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Strategies for Value Creation in E-Commerce:: Best Practice in Europe

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Strategies for Value Creation in E-Commerce:: Best Practice in Europe

Abstract

This paper investigates strategies for value creation of e-commerce companies. Our main assumption is that e-commerce fundamentally affects the way business is conducted across many industries. To support this insight, we discuss the unique characteristics of `virtual markets' brought on by the Internet. Based on a survey of 30 European e-commerce companies, we then identify two main strategies for value creation in e-commerce — the efficiency that e-commerce business models exhibit, and the degree to which they create `stickiness.' To illustrate these two strategies, we give examples of European companies that can be considered `best practice' companies.

Keywords

e-commerce, value creation, best practice, virtual markets, strategic management

Disciplines

E-Commerce | Strategic Management Policy

**STRATEGIES FOR VALUE CREATION IN E-COMMERCE:
BEST PRACTICE IN EUROPE**

by

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EXECUTIVE SUMMARY

This report investigates the business models of 30 European e-commerce companies in order to better understand their strategies for value creation. Our main assumption is that e-commerce fundamentally affects the way business is conducted across many industries. To support this insight, we discuss the unique characteristics of 'virtual' markets brought on by the Internet, observing that they differ from those of 'traditional' markets.

These characteristics are identified as reach, richness and digital representation, and they form the backdrop against which we discuss the value-creation potential of e-commerce business models.

We analysed the companies in our sample with one principal question in mind - what are their strategies for creating value? Our exploratory analysis of the data revealed that a company's ability to create value is a function of both how efficient its business model is and how well it is able to draw and retain customers to its web site (how "sticky" the site is). Using both qualitative and quantitative results from our checklist and illustrating some of the best practice examples we uncovered, we hope to show what these individual European companies are doing to create value.

Companies that can use the Internet to increase transaction efficiency have the potential to create value for all parties involved in the transaction. Our analysis of the case data revealed that companies that are able to do this effectively:

- Strengthen the supply chain by reducing supplier costs and integrating vertically.
- Provide a large array of products and services.
- Make the transaction convenient for the consumer.
- Allow the consumer to save time.
- Reduce the asymmetry of information amongst parties.

Stickiness creates value by increasing transaction volumes. This is of critical importance as the competition for site visitors will grow as the number of consumers and vendors increases. We have identified a few effective means by which the companies in our sample create stickiness:

- Reward customers for their loyalty.
- Personalise the product or customise the service.
- Build virtual communities.
- Establish their reputation for trust in the transaction.

We believe that the companies that scored high in these categories are more likely to see customers make a purchase, return to a site, and stay for longer periods of time when they do come back.

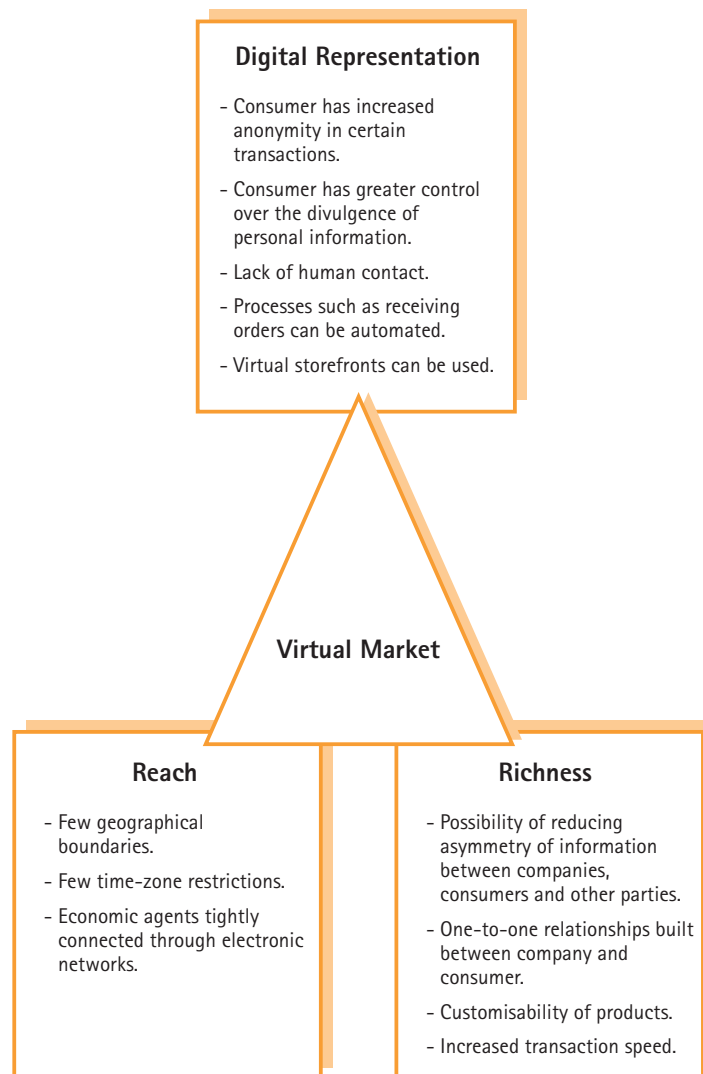
To illustrate these two strategies, we give examples that can be considered 'best practice' companies. However, we found that there are wide variations in the degree to which successful European companies have achieved efficiency and stickiness in their business models. We believe that this indicates the existence of untapped opportunities for e-commerce companies to create value.

The identified strategies for value creation, and the examples cited as "best practice" in this report should enable managers of e-commerce firms to gain a better awareness of the competitive benchmarks that are driving e-commerce in Europe today. They should also help individual companies evaluate their own performance, and take steps to affect improvements where appropriate, by using the evidence presented in this report to enrich their own offering with novel ideas.

CHARACTERISTICS OF VIRTUAL MARKETS

In the past, European businesses have been criticised for treating the Internet as merely another sales channel that, whilst enabling access to new markets and customers, is fundamentally no different from traditional sales channels and thus requires no change in the way business is conducted¹. Firms are now beginning to realise that the virtual market space created by the Internet has unique characteristics that require identification and comprehension so that business processes can be aligned accordingly. In this section we identify these unique characteristics of a virtual market.

Figure 1: Characteristics of a Virtual Market



¹ See Appendix 1 for background on e-commerce in Europe.

Figure 1 (overleaf) refers to two distinguishing characteristics advanced by Evans and Wurster (1999)²: **Reach** and **Richness**. We add **Digital Representation**, as we believe this aspect of a virtual market has not been properly addressed in the literature. Our definitions of these characteristics are as follows.

■ **Reach** is defined as having the ability to connect with a large number of players or products; that is, to connect numerous suppliers, consumers, vendors, and indirectly, competitors and providers of complementary services. The Internet goes beyond physical boundaries, and although it can be argued that geographic boundaries continue to have their importance because some transactions involve the physical delivery of goods (often across borders), boundaries are at least greatly reduced as a restricting factor in a virtual market. Unlike in a traditional market where ‘bricks and mortar’ are usually required, any vendor that can connect to the network can sell a product to connected consumers anywhere in the world. This feature has resulted in the entry of a vast number of new players. Firms thus have a larger choice of suppliers, a larger base of potential buyers, and a larger pool of possible competitors. Consumers have fewer temporal and spatial restrictions and more choice, allowing them to conduct transactions at the time of their choosing. E-commerce has shifted the balance of power more in their favour relative to the power distribution in traditional markets.

■ **Richness** occurs in a virtual market since information flows in both directions are greater, deeper, and faster than they are in a traditional market. In a virtual market, technology empowers all parties with knowledge, and there is high potential to reduce any asymmetry of information between buyers and sellers. Buyers have more product and service information available to them, giving them more choice and making them more informed about what and from whom they are buying. This is the source of the shift in power toward the consumer.

