

# **Alternatives to Retail: An Empirical Examination of Four Different E-Commerce Approaches**

**Iain Macadie**

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**Dept. of Information Science  
University of Strathclyde**

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## **Declaration**

This dissertation is submitted in partial fulfilment of the requirements for the degree of MSc in the Strathclyde Business School.

I declare that, in accordance with University Regulation 20.1.20, this dissertation embodies the results of my own work and that it has been composed by myself. Following normal academic conventions, I have made due acknowledgement to the work of others.

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My course mates for keeping everything in perspective.

## **Abstract**

In recent times e-commerce has enjoyed a phenomenal rise. It is the business area that every company wants to move in to, or every potential businessperson wants to start in. There are four basic sections that e-commerce can be split into. These are: E-tail that deals in information goods, E-tail that deals in physical goods, Clicks and Mortar that deals in information goods and Clicks and Mortar that deals in physical goods.

E-tail companies function entirely on the Internet. All transactions are completed over the web and goods are delivered to the customer at designated points. In the case of information goods, this could be a computer terminal somewhere, while for physical goods it could be an arranged drop-off point like the home or office, or just normal delivery by an intermediary delivery service like the post office.

Clicks and Mortar businesses have a web presence to complement existing methods. More traditional companies have recognised the need to move online and create a web presence in today's climate. However, in the case of these companies, the expense of creating an online presence must be justified through advantages created by the Internet that the company could probably not achieve otherwise. It is often the case that companies will create a web presence because 'everybody else is'. This is a poor reason for doing so, as it will probably not have been thought through properly.

There are several examples of each section of e-commerce that demonstrate what the major issues pertaining to that type of e-commerce are. It is also interesting to note how successful companies in each section are in terms of their share prices and opinion. It seems that information companies have an edge because the Internet's interactivity allows up-to-date information to be distributed extremely quickly. Businesses can take advantage of this fact by charging different amounts for information sent at different periods. (i.e. charging less for 'delayed' information).

Physical goods companies have more issues to consider, especially order fulfilment. It is difficult to make people wait for a good and then persuade them that the Internet is more convenient than shopping for the product personally. The Internet claims to offer immediacy but this is a contradiction. Order acceptance is immediate but order processing may not be. Someone can order wine at 2.30am but the order waits until the next morning. The order fulfilment process means the customer has to wait for that good to arrive probably the day

after that. Therefore, the Internet's convenience is offset by longer waiting periods. This will be fine when people see it as so much of an advantage not to have to shop themselves that they are happy to wait longer to receive goods.

There are initiatives and constant developments to make e-commerce (of physical goods) and order-fulfilment a smoother process. These include partnerships between e-commerce companies, order-fulfilment agencies and delivery services, as well as delivery box initiatives to reduce the number of failed deliveries.

E-commerce involves a cultural change on the part of shoppers and their expectations. A new supply chain is being created through the development of e-commerce and initiatives like those above. The customer is becoming more removed from the shopping process in a physical sense, although e-commerce development involves the customer in an interactive fashion by creating orders in virtual shopping baskets and the like.

It appears that e-commerce development will add to shopping numbers rather than displace them. There are a number of different ways to shop online today such as digital television, games consoles and WAP / UMTS devices. Different mediums for shopping online plus various e-commerce options for customers should increase the number of shoppers and the volume of shopping as customers will buy some goods online (through various mediums) and others in a more traditional fashion. Shoppers will not move from one to the other at the present time because the Internet does not offer enough of an advantage for some goods.

The main winners in the development of e-commerce are technology companies. While dot.coms fight it out at the expense of companies like boo.com, technology companies prosper because any company developing an online presence or starting a dot.com must buy the necessary hardware, software and advice. While dot.coms rely on customers for their business, technology companies rely on the dot.com trend itself.

