

# Internet and the Horizontal Integration of IT Businesses

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For information and communication technology (ICT) companies, the business opportunities arising with Internet-based technology products look like the new cash cows. However, their strategic thinking needs to be disentangled from the traditional ICT-providing mindset, to ensure they reap long-lasting Internet technology benefits. The authors' work on the design of IT architectures revealed that in the next few years the market Internet technologies and services is likely to focus on a select number of players that offer a cost edge. To sustain their competitive advantage, ICT companies cannot rely exclusively on their technology competencies anymore. They need to strengthen their relationships with customers and become real service-based organisations. Hence, they need to become proactive at sensing their customers' needs, accompanying products with a variety of services, and, ultimately, enhancing their perceived customer value by adding content to their technology products. The more content they can add to technology, the deeper providers will horizontally integrate with their customers' business. There is evidence that their ability to deploy this horizontal integration strategy in different sectors will be a crucial success factor that will distinguish between commoditized and leading ICT firms. © 2001 Published by Elsevier Science Ltd.

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*Despite their prevalence among Internet businesses, ICT businesses need to embrace a long-term strategy that adds value to technology.*

## Introduction

As most companies are starting to perceive e-commerce as a must, ICT firms are preparing to reap new opportunities of selling e-technology products and services. Practically all traditional ICT manufacturers, service and consulting companies are heavily investing in developing competencies on the Internet, e.g. e-business technologies<sup>1</sup>. With the projected \$1.4 trillion in consumer revenue from on-line sales by the year 2003 (Preston, 1999), Internet technology business is likely to grow to half a trillion dollars in the next few years. The growth curve for Internet technologies is forecast not to reach its peak for at least three years, which, given the pace of IT innovation, is beyond the planning horizon of most technology companies<sup>2</sup>. However, this developing stage of the Internet market raises issues as to what will determine technology or digital leadership in the coming years (Citrin and Neff, 2000).

From a technology standpoint, Internet Service Providers (ISPs) represent the entry point to the e-market. Our work on the design of IT architectures indicates that ISP services are subject to economies of scale and, in addition to having lower operating costs, larger ISPs can afford greater scalability. As e-sales grow, these economies would favour the consolidation of the ISP market. In fact, ISPs have already undergone a first wave of consolidation, and their number is predicted to drop from 4500 to less than 500 in the next few years<sup>3</sup>. Over time, survivors have extended their range of services from hosting to designing their clients' Web sites, thus further exploiting their potential scale economies (Kara, 1999). Now, companies look for ISPs that offer both access to the Internet and application and consulting services to develop intranets, provide access to a

portfolio of fundamental e-applications (Mateyaschuk, 1999; Klemenhausen, 1999) and bridge new Internet technologies with their legacy systems. These demands for horizontally integrated technology services have initiated stiff competition between ISPs and traditional providers for applications and legacy technologies, such as large software companies, which again, has resulted in various alliances and consolidations between the two parties. Survivors on both sides are those companies that have managed to provide a one-stop shop for both traditional and innovative technologies. PeopleSoft for example, transcended the traditional ERP application market by now offering end-to-end e-business solutions hosting as an application service provider (ASP) through its eCenter division. Integral to its ASP offering are its various partnerships with Sun, Cisco, MCI WorldCom and Exodus, which provide PeopleSoft with the necessary Internet infrastructure technologies (Gillan *et al.*, 1999).

These developments raise two fundamental questions. The first is whether and how this horizontal integration trend will continue, as Internet technologies evolve. The second is how horizontally integrated technology providers can make the best use of their greater economies of scale. In the e-market, the cost edge of ICT providers almost directly translates into a price advantage. Services, both virtual and traditional, are often produced as they are delivered. For example, providing a technology-based distribution channel implies supplying part of the corresponding technology-based production facilities. As a consequence of this overlap between production and delivery, IT costs for e-services are likely to constitute the bulk of the overall costs. Hence, the larger the overlap, the higher the percentage IT costs will be. In our research on financial services, we have estimated that the cost of IT represents over 40 per cent of the total costs of virtual banks that deliver all of their products through an IT-based channel. When services are limited to intermediation for trading, with little or no portfolio management, IT costs can increase up to 60 per cent of the total cost. For e-commerce of physical goods, it has been estimated that an Internet-based delivery channel can reduce the cost of logistics by at least one order of magnitude (Brack, 2000). Considering that logistics can constitute up to half of the total costs, IT costs still constitute a significant percentage of the overall total.

The magnitude of economies of scale combined with high technology costs of virtual services presents an opportunity for some ICT providers to enter into potentially close business partnership with their customers or in some cases even enter the e-market directly. These new opportunities describe another step towards horizontal integration that pushes the boundaries of competition for ICT companies beyond the technology market. E-Trade for example, the second largest virtual broker after Charles Schwab and formerly Schwab's IT provider, is a celebrated

success case of direct competition in the e-market. E-Trade is, however, not an isolated case. Dell, Buy.com, Intuit, E-Bay, AOL are also widely known technology providers that have broken the traditional ICT boundaries. But unfortunately, they still constitute a minority among ICT companies. Most IT managers are not aware of their opportunities and persist on using their contracting power to sell technology at a higher price, rather than moving towards horizontal integration with partners. Even when they are conscious of their potential, they do not know how to translate their vision into a coherent e-strategy that includes non-technological business variables (Earl and Feeny, 2000).

How to maintain a technological leadership and, at the same time, take advantage of their technology, expertise and costs edge in the IT market to build a broader e-strategy are often not separate issues for technology providers. Our research has consistently indicated that technology innovation is in many cases a primary cause for change in other industries. Being on top of technology innovation can enable IT providers to anticipate the business change that IT will induce in other economic sectors. If they can anticipate the impact of IT on business, IT companies can supply technology together with a strategic vision for change. In this respect, the difference between traditional and Internet technologies is the ability to integrate the latter with a strategy that can be sold in exchange for a stake in their business. In turn, this can position ICT companies at the forefront of horizontal integration between IT and non-IT businesses.

### The Next Evolution of Internet Technologies and the Threat of Commoditization

Users would definitely agree that the Internet still has technical shortcomings and not all companies would trust it as a mature and solid technology infrastructure to support their business. Security and reliability, for example, continue to be one of greatest concerns (Economist, 2000a), but also the lack of communication efficiency in terms of scalability and volume fluctuations remains one of the main technical weaknesses of the Internet and currently a primary engineering issue of the telecoms infrastructure providers. KPNQwest and 3I, announced they will try to alleviate some of the infrastructure weaknesses by investing in extensive fiberglass cabling to provide increased traffic capacity for the Internet backbone. For the moment however, any Internet user would argue that the network is generally too slow and has highly variable performance levels depending on the time of the day. This irregular efficiency can deteriorate to the point of making applications such as messaging systems unusable and has the negative consequences of not only increasing customer

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