However, this increase in information flow is also advantageous to sellers. They have more information about consumers’ buying behaviour and characteristics. This offers sellers the opportunity to improve target marketing and to receive higher quality feedback about product offerings. Many companies have further enriched their product offerings and increased the revenues from transactions by identifying and offering complementary products, allowing buyers to save time that they would otherwise have spent looking elsewhere.

■ Nonetheless, even with more information, agents must act through an impersonal, electronic network, which has its drawbacks. **Digital Representation** denotes this absence of physical contact in a virtual market - the inability to touch and feel the product, to visit a physical storefront, and to have human interaction. This feature of virtual markets can be a barrier to purchasing, as consumers

² For full details of this and other references please see the bibliography.

must overcome the mistrust of not having human contact, the perceived lack of transaction and payment reliability, and the sacrifice of the social aspect of shopping. They may also have difficulties in returning unwanted or faulty goods.

The burden of alleviating these fears lies with the sellers, as they must guide the consumer through the many steps necessary to complete a purchase. Sellers frequently attempt to overcome the lack of human contact by making the transaction as simple and error-free as possible. Many sellers have also made efforts to recreate the social aspect of shopping by creating virtual communities, virtual storefronts, and by exploiting the media in other ways to entertain the buyer.

These general characteristics of virtual markets are the backdrop against which we discuss the value-creation potential of e-commerce business models. Value creation refers to value that is created for all parties involved in e-commerce transactions, including the firm, its customers, suppliers, complementors, and affiliates (i.e., independent agents - companies or private individuals - that sell all or part of the firm's product or service offering on an affiliate basis.) We can only understand how e-commerce firms create value by taking into account the changed market environment to which these players are responding.

STRATEGIES FOR VALUE CREATION

We analysed the companies in our sample with one principal question in mind - what are their strategies for creating value? Our exploratory analysis of the data revealed that a company's ability to create value is a function of both how efficient its business model is and how well it is able to draw and retain customers to its web site (how "sticky" the site is). Using both qualitative and quantitative results from our checklist³ and illustrating some of the best practice examples we uncovered, we hope to show what these individual European companies are doing to create value.

a) Enhancing Transaction Efficiency

Companies that can use the Internet to increase transaction efficiency have the potential to create value for all parties involved in the transaction. Our analysis of the case data revealed that companies that are able to do this effectively:

- Strengthen the supply chain by reducing supplier costs and integrating vertically.
- Provide a large array of products and services.
- Make the transaction convenient for the consumer.
- Allow the consumer to save time.
- Reduce the asymmetry of information amongst parties.

Strengthening the Supply Chain

Most companies realise that the changes brought about by the Internet will require the re-organisation of their supply chain. We rated the companies in our sample on two measures relating to changes in their supply chain: how effectively they reduced supplier costs, and the degree of integration of the supply chain.

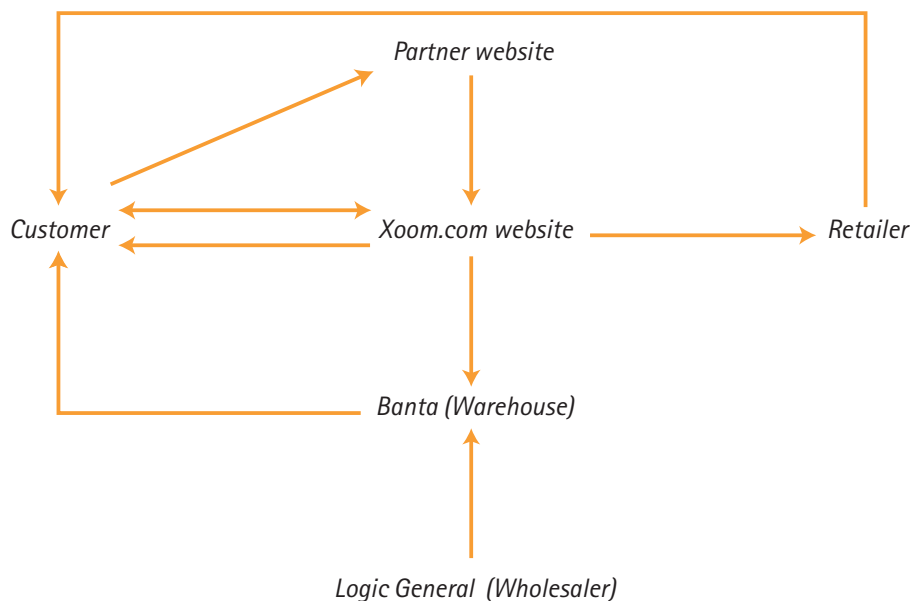
There are many ways by which the Internet enables suppliers to reduce costs, yet our findings show that few companies are taking full advantage of the possibilities available to them. For example, with the speed of information, companies can save inventory costs by having more accurate stock level reports, updating them more rapidly, and even making products to order. Obsolescence is reduced by using these strategies since the Internet provides companies with a more efficient medium for testing and refining new products. Often, firms are able to gauge customer response instantly, and then can adjust both the product and the pricing more rapidly. There are many available commercial software packages that allow companies to do this simply and inexpensively.

³ See Appendix 2 for details of our sampling and research method ; Appendix 3 for a list of companies in our survey, and Appendix 4 for the complete checklist scores.

Often the best way of taking advantage of the richness and reach in a virtual market to realise cost reductions is to strengthen or integrate the ties that bind the links in the supply chain. The companies we studied scored high on having a substantial degree of supply chain integration, but for different reasons. While some are outsourcing functions to third parties but strengthening the links between them, others are moving towards complete vertical integration by occupying many places along the chain. Either way, the links are stronger - there is a greater richness of information flowing between parties. Companies that want to compete in virtual markets should re-examine their supply chains and question whether each function is being performed as efficiently as possible, and whether each link is as strong as it can be.

This re-organisation of supply chains has led to the appearance of a wave of new intermediaries - companies that act as portals to products and services of other providers. The company Xoom.com (bought during 1999 by NBCi) is an example of this type of new firm. Xoom.com attract users to register for their services by offering free e-mail, chat rooms, and home page building, as well as providing a gateway to shopping, searches, and content, all of which are outsourced to third parties. In this respect, Xoom.com act primarily as a marketing company, taking the demographic information that users supply upon registration to use the free services and selling it to advertisers. They also collect commissions upon sales realised from their site. As a gateway to commerce services, auctions, and other such services, companies such as Xoom.com have removed themselves from the main supply chain and act as intermediaries that did not exist before Internet technology. Xoom.com's business model is shown in Figure 2.

Figure 2: Xoom.com's Business Model for Sales



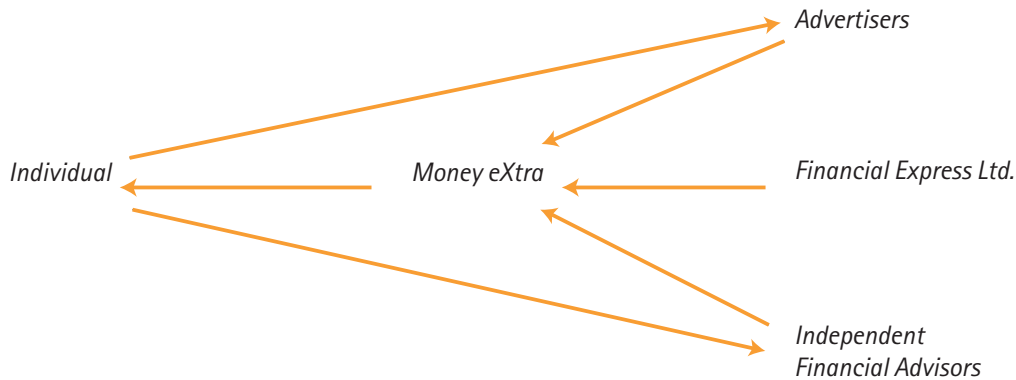
Customers register at Xoom.com web site in order to take advantage of free services. Merchandise is purchased either directly from Xoom.com, or indirectly, in which case the customer is linked to an affiliated retailer's web site where the transaction takes place. Xoom.com then get a share of the revenue. In both cases merchandise is bought from a wholesaler, Logic General, and then stored and shipped to the customer by a warehouse, Banta.