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## Introduction

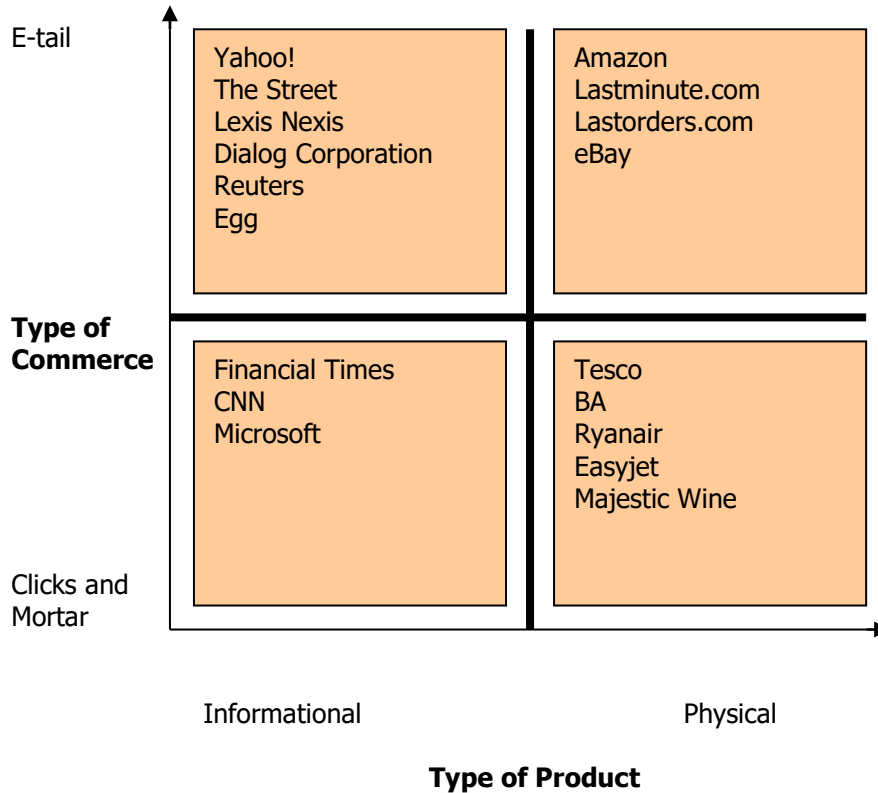
To date, companies that have moved into the Internet domain or started Internet businesses have claimed they will become profitable within three to four years. The E-commerce boom has been as dramatic as it has been wide reaching. Many companies have quickly created an Internet presence or 'opened for business' on the Net. Success has not necessarily followed such ventures and many investors are tiring of profitless dot.com companies that continually claim leniency for three to four years.

A loose definition of e-commerce is the exchange of information across electronic networks.<sup>1</sup> This definition would include e-mail and business to government transactions like tax but in the transactional sense, the term refers to online trading of goods and services over the Internet. This is the definition of e-commerce applied here.

There are differences between companies that have an Internet presence (clicks and mortar) and those that are purely Internet-based (E-tail). However, both types of e-commerce may deal with the same goods. There are also differences between businesses that provide information and physical goods. These differences are crucial when assessing Internet ventures and their viability and success.

The matrix below indicates the types of e-commerce that this researcher has considered and categorised in a diagram. It highlights that there are differences between 'e-tail' and 'clicks and mortar' sales, often of the same goods. It also allows comparison of companies within a section of the matrix. For example, Majestic Wine and Tesco both have e-commerce facilities and deliver physical goods. Is one company any more successful than the other? This will allow discussion of other factors outside the Internet itself, such as logistics of transportation, how perishable items can be dealt with and so on.

This diagram is a guide to where companies sit in the e-commerce world. They may shift as they adopt one strategy and drop another. Banks are ideal examples of this. They try to strike a balance between branches, call centres, the Internet, ATMs and vans travelling round rural areas. They deal with information and physical goods in a variety of ways.



**Figure 1: Matrix of Different E-commerce Types**

There is also a question concerning what is meant by 'Information' as a good or product. It could refer to information in the form of data that is sellable and transferred electronically. However, it could also mean information that web sites provide to browsers about the business. For the purposes of this dissertation, the first definition will be used.

Access to technology, disposable income and consumer resistance are important factors that help decide the success of an e-commerce venture. Technology and disposable income are issues that concern the ability and finances to buy online. Consumer resistance is a cultural issue. Do the public want to use the Internet to go shopping? If not, it will matter little how advanced e-commerce becomes. This cultural issue is linked to considering whether society is becoming more time poor / cash rich, the increase of Internet in the home, even the introduction of innovations like 'OPEN' from SKY Digital.

The aim of this dissertation is to study and discuss the differences between Internet companies and companies with Internet presence. Also, to discuss the differences between companies dealing in informational and physical products, to study some specific examples

of each type of e-commerce presence and finally ascertain the success of these companies in relation to where they sit in the matrix above. The purpose of carrying out the above objectives is to prove that Internet commerce is actually worthwhile and not just a bubble waiting to burst as the recent demise of boo.com and continued scepticism about Amazon (amongst others) might suggest.

