry), or 3) it is the element being processed or stored (such as the computer and electronics industry). In the last few years, all these industries have gone through a process of digital convergence [39], which has created a new competitive environment and new rules for competition. In all of these industries, mergers, alliances, and acquisitions of apparently unrelated businesses are ongoing. In future research we will show how the initial reasoning offered in this paper may be applied to systematically analyze their interrelations.

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