Although completely outsourcing all services (as Xoom.com strive to do) may not be feasible or desirable for most companies, outsourcing of at least some services would appear to be cost-efficient in a virtual market. Of the companies that we studied, over 65% outsourced content provision, and most outsourced the delivery of goods (of those companies that did not use digital downloading, all but one used either regular post or a major courier to execute physical delivery).

In contrast, consider the case of Infosources (formerly known as Infonie), a French ISP (Internet Service Provider), who are moving away from outsourcing, choosing instead to perform most functions on the supply chain themselves. Infosources offer Internet services, both free and subscription-based, as well as various portal sites with a rich array of content on a variety of subjects, retail product sales, and chat rooms. In the past few years, they have purchased many of their content suppliers, and now offer these products and services exclusively to their subscribers. Given that Infosources currently supply their own technology for their ISP service and provide many of the products in their retail shops, they are occupying many of the links on the supply chain. It would appear that this is the most cost-effective strategy for this firm in a market (France) that may not be rich in high quality content suppliers. Like Infosources, half of the companies we studied kept technology, research, and critical services such as after-sales support and marketing in-house. Finding the right outsourcing strategy requires experimentation, and depends to a great extent on the market conditions in which a company is competing.

With any degree of outsourcing, all companies can achieve greater efficiency by strengthening the links to other participants in the transaction. In our sample, a third of the companies were linked with partners through extranets or the Internet. An excellent example of a company that uses both of these is the eXchange, a British company that acts as a portal for financial information and services, but more importantly, obtains quotes for financial products for both businesses (independent financial intermediaries, or IFAs, who advise customers on financial products) and individual customers. The eXchange has access to the databases of a network of financial institutions and IFAs via an extranet, and this enables them to match bids and requests for products and services through their business site, eXweb. For the individual consumer, their moneyXtra site acts as a hub to provide up-to-date pricing information for financial services, as well as connecting them with IFAs (see Figure 3 overleaf).

Figure 3: The eXchange: MoneyXtra.com site



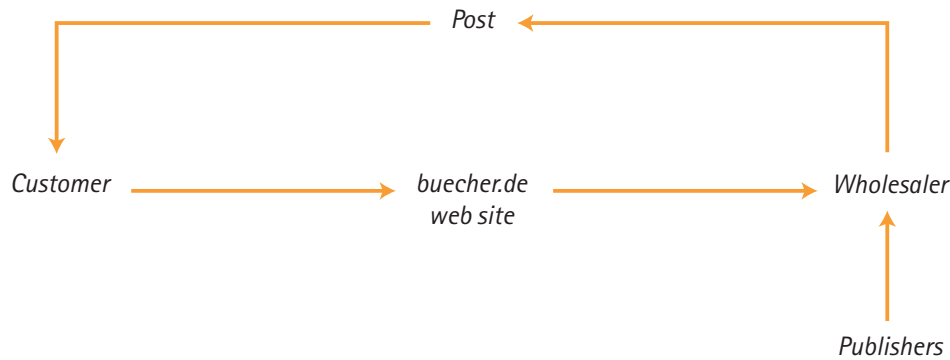
An individual goes to the 'MoneyXtra' site where he/she (a) is exposed to advertising, (b) views content provided by Financial Express Ltd., and (c) can view prices and products supplied by Independent Financial Advisors. From there he/she can choose products and link directly to sites of advertisers or IFAs. These latter two pay subscription fees to the eXchange.

The Size of the Product and Service Offering

Another key element of reach contributing to enhanced transaction efficiency is the ability to overcome physical barriers to offering more products and services to the consumer. We found that the companies studied in general benefited by the digital representation of goods and offered at least the full range of products offered by a 'bricks and mortar' equivalent, and often more. That said, many Internet companies are not exempt from physical restraints such as the storage and delivery of physical goods. Iceland, a major British grocer was one of the first European grocers to offer an Internet ordering service. Customers can shop and order on-line and have the groceries delivered to their home. Although Iceland remain limited by the size of their warehouses and retail outlets, as well as their inability to deliver beyond the geographical area readily accessible from their warehouses, they provide a supplementary service by offering large amounts of information about their products, including descriptions and nutritional data.

The German bookseller, buecher.de, is an on-line retailer that deals primarily in German language books, but also offers music, CD-ROMs, electronic cards, and even a unique publishing service, known as Books-on-Demand, for individuals. Their business model for retail sales provides an interesting example of maximising the product range without carrying inventory as they do not warehouse the books they sell, but instead maintain strong links to the databases of suppliers (see Figure 4). They are thus able to offer the collective range of books that their suppliers keep, a much larger stock than they could store profitably themselves. Through book reviews and discussion forums they are also able to offer more information about the products they offer, thus using digital representation to the advantage of both the customer and themselves.

Figure 4: *buecher.de's Business Model*



The wholesaler receives and stores books from publishers. A customer shops at buecher.de's web site and orders. The order is transmitted electronically to the wholesaler who packs and ships directly to the customer.

Even though companies can offer a large range of products and services to cover all of a consumer's needs, there is also the danger of overwhelming him/her with too much information. Many companies recognise this and limit the number of choices they offer in order to simplify the decision for the consumer. Scoot.com is a directory service that locates people, businesses, and services in three European countries, and provides contact information, addresses, and maps for all businesses within a specified geographical area. Customers do not need to register, they simply follow a 2-step process to conduct the search, after which they are given a choice of possibilities for further services. Nonetheless, Scoot.com limit the list of search results produced for searchers, recognising that the customer does not want or need a large array. They believe that 3-10 choices are sufficient, and from these users can choose the one service that they need. In this case, having a larger product offering does not mean displaying it all to the customer.

Convenience

In addition to the transaction appearing simple to customers, the overall transactional context should be convenient and should minimise the overall level of stress experienced by them. We found that many of the companies in our sample scored surprisingly low on this measure, yet there was a high degree of variance in the performance.

These low scores have their reason. Where companies did not score highly, the process to complete a transaction seemed unnecessarily complex sometimes involving a large number of steps that a customer must complete to effect a purchase. A good rule of thumb is that there should be no more than three clicks to a purchase - any more and the customer is likely to give up.

In addition to requiring too many clicks to complete a purchase, some firms studied had the shopping function as one amongst many of the choices offered to consumers, forcing them to search extensively before finding it. Others had overly graphical pages slowing down page loading.

Another factor concerns the return of goods. The medium itself makes the return of physical goods more difficult, requiring a buyer to repackage and resend the item. None of the companies studied adequately addressed the issue of how the consumer would go about this operation. Providing standardised forms or sending instructions might facilitate this process.

Where companies did score highly was in taking advantage of the reach and other aspects of the digital representation in the virtual market. The Internet enables round-the-clock ordering. Although an order might not be processed until the following business day, customers are free to shop at their convenience. Companies can provide sales service through more complete product descriptions and a list of frequently asked questions (FAQs). Other methods used to make the transaction context more convenient are the automatic calculation of tax and delivery charges, and the tracking of delivery, mostly through links to major couriers.

The British travel company, e-bookers, is an example of how to make a transaction convenient for the customer. Their web site provides travel information and has a customisable search engine where customers specify travel details including flight times and their preferred airline. They are then given a choice of flights based on price and availability. The company also leverages their on- and off-line resources well: tickets are issued from their parent company, Flightbookers, who have 'bricks and mortar' offices in many countries throughout Europe. Customers can then have the ticket delivered, or pick it up at the nearest office at their convenience.