# Chapter 1: The Dot.com Revolution

## **1.1: Introduction**

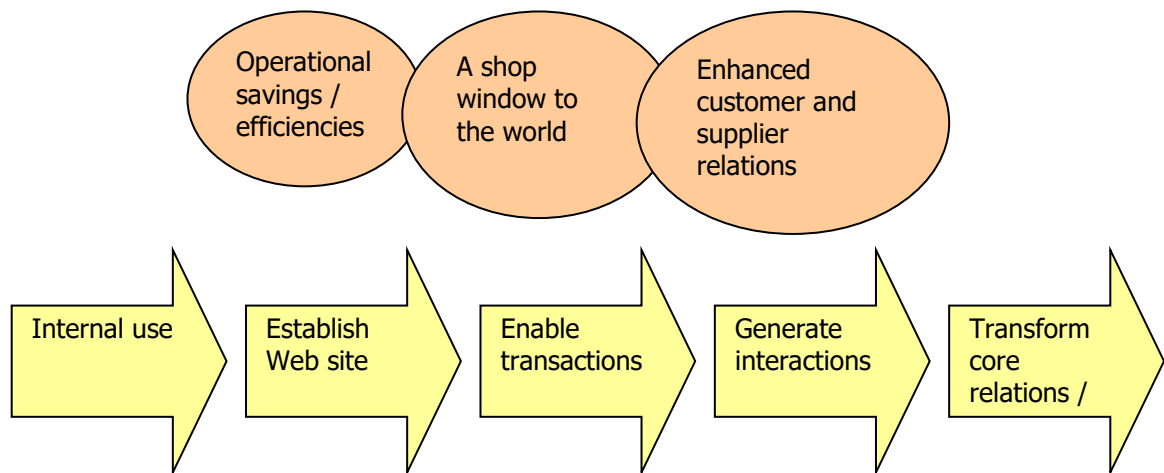
Symbols like, 'e', '@' and 'www' have become instantly recognisable the world over. The Internet is not as recent an innovation as the current 'revolution' would suggest. It has roots in ARPAnet, a research and defence network created by the US Department of Defence in the early 1970s to allow greater communication between scientists.<sup>2</sup> There are reasons for its recent popularity. For example, technology is far more advanced, accessible and affordable today. Also, society is becoming more computer-literate and businesses are more readily taking up e-commerce as an important part of their strategies. Indeed, many companies are completely Internet-based.

E-commerce is growing at tremendous rates. Andersen Consulting calculates that in the past five years the Internet has grown from three million users, primarily in the United States, to more than one hundred million worldwide. They also estimate that online trading is currently valued at around £6.5 billion, with projected growth to £250 - £300 billion within the next four years.<sup>3</sup>

Perhaps even more encouraging is KPMG's claim that e-commerce will revolutionise supply chains and prove that the Internet is more cost-effective than traditional channels for making purchases.<sup>4</sup> The experience of early participants suggests an electronic marketplace can capture savings of ten to twenty percent on sales and deliver lower prices for customers.<sup>5</sup>

## **1.2: Benefits**

There are many perceived benefits of moving online. The figure below highlights some. Use of the Internet for e-commerce is a chain of events that creates advantage during the chain's development. For example, internal use is the first step on the chain. The second factor is creating a web site. At this point, operational savings and efficiencies can be gained. It becomes cheaper and quicker to send information to various sectors of the company, as well as to outside the business. Similarly, e-commerce and the Internet give the business a shop window that is accessible wherever there is a computer connected to the web.



**Figure 2: The Benefits of E-commerce<sup>6</sup>**

The extra business that can be created by web influence is tremendous (in theory) because there are, according to Andersen Consulting above, over one hundred million web users worldwide.<sup>7</sup> This provides an opportunity to enter new markets. Of course, the reality is that businesses can be hard to find online and sometimes it seems badly organised. Search engines cannot help everyone and like using the phone or writing to someone, it is difficult to find a business without its address.

Enabling transactions over the Internet can make businesses more responsive to customers. This is advantageous, as customers should receive a better service. It also allows sellers to reach more customers, gather better information about them, target them more effectively and serve them better.<sup>8</sup> Some might argue this is a disadvantage for commerce because it takes away the human element. However, Norm de Cartert (a manager at the Advantis Corporation) feels that effectively using the Internet can strengthen customer relations in almost any business.<sup>9</sup>

Customer Relationship Management (CRM) is concerned with locking customers in to a business by creating customer satisfaction and ensuring retention.<sup>10</sup> CRM solutions are used to provide an enterprise-view of the customer. They focus on improving efficiency and effectiveness of any interaction that customers experience within an organisation.<sup>11</sup> Solutions typically include marketing, sales force automation, customer loyalty, customer

service and call centre support functions. It creates customer contact with a complete view of every customer, enabling one-to-one interaction. CRM includes integrated applications for customer service representatives, self-service (on the part of customers), management and operations.