Time Saving

Another key to efficiency is whether or not the electronic transaction allows the customer to save on transaction time. The companies studied scored highly on this measure, mostly by reducing customers' search times through clear colour-coded product categories, with a reasonable amount of sub-categories, and search engines. Companies can further reduce search time for the consumer by providing or offering complementary products, as was the case with half of the companies studied. This feature could be either a part of their own product offering, or that of a partner, where the consumer sometimes only has to click on a hyperlink to be taken to the complementor's web site.

The German travel booking company i:FAO provides a good illustration of some of these concepts. The company uses its booking software to offer services such as travel information and transportation bookings through a series of German-language web sites for business and personal travellers. i:FAO's web sites offer a customisable search engine and buyers are given a choice of options where they can specify travelling times, seating choice, and other preferences. Moreover, there are links from the home page to complementary products such as travel information, weather reports, travel bookshops, and a currency converter. Finally, if a user is already registered, the buying process is facilitated and he/she receives, by e-mail, fare updates on specific flights specified upon registration.

Asymmetry of Information

Perhaps most importantly, an on-line transaction can increase the knowledge of both buyers and sellers. This point is critical since value can be created for all stakeholders in a transaction through the reduction of information-based market inefficiencies and asymmetries.

For example, investors are able to make efficient, and more informed investment choices when they are able to access detailed company information on the Internet. Sellers of goods benefit from having more information regarding the purchasers, their preferences, and demographic backgrounds. With this information, they should have an enhanced ability to target both product specifications and marketing efforts to better serve the buyers and thus achieve higher sales. Indeed, the Internet has made information on customers a valuable commodity; sellers can use this information for their own purposes, or, with consumer permission, sell it to advertisers. Consumers themselves are becoming increasingly aware of its value, often expecting something in return. They, too, have access to more information about the parties with whom they are dealing, as well as more detailed product and pricing information.

A good example is Artnet.com, a German company established in 1989 that has created a database of fine art auction prices. They are now an e-commerce firm with a site that features access to the database, fine art auctions, an on-line magazine, and establishes a community of like-minded users. The company offers consumers e-mail accounts and the use of chat rooms upon registration, which is free. Individuals can state their preferences and be notified by e-mail when items by a certain artist or of a certain type come up for auction. For subscribing art galleries, Artnet.com offer free web page hosting and access to the auctions and database. In their business model, Artnet.com are benefiting by reducing the asymmetry of information between sellers and buyers in a business (fine art auctions) that has traditionally profited from this asymmetry.

Listing the historical prices of items, which Artnet.com has done, is especially useful in stock purchasing and art auctions where historical prices influence current market value. We believe that once one company in an industry offers comprehensive pricing information, including that of their competitors, it will become a *sine qua non*. Consumers will demand it, and should a given company not provide it, consumers will go elsewhere to find it. The stakes have been increased with the use of 'shopbots' that are able to search web sites of competing companies and put together price lists for consumers, thus saving them the trouble of having to visit all the web sites involved. As this technology improves (with the advent of XML - Extensible Markup Language, which creates standards for recognising common items on a web page), companies will have to find even more creative ways of attracting price-sensitive customers. One way to do this is to develop 'stickiness' by which companies make it costly for customers to switch to alternative firms. This is discussed in the following section.

b) Creating 'Stickiness' to Motivate Repeat Transactions

One of the major strategies for value creation through e-commerce is 'stickiness' - the ability of web sites to draw and retain customers. This is of critical importance - the competition for site visitors will grow as the number of consumers and vendors increases. The inflated marketing budgets of many e-commerce companies reflect this argument, and the bankruptcy of high profile Boo.com is a recent testament to the difficulty companies have in supporting financially the marketing required to establish their name and compete. A complementary, perhaps better way of driving repeat traffic is the creation of stickiness.

Stickiness creates value by increasing transaction volumes. We have identified a few effective means by which the companies in our sample create stickiness:

- Reward customers for their loyalty.
- Personalise the product or customise the service.
- Build virtual communities.
- Establish their reputation for trust in the transaction.

We believe that the companies that scored high in these categories are more likely to see customers make a purchase, return to a site, and stay for longer periods of time when they do come back.

Loyalty Programmes

Loyalty programmes are not a new idea as a means of encouraging repeat purchasing. Rewarding buyers with a form of compensation that can be accumulated and redeemed for goods and services has long been popular in the 'bricks and mortar' world. Doing this leads to more frequent purchasing by a given customer and greater sales volume in the long run. Jupiter Communications (1998) estimates that 56% of on-line customers would buy more if they were awarded loyalty points. Award programmes also help establish a better relationship between the seller and the buyer. In return for the reward, the seller can accumulate information about the buyer's purchasing pattern and preferences and is then able to serve him or her better in the future.

Most of the companies that we studied did not use loyalty programmes. Of all the points in our checklist, this produced the lowest overall score, which we believe indicates that the technique is under-utilised. Globally, loyalty programmes are best known through a few players in specific industries (e.g., airlines that reward frequent fliers with prizes such as free tickets). The Internet has seen the appearance of companies such as the American company MyPoints and the European

company Beenz, that are attempting to be the fastest movers amongst Internet loyalty programmes. They are offering common point systems that can be sold to other companies, thereby creating a network of partners and a critical mass of companies using the same system. Beenz, a British company reported to have an IPO in 2000, sell their points known as 'beenz' to companies, who in turn use them to reward their customers for buying certain products, entering information, or visiting certain areas of their web site. Companies can use the points as an incentive to move customers to sections of their web site or to help sell slow-moving products. They can also accept 'beenz' as payment for obsolete items. In return, Beenz buy the points back at a less expensive rate. By increasing the number of user sites in the affiliation programme, the overall value to customers increases.

Personalisation of Product or Customisation of Service

Another means of keeping customers is by tailoring products or services to fit their particular personality or tastes. Tailoring can take various forms — products can be made to order, or personalised by the seller, or the interface (i.e., the web page that the customer sees when visiting the web site) can be adapted, or customised. These tailoring tactics are possible when the firm has adequate knowledge about the consumer, a by-product of the richness in the virtual market. Companies have the opportunity to build a closer relationship with the customer by using the information that the customer gives upon registering or opening an account. There are many ways that a company can put this information to value-creating use. It can be used to speed up the purchasing process (by calling up previous orders or payment information), to cross-sell other products, and to increase the level of service that a user receives. Knowing a consumer's tastes is also a good marketing tool. Targeted product offerings can be made by selective banner advertising, or by sending e-mails notifying clients about special offers, enticing the consumer to return to the site and make a purchase.

Services can also be customised in exchange for personal information about the customer. Examples of these services include gift registries (where users can register at a site and choose from a list of gifts that they would like to receive), web page hosting, and e-mail accounts. Indirectly, personal information about the user can be gathered by the placement of "cookies", a common means of recognising a repeat user when he/she returns to a site. Although many of the companies studied in this project use them, European Internet users might be apprehensive about the misuse of cookies, forcing companies to be forthright about their installation and use, or risk poor publicity.

Surprisingly, there was markedly high variance in the amount of personalisation used by the companies we studied. Although most of the companies we looked at were using a high degree of personalisation, seven firms were using none, indicating that these sites may not be effectively using information about their customers.

Virtual Communities

Creating virtual communities has benefits for both consumers and vendors. Consumers are able to share their experiences, access competing vendors and ideas, and shape the content they receive. Vendors can better target their product offerings to specific audiences that have segmented themselves. Since users arrange themselves according to interests, communities can also be a means of leveraging the reach of the Internet to improve communication flow.

The overall score for this category was moderate amongst the companies we surveyed, indicating that only a few firms, and only firms in specific industries, had created virtual communities. Of all the tools available for creating a community, the most popular seems to be the chat room. In this model, people connect through the web site and communicate in real time with other users with similar interests. These communities are so powerful that new businesses have evolved around them whose web sites are amongst the stickiest on the World Wide Web. For example, I-D Media is a German media company that consults on web-page design and offers active web-page software. In addition, they have created a chat community called Cycosmos where users are able to create virtual characters called avatars that personify their own characteristics and interests, the users themselves remaining anonymous (an aspect of Digital Representation in a virtual market). The company believes that people will be more honest and forthright about their true interests under a mask of anonymity. As users volunteer personal information to become members of a community, the company can use their profiles to send them targeted marketing offers.

A more static version of the chat room concept is the bulletin board, where users can post messages to each other or to the general community. Townpages.net is a British on-line directory that provides local and national information in the UK on events and organisations. They also host electronic bulletin boards for small communities, which serve to unite users around their interest within a particular community. The site can be accessed from PCs, but also from strategically placed information kiosks around the UK. Users interact by posting messages in forums based on various subjects according to their interests.

The community concept is not limited to speciality sites. Any firm that is able to identify common interests amongst users, and then provide a medium where they can interact, share information, and build interest around the product, can build a community. Other forms of community include game playing communities and communities of knowledge. In the former, users play against each other through the web site, enter into tournaments, and join discussion groups, sharing their opinions and experiences. In the latter, users ask and answer each other's questions, thereby sharing knowledge and reviewing products or sellers, as is the case with the buyer and seller ratings seen at auction sites.

Trust

The issue of trust, particularly consumers' perception of the lack of security in e-commerce, is one of the largest impediments to e-commerce growth, especially in Europe, where it has been cited as one of the main reasons consumers do not purchase on-line. This mistrust stems partly from the lack of physical representation, since buyers cannot touch and feel products on the Internet, and partly from concerns regarding credit card abuse. The companies we studied scored well on this measure, indicating that most European e-commerce companies feel the need to address consumers' perceptions of security, both with safe payment processes and confidentiality of personal information.

Encrypting the exchange using a 'secure service,' such as Netscape's SSL protocol or Veri-Sign, has become the standard method used by companies to secure transactions. Most sites not only show the logo of the securing agency on their home page, but they also assure users of the security again when they are making a purchase. Vendors benefit from these well-known securing brands, as consumers will be more likely to trust a retailer who shows the brand on its site. Another means of addressing the issue of trust is by confirming the purchase through e-mail, the idea of this being to alleviate fears of technological failures blocking the completion of a transaction.

Some firms are able to elicit trust by displaying a connection with a well-known partner or associate brand, or by making a connection to their history as a 'bricks and mortar' operation. Affiliate networks (associate programmes where companies usually post each other's banners on their sites, often in exchange for a share of revenue for sales from transactions originating at the partner site) are also popular. These permit newer 'pure plays' that do not have strong brand recognition to ally with an established brand and gain credibility by association, thus distinguishing themselves from other newcomers in the Internet space.

The French on-line brokerage company, Bourse Direct, demonstrates some of these methods. One of many on-line services that allow customers to buy and sell stocks, they were the first such company in France to publicly list. They gained instant credibility by stressing their partnership with XEOD, part of a major French bank, Banque Populaire, who execute all trades on their behalf. Furthermore, users must open an account with Bourse Direct and use a password to access their accounts. Users are thus ensured high levels of transaction safety and protection from unauthorized access.

Consumers may be afraid not only of payment security, but also of the misuse of their personal information. European laws are strong in protecting the misuse of consumer data, but only 60% of the companies we studied explicitly guarantee the confidentiality of consumer information and state that they will not misuse it, such as by selling it to companies that send unsolicited e-mails (i.e.,

'spam'). If users must register, they are often given a password so that others cannot enter the site under their name. Other sites do not require the user to give personal information, allowing anonymity, and therefore involving no risk to the user. Companies can educate the customer with information regarding the safety of e-commerce, but only 10% of those studied felt the need to address customers' fears explicitly.

One company that does this effectively is Consodata, a French marketing firm that collects consumer data through mail-in and Internet surveys. The firm uses coupons and special offers to encourage consumers to complete the surveys. Consodata state clearly to customers how this information will be used and inconvenience the customer as little as possible (e.g., customers fill in short surveys only twice every 6 months upon visiting the web site, and then have unlimited access to all special offers). Moreover, the company states that it is inspected frequently by the French Government Agency, la Commission Nationale de l'Informatique et des Libertés, to assure customers that their personal information is protected from abuse.

CONCLUSION

In this report, we have argued that e-commerce is fundamentally changing the way business is conducted. We have anchored our arguments in the unique characteristics of virtual markets: reach, richness, and digital representation. Based on an exploratory study of thirty successful European e-commerce firms, we have identified two major strategies for value creation, namely efficiency and stickiness. We have also illustrated best practices of European e-commerce firms by citing numerous examples of companies that effectively leveraged these strategies.

However, we found that there are wide variations in the degree to which successful European companies have achieved efficiency and stickiness in their business models. Many companies excelled in certain facets of these multi-component categories in our checklist, for example, in building trust in the transaction, allowing the consumer to save time, and finding creative ways of attracting and keeping him/her. Nevertheless, most of the companies studied focused on small subsets of strategies for value creation and did not make use of the full spectrum available. Strategies that were typically under-utilised included decreasing the asymmetry of information between players, making the transactional context more convenient for the consumer, and making greater use of loyalty programmes and virtual communities. We believe that these represent untapped opportunities for e-commerce companies to create value.

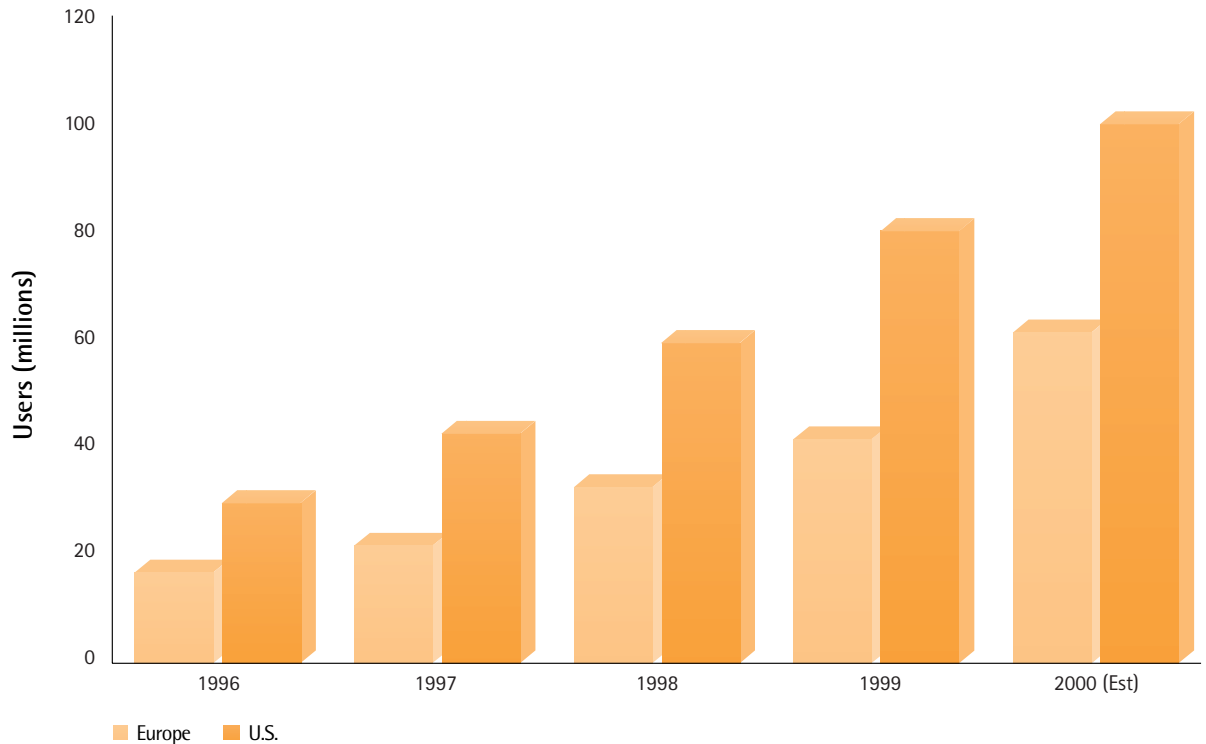
The identified strategies for value creation, and the examples cited as “best practice” in this report should enable managers of e-commerce firms to gain a better awareness of the competitive benchmarks that are driving e-commerce in Europe today. They should also help individual companies evaluate their own performance, and take steps to affect improvements where appropriate, by using the evidence presented in this paper to enrich their own offering with novel ideas.