Customer resistance and culture are important issues. Generally, shoppers still prefer to have the human element for the majority of transactions.<sup>12</sup> The Internet offers customer responsiveness but it must be well organised and people must accept it.

The Internet can be used to reduce marketing and advertising costs. Being on the net means potential business in every home or place of work. There is also the opportunity to advertise on other sites that will direct users to the business.

Internet trading is flexible. Shops shut in the evenings, bank holidays and public holidays but e-commerce is a twenty-four hour activity. You can purchase a CD or order your shopping from Tesco at any time and the order will be accepted. Although the actual order process and delivery of a good may take time (especially if it is physical rather than informational) the process of purchasing is always available.

E-commerce companies and activities have different set-ups regarding actual premises. Dot.com businesses or sections of businesses can alter stock more rapidly and be flexible to meet what the customer wants from the transaction. Conventional companies can also change their stock but they have other related matters to consider when they do this such as, who actually shops there, what do people tend to buy at the store. They also have to consider the aesthetic appeal of the shop, so changing stock is a longer process.

Shops are different from warehouses that most e-tail companies operate from. There are schemes specifically established to design shops and their contents effectively.<sup>13</sup> For example, Wal-Mart (the US superstore) has a knowledge management program that entails the storage of what customers buy which goods and where they buy them. The purpose of this program is to set-up the store to best suit the customers and keep them loyal. Kraft<sup>14</sup> (the food production company) maintains an integrated database combining individual store sales, customer preference profiles and demographic information from around the USA. They use this to design customised promotion programs for specific stores and population groupings. It means that stock is 'fine-tuned' for different parts of the country or neighbourhood. This verifies the claim that sellers can reach customers and gather information about them in order to target them effectively.<sup>15</sup>

Purely 'e-tail' companies have different costs. Administration costs are lower, as are staff costs, building costs and the associated expenses such as décor, equipment and such. Although 'e-tail' companies still require physical premises, they tend to be warehouses with little need for aesthetic value. This means lower prices for the customer. For example, Amazon.com CDs are consistently cheaper than their high street equivalents. Even with delivery costs the CDs are cheaper.

E-commerce offers the possibility of forging closer links with suppliers as well as customers.<sup>16</sup> This can improve communication, which, in turn, can improve delivery and therefore, customer service.

Supply Chain Management (SCM) is a vital component of e-commerce. There are six stages in the supply chain: Production, Supply, Inventory, Location, Transportation, and Information.<sup>17</sup> Order fulfilment has traditionally been the stumbling block for Internet sales. The process of order through to order process and then to delivery of a good must be carefully managed if e-commerce is to compete with more immediate forms of delivery. Informational goods may not be affected in the same fashion as physical goods that require physical delivery but the supply of information must be efficient to avoid customer dissatisfaction.

The potential benefits of trading online can be summed up thus:

- Access to new markets
- Cost savings on marketing and promotion
- Improved customer service
- Longer lasting, more profitable customer relationships
- Longer lasting, more profitable supplier relationships

### **1.3: Explaining the Matrix**

There are a number of examples of each type of e-commerce activity. The Matrix's first quadrant contains 'e-tailers' dealing in information goods. Examples of such businesses are Dialog, The Street and Yahoo! These companies can send goods straight to the customer electronically in the majority of cases.

The second quadrant (top right) contains 'e-tail' companies that deal in physical goods. An excellent example of such a company is Amazon.com, the famous e-trader. People can order books, CDs, software and so on from a PC but the good itself has to be physically transported to the buyer.

The third quadrant (bottom left) contains 'clicks and mortar' that deal with informational goods. The Financial Times is an example of such a business. It has the traditional, physical method of selling newspapers but also provides FT.com for online news and information. Egg (the online banking service) allows Internet users the opportunity to carry out their banking and check financial details online.

The final quadrant contains 'clicks and mortar' businesses that deliver physical goods. This is arguably the biggest growth sector of e-commerce, along with 'e-tailing' of physical goods. It is also (in the researcher's opinion) the most interesting section of the matrix. There are many issues involved in this type of e-commerce. Logistics, place of the Internet in a business strategy, as well as the issues that affect all the e-commerce types, like access to technology and consumer resistance.