APPENDIX 1 - E-COMMERCE IN EUROPE

The year 1999 was one of explosive growth for e-commerce in Europe. Revenue growth from European e-commerce sales was 200%, compared to 145% for the U.S. (IDC, 2000), and predictions from The Boston Consulting Group (2000) set the European on-line market to reach over 45 billion euros by 2002. Jupiter Communications (1999) expects the upward growth trend for the number of Europeans buying on-line to continue exponentially, from 13.5% of the online population at present to 43% by the year 2003. Nonetheless, before 1999, in the shadow of the booming U.S. economy, e-commerce in Europe had been overlooked and underestimated, not often commanding the same level of attention as in the USA. Historically, European Internet penetration, and therefore e-commerce, has lagged that of the U.S. for many reasons, including the high connection costs resulting from the slow deregulation of the European telecommunications industry, restrictive European trade and legal regulations, and language and cultural differences across Europe. Consequently, while e-commerce became a phenomenon in the U.S. during the latter half of the 1990s, it began to attract attention in Europe much more recently.

Events in the past year indicate that the e-commerce landscape in Europe is changing. Falling Internet access costs across the continent, spurred by competition in the telephone industry from a prolonged price war, have created a surge in the number of Europeans going on-line. From October to December 1999, one out of every four Europeans reported having used the Internet (see Figure 5). While e-commerce is still hindered by local call charges, which limit the amount of time spent on-line, many Internet Service Providers (ISPs) are combating this. The UK's Freeserve was the first ISP to offer 'free Internet access', where the consumer pays only the cost of the connecting call, from which Freeserve shares a portion of the revenue. This model was soon imitated across the continent. More recently, ISPs have been offering flat rate subscriptions, where the consumer pays monthly or annual fees and can stay connected for unlimited periods of time. These efforts to keep people on-line are expected to be a major growth driver of e-commerce.

Figure 5: Internet Penetration



Source: Morgan Stanley Dean Witter (1999)

The European Commission's eEurope initiative, a series of recommendations to member states, has also been encouraging. Members are studying deregulation of the 'local loop' (the opening of the 'last mile' of phone line to competition), as well as other means of facilitating Internet growth in Europe, such as setting targets both for equipping schools with Internet access and training the general population with computer skills, and the creation of the '.eu' domain. Most important, however, is what the EU has not done - it has so far left regulation of the Internet to businesses, despite proposals over taxation (similar to those heard in the U.S.) and legal rights (such as the right of a consumer to sue an on-line firm from his/her home country for goods purchased over the Internet) that would constrict e-commerce if implemented. Although the proposals are still being formulated (as of Lisbon, March 2000) and the debate is as yet unsettled, the eEurope initiative is a promising step that demonstrates Europe's recognition of American dominance in e-commerce, and its desire to change to become more competitive.

There are also cultural barriers in Europe that have slowed e-commerce: English language content dominates the Internet as 8 out of 10 web sites are in English, even though only 1 out of 20 people in the world speaks the language as a mother tongue. Fortunately, this imbalance is rapidly being corrected, as there has been a steady increase in the number of non-English language web sites

paralleling the growing Internet penetration into non-English-speaking markets. The market is driving this change - the number of non-English-speaking Internet users (48.7% of all users) is approaching that of English-speaking users (51.3%), led by German (6.7%) and Spanish (6.5%) speakers (Global Reach, 2000).

Culturally, e-commerce has been slow to take off because of the public's fear of inadequate security measures for safe payment (addressed later in this report). High profile hacker attacks during early 2000 have reinforced the fears of vulnerability and so payment methods in the future must not only be proven to be secure, but also address the needs and habits of Europeans. Credit card payments, the primary method of payment for e-commerce transactions, are not as common amongst Europeans as in the U.S. The acceptance of alternate methods of payment, such as smart cards, will drive higher levels of consumer-based e-commerce in Europe.

These barriers are significant, but there are signs that they are being overcome and that e-commerce will continue to grow exponentially in Europe. Since European companies have a higher cost base than their U.S. equivalents, there is greater incentive to move towards an e-commerce type model, giving firms a much bigger return. In addition, the adoption of the euro as the European currency will allow goods to be exchanged easily within a common market. There are also signs that Europe is narrowing the technology gap with the United States. Europe's technological leadership in mobile telephony, coupled with the launch of wireless application protocol (WAP)-enabled services and the establishment of the third generation (G3) standard, position Europe well to lead in the next expected e-commerce wave, known as mobile commerce, or m-commerce (i.e., e-commerce via mobile phones.)

Investors have reflected this optimism by investing more in European Internet start-ups. For example, over the first 10 months of 1999, European venture capitalists (VCs) invested \$333.9 million in Internet companies (Lau, 1999). This may pale in comparison with the \$9.5 billion invested by U.S. companies over the same period (of which an estimated \$240 million went into European Internet deals), but the balance is shifting. After seeing the success of European start-ups, many U.S. VCs have been redirecting increasing amounts of resources across the Atlantic.

The year 1999 also saw the continued introduction and solid growth of many new European Internet stocks, despite a slowly growing German economy. Growth has continued into the year 2000 despite worldwide high volatility in tech stocks. Much of this can be attributed to Europe's rapidly growing new markets, a major factor contributing to the growth of entrepreneurial activity and a forum for many e-commerce companies to gain alternative funding. The Euro NM more than doubled the number of companies listed between December 1998 and December 1999, from 165 to 344, while

market capitalisation more than quadrupled. This pace showed no signs of slowing in 2000, as another 123 companies were introduced during the first six months. Although the market capitalisations of European Internet companies may seem small in comparison to those in the U.S. (the Euro NM was valued at 136 billion euros at the end of December 1999 whereas Microsoft alone was valued at over \$500 billion at that time), the growth rate is encouraging, especially considering that only recently there were no publicly traded European Internet companies.

APPENDIX 2 – SAMPLING AND RESEARCH METHOD

For the purposes of this study, we define e-commerce firms as follows:

e-commerce firms are firms that derive a significant or rapidly growing proportion of their revenues from transactions over the Internet (Amit and Zott, 2000).

While this definition is broad in the sense that it includes, for example, ISPs, it is narrow in that it excludes many providers of Internet-related hardware or software who facilitate e-commerce, but who do not themselves engage in the activity. Above all, an e-commerce firm is one that is directly involved in transactions (the exchange of goods, services, and/or information) using the Internet as a medium.

To uncover the business models of successful European e-commerce firms, we studied the business practices of 30 European companies. To be included in our sample, a firm had to:

- a. derive a significant or rapidly growing proportion of its revenues from the Internet
- b. be a B-to-C, C-to-B, or C-to-C firm (see below)
- c. be publicly listed
- d. be European or Israeli

The first criterion derives from our definition of an e-commerce firm. The second reflects our focus on e-commerce companies that involve the individual consumer in the transaction. Such companies are referred to as business-to-consumer (B-to-C), consumer-to-business (C-to-B) or consumer-to-consumer (C-to-C) companies. For example, a C-to-C business is one that allows consumers to sell to other consumers (e.g., an auction service). We focused on these business types for a simple reason. When this project was undertaken, there were more mature public companies of these types than there were of business-to-business (B-to-B) companies. These former firms comprised the first wave of “dot-com” companies that went public (Morgan Stanley Dean Witter, 1999).

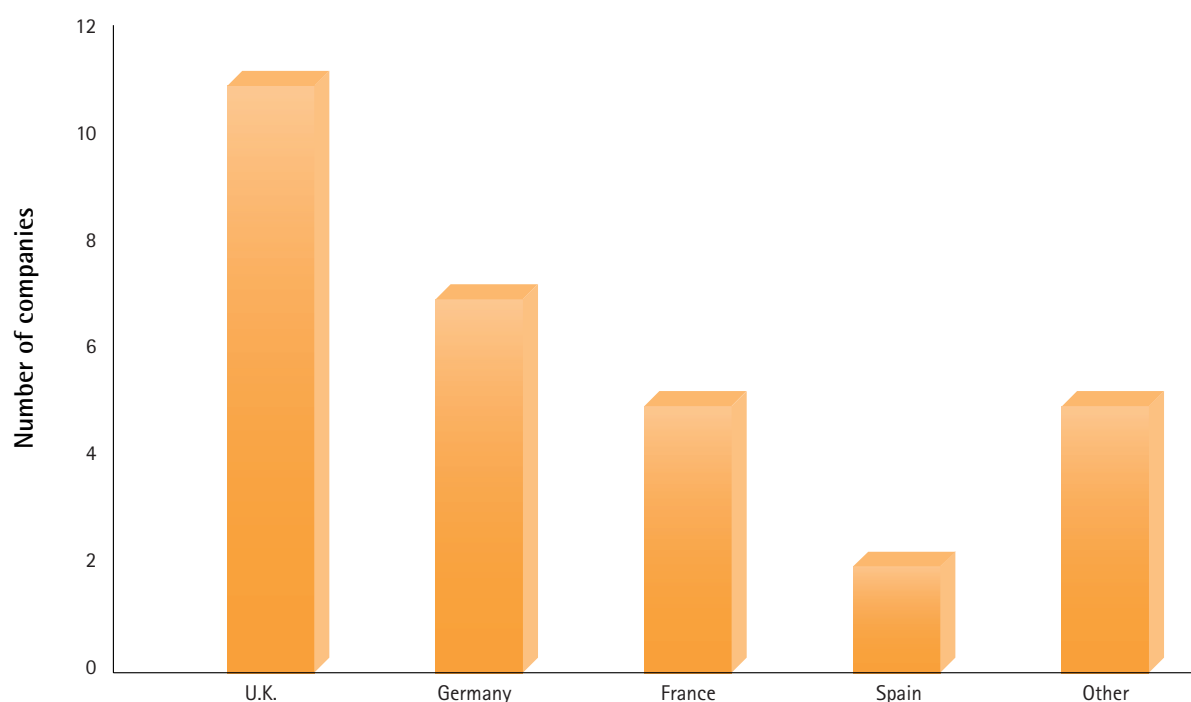
The third criterion was used to ensure that accurate and accessible information would be available. We identified companies listed on major European exchanges (see Appendix 3 - Company List), as well as on new venture markets (such as Germany’s Neuer Markt, the UK’s Alternative Investment Market, and the NASDAQ in the U.S.). Clearly, this limits the scope of our analysis, as there are many privately held firms with interesting business models. But publicly held companies provide a wealth of data that can be exploited and analysed, thus improving the quality of the results. We made one exception for the private company, Beenz, for which we had sufficient information for a thorough study of its interesting business model.

For the fourth and final criterion, Israel was included because of the booming IT industry in that country, and because of the growing importance of Israeli e-commerce companies in Europe, which is one of their largest markets for export. We included Xoom.com on the grounds of its European origin.

All information used in this study was taken from publicly available sources: company reports, including the Offering Prospectus and Annual Reports, analyst investment reports, and companies' web sites. This approach presented certain challenges as reporting requirements and accounting standards vary across European countries from strict (UK) to lax (Switzerland and Italy). This makes comparisons between countries difficult. Further, there is no central reporting body where company reports can be accessed for the whole of Europe. This is in sharp contrast to the U.S., where the SEC's EDGAR database is publicly available on-line for all information seekers and potential investors, and companies adhere to one U.S. reporting standard set by the SEC.

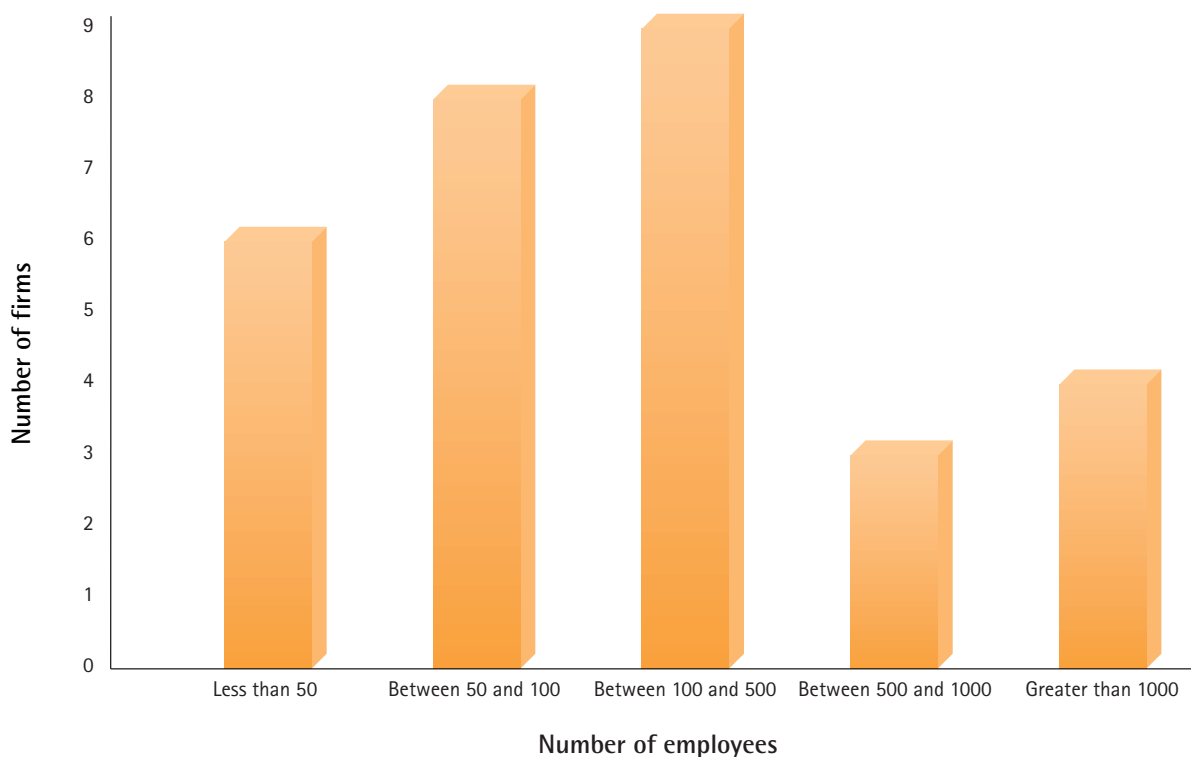
The companies chosen are all reasonably successful, having achieved a stock market listing. In general, an attempt was made to draw from a variety of companies that were perceived market leaders or that were innovative in their e-commerce business, regardless of size, industry, or country of origin. However, many of our companies come from the UK and Germany (see Figure 6 - Country of Origin), and certain larger companies are included, such as the UK's Iceland and Belgium's Lernout & Hauspie (see Figure 7 - Company Size). These companies are better known historically as 'bricks and mortar' companies than they are as e-commerce firms.

Figure 6: Country of origin



If a sampling process similar to the one used in this study were used in the U.S., the sample would contain mostly Internet ‘pure plays’ (i.e., companies whose only interface with the customer is via the Internet). In Europe, however, many of the bigger players in e-commerce are formerly government-owned telecom operators, cable companies, and large retailers, hence the inclusion of these larger ‘bricks and mortar’ companies. The belief that many larger companies are slower to embrace the Internet or perhaps do not see it as a core part of their existing business is not necessarily the case in Europe, where companies have had the chance to study the U.S. example before involving themselves in e-commerce. Thus, we included both ‘bricks and mortar’ companies (also known as ‘clicks and mortar’ companies, which are ‘bricks and mortar’ companies that have significant Internet operations) that suited our definition, as well as smaller companies (or Internet ‘pure plays’).