There are literally thousands of businesses worldwide that have either started on the Internet or added an Internet presence to their company. All types of business are included in this, from insurance and banking to house buying and car purchase or hire. The above examples can be used to assess their performance in relation to where they sit in the matrix.

#### **1.4: Tapscott**

Tapscott's twelve themes of the new economy can be applied to e-commerce in some ways to show that e-commerce is a practical example of Tapscott's theories.<sup>18</sup>

His first assertion is that the new economy is a knowledge economy. This is true of the Internet. One has only to look at Yahoo! or Lycos to see that knowledge is a commodity of the new economy. People can find out more about businesses and products through the net and business people themselves have more knowledge both to sell and use.

The second of Tapscott's themes is that the new economy is a digital one. The relevance of this theme to e-commerce is obvious. Similarly, Integration / Internetworking is an important characteristic of the new economy and again, needs little explaining with reference to the Internet and e-commerce.

Virtualisation of what was once physical is a major characteristic of the new economy. Tesco is an example of this phenomenon. Grocery shopping has undergone a transformation from local corner shop, to self-service supermarkets and out-of-town superstores, to Internet shopping and delivery of goods. This may shift full-circle as out-of-town superstores are



replaced by Internet shopping and delivery, while local shops rise again for perishable goods shopping. This change is evident in the development of facilities like Tesco Metro and Sainsbury Local shops. Although these have been developed predominantly from a demographic perspective (most people will continue to live in cities for the foreseeable future) it creates the infrastructure for Internet shopping of non-perishable goods.

Another example of virtualisation on a smaller scale is 'Skyes Cottages',<sup>19</sup> a company that rents holiday cottages. To supplement traditional marketing techniques of advertising and brochure mailing, it has developed a web site, which it promotes through established mediums. The conversion rate of Internet enquiry to booking now runs at approximately twice the rate achieved through traditional advertising.

A principal benefit of e-commerce is the link it creates with customers and suppliers.<sup>20</sup> Linked to this feature is Disintermediation. Traditional intermediary functions between producers and customers are being replaced through digital networks. Intermediary functions and parties still exist but they do not involve the customer in the majority of cases. Amazon.com is one example of this. The customer buys a product online and it is delivered. Whereas previously the consumer would have gone to the shop and dealt with a sales representative, intermediaries take the form of request processing personnel, staff in warehouses and delivery mechanisms such as the Postal Service. Companies that deal in informational goods may have no intermediaries to deal with whatsoever. For example, search engines can send information to users without any intermediaries, as can financial information companies like TheStreet.com or Dialog, which charge subscription fees for the use of their facilities.

Convergence entails the dominant economic sector being created by the convergence of the computing, communications and content industries. This is certainly the case with e-commerce. 'Clicks and mortar' companies are converging within themselves. For example, Tesco is bringing together food retail, the Internet, banking and finance and other services because of the technology the Internet offers.<sup>21</sup>

It would be premature to say that the Internet is dominant in more than a handful of business sectors. However, Western Europe's online retail market is presently growing by more than two hundred percent per annum.<sup>22</sup> This is despite few participants having any form of dominance. Online sales account for only two tenths of a percent of the entire retail market.<sup>23</sup> This would suggest that although e-commerce is growing at a tremendous rate, it is in its infancy and far from being the major player in most industries. This may change quickly if current growth and investment continue.