Figure 7: Company Size



Examining the business models and value drivers of e-commerce firms, we focused on two important strategies for value creation, using a detailed analytical checklist that was continuously refined as individual companies were analysed. With every refined version, previous analysis results were updated. This allowed the development of a relatively large sample of cases while at the same time ensuring depth of information. In an attempt to characterize some general trends in the data, we isolated certain issues and quantified information using a 3-point scale. Companies were given a score of “0” if the issue had no relevance to value creation through their business model, a “1” if it had some relevance, and a “2” if it had high relevance. Details of the results of this analysis are given in Appendix 4.

APPENDIX 3 – COMPANY LIST

Company	Core Product/Business	Country	IPO Date	Where Listed	Web Site
AB Soft	Communications software	France	12/03/97	Nouveau Marché	www.absoft.fr
Amadeus	Airline tickets	Spain	10/19/99	Madrid	www.amadeus.net
Artnet.com	Art sales	Germany	05/17/99	Neuer Markt*	www.artnet.com
Beate Uhse	Erotic goods	Germany	05/27/99	Frankfurt	www.beateuhse.de
Beenz	Loyalty marketing	UK	n/a**	n/a**	www.beenz.com
Bourse Direct	On-line brokerage	France	11/10/99	Nouveau Marché*	www.boursedirect.fr
buecher.de	Books	Germany	07/05/99	Neuer Markt*	www.buecher.de
CommTouch	E-mail	Israel	07/13/99	NASDAQ	www.commtouch.com
Consodata	Consumer data/information	France	10/12/99	Nouveau Marché*	www.consodata.fr
Cryo-Interactive	Computer games	France	12/08/98	Nouveau Marché**	www.cryo-interactive.com
e-bookers.com	Travel booking	UK	11/12/99	Neuer Markt*	www.ebookers.com
Fortunecity.com	Community	Germany	03/19/99	Neuer Markt*	www.fortunecity.com
Freemove	ISP	UK	07/26/99	LSE/NASDAQ	www.freemove.com
gameplay.com	Computer games	UK	08/02/99	AIM	www.gameplay.com
i:FAO	Travel booking	Germany	03/01/99	Neuer Markt*	www.ifao.net
Iceland Group	Grocery	UK	10/16/84	LSE	www.iceland.co.uk
ID Media	Community/software	Germany	06/17/99	Neuer Markt*	www.l-dmedia.com
Infonie/Infosources	ISP	France	03/20/96	Nouveau Marché*	www.infosources.fr
Lernout & Hauspie	Speech/translation software	Belgium	06/23/97	EASDAQ/NASDAQ	www.lhs.com
QXL.com	Auctions	UK	10/14/	LSE/NASDAQ	www.qxl.com
ricardo.de	Auctions	Germany	07/21/99	Neuer Markt*	www.ricardo.de
Scout24.com	Directory services	UK	03/10/97	LSE/NASDAQ	www.scout24.com
Sportingbet.com	On-line betting	UK	02/22/9	OFEX	www.sportingbet.com
Terra Networks	ISP	Spain	11/17/99	Madrid/NASDAQ	www.terra.es
The eXchange	Financial services	UK	08/06/99	LSE	www.exchange.co.uk
Tiscali	ISP	Italy	10/27/99	Nuovo Mercato*	www.tiscali.it
Topjobs.net	Job portal	UK	04/28/99	NASDAQ	www.topjobs.net
Town Pages	Directory services	UK	04/30/99	AMEX	www.townpages.co.uk
Vocaltec	Internet telephony	Israel	02/07/96	NASDAQ	www.vocaltec.com
Xoom.com	Retail/auction/advertising	USA	12/09/98	NASDAQ/EASDAQ	www.xoom.com

* The Neuer Markt, Nuovo Mercato, and Nouveau Marché are part of Euro NM.

** Beenz is a privately owned company.

APPENDIX 4 - SURVEY RESULTS

(See page 25 for explanation of how figures were calculated)

Company	Average		Sum
	Stickiness	Efficiency	
AB Soft	0.6	0.9	1.5
Amadeus	1.2	1.4	2.6
Artnet.com	1.4	1.7	3.1
Beate Uhse	0.4	0.9	1.3
Beenz	1.8	0.9	2.7
Bourse Direct	1.2	1.1	2.3
buecher.de	1.4	1.4	2.8
Commtouch	1.0	0.9	1.9
Consodata	0.8	1.3	2.1
Cryo-Interactive	0.6	0.6	1.2
e-bookers.com	0.8	1.9	2.7
Fortunecity.com	1.4	0.7	2.1
Freerise	1.2	0.9	2.1
gameplay.com	1.4	1.0	2.4
i:FAO	1.2	1.6	2.8
Iceland Group	0.6	0.9	1.5
ID Media	1.6	1.0	2.6
Infonie/Infosources	1.0	0.9	1.9
Lernout Et Hauspie	0.8	0.6	1.4
QXL.com	1.4	1.3	2.7
ricardo.de	1.0	1.1	2.1
Scout24.com	0.6	1.7	2.3
Sportingbet.com	1.2	0.9	2.1
Terra Networks	1.2	1.0	2.2
the eXchange	1.2	2.0	3.2
Tiscali	1.6	0.9	2.5
Topjobs.net	0.4	1.7	2.1
Town Pages	0.8	1.4	2.2
Vocaltec	1.0	0.9	1.9
Xoom.com	2.0	1.0	3.0
MEAN	1.1	1.1	2.2
VARIANCE	0.2	0.2	0.3

SELECTED BIBLIOGRAPHY

Amit, Raphael, and Zott, Christoph (2000), *Value Drivers of E-commerce Business Models*, INSEAD Working Paper 2000/06/ENT/SM, 6.

Boston Consulting Group (2000), *The Race for On-line Riches: e-retailing in Europe*.
http://www.bcg.com/new_ideas/europe_download_report.asp

Evans, Phillip, and Wurster, Thomas S. (1999), *Blown to Bits: How the New Economics of Information Transforms Strategy*, Harvard Business School, Boston.

Financial Times, *E-Commerce: Taxing for Government*, FT.com news, September 1, 1999.

Fletcher Research, *Fletcher Research Predicts 121M Europeans on-line by 2004*, Press Release, July 14, 1999.

Global Reach (2000), *Global Internet Statistics by Language*.
<http://www.glreach.com/globstats/index.php3>

Grimes, Barbara, *Ethnologue: Languages of the World*, 13th ed., SIL International,
<http://www.sil.org/ethnologue/>

IDC (2000), *Consumer E-commerce Went Mainstream in Europe in 1999*, Press Release, 12 January.

Jupiter Communications (1999), *European Retailers Fail Distribution Test as Customers Migrate Online*, Press Release, 23 September. <http://www.jup.com/company/pressrelease.jsp?doc=pr990922>

Lau, Debra (1999), European Internet Deals Soar Hoping to Replicate the Success of U.S. Internet Deals, VCs Race to Back Hot Start-ups Across the Atlantic, *Venture Capital Journal* **39 (12)**, 37 - 40.

Morgan Stanley Dean Witter (1999), *The European Internet Report*, 239.
<http://www.msdc.com/techresearch/euroinet/euro1.pdf>

Swerdlow, Fiona S., and Vanderbilt, Nicole (1998), *Loyalty Programs: Material Incentives and Increased Service Drive Customer Retention*, Jupiter Communications Report.
<http://www.jup.com/sps/research/reportoverview.jsp?doc=dc98-59>

United Nations Development Programme, *Journal of Human Development: Human Development Report 1999*, <http://www.undp.org/hdro/99.htm>