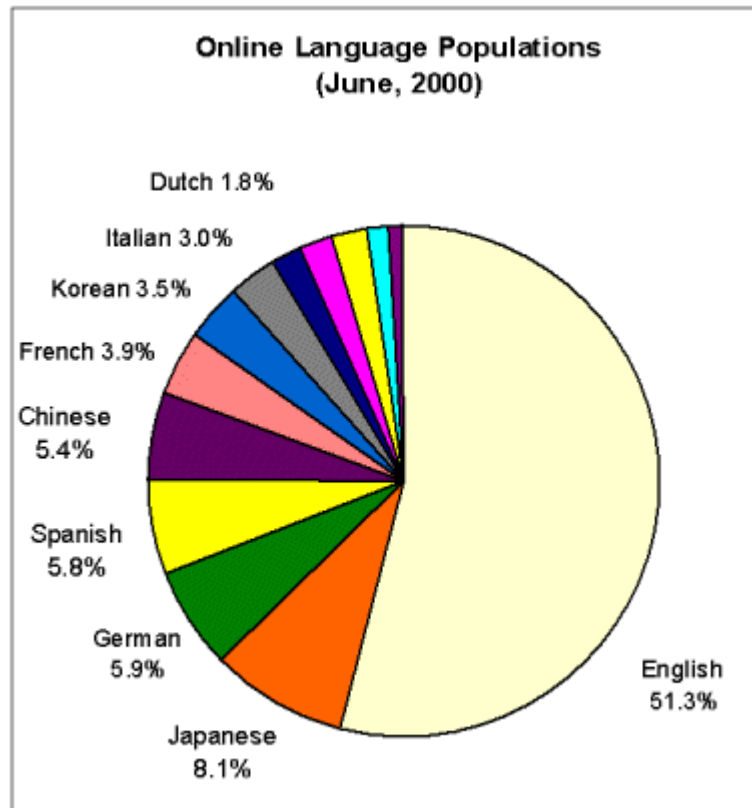
In favour of e-commerce is everyone clamouring to become part of the boom. Therefore, those companies that can make best use of the technology for e-commerce stand to profit greatly from an enlarging industry.

Innovation is a key factor for Tapscott's new economy. It becomes imperative to introduce constant improvements and new ideas into business. E-commerce itself is an innovation but it has to be updated if businesses want to create competitive advantage. For example, individuals can carry out most banking transactions over the net. However, 'Intelligent Finance' (IF), the Edinburgh-based web and phone arm of the Halifax have launched a new email system to create an advantage for themselves over competitors, claiming that over forty percent of emails are never replied to.<sup>24</sup> The company will use Genesys CTI software to route incoming emails directly to the appropriate department. The software searches emails for words and phrases. For example, if it finds IFA in a message, it will send the mail to the department with the commission for independent financial advisors. The company hopes to lock customers in by offering a quick and reliable service. IF also claim that the software allows agents in call centres to view the exact web page the customer is seeing, thereby replicating the browsing process should the user experience difficulty.

In Tapscott's new economy, the gap between consumers and producers blurs through the process of Prosumption. Customers begin to carry out the functions of suppliers. For example, when booking a holiday or plane/train tickets online, the customer carries out the search instead of a travel agent.<sup>25</sup>

Immediacy is a reflection of the new economy. When sales from home were catalogue-based and therefore, took time to process and fulfil, orders online are real-time. An order placed with Amazon.com is accepted immediately and processed more quickly, allowing the order to be dispatched more rapidly. Immediate service is a key element of the new economy. However, there is a paradox inherent in e-commerce from this perspective. Shopping online still involves an element of lag time between order and delivery. If the good were purchased in a shop, this would not be the case. The immediacy of the Internet is offset by having to wait for delivery.

An obvious theme of the new economy when applied to e-commerce, is Globalisation. Companies on the Internet have access to a world market, although there can be some language barriers. Despite English being the primary business language around the globe, there are many users of the Internet who do not speak English as a first language.



**Figure 3: Languages of Internet Users<sup>26</sup>**

A final theme expressed by Tapscott is that of Discordance. The new economy brings with it new social and organisational issues. For example, going to the shops on Saturday is still considered to be a day out. As Virtual Reality Modelling Language (VRML) becomes more commonplace, all kinds of virtual malls, showrooms, and product demos can become part of the Internet.<sup>27</sup> Customers will be able to use an object, walk through a mall and drive a car as business on the Internet moves from 2D to 3D. This will alter the way we shop and change a social interaction in the process.

A major organisational issue of e-commerce (with particular reference to physical goods) is order fulfilment. However, this issue has existed for years with catalogue shopping. It is becoming more of an organisational issue because the Internet has expanded so dramatically. The same problems of fulfilling the final link of the supply chain exist with Internet shopping and have given rise to discussion as to how these problems can be solved. For example, organisations like 'Dynamid' offer electronic deposit boxes for either the home or the office for delivering goods purchased online.<sup>28</sup> When applied to grocery shopping we have new organisational issues such as the delivery of perishable goods, the

potential demise of the haulage truck and rise of smaller delivery vans. These issues raise points of their own about already congested roads and the environment. These are but some of the organisational issues raised by e-commerce.

## **Chapter 2: E-tail Informational Companies**

### **2.1: Type of E-Commerce**

These companies are based on the Internet and might be viewed as 'virtual' companies. Sales, marketing, purchase and deliveries are web-based. This section of e-commerce tends to consist of information providers and brokers such as Lexis Nexis<sup>29</sup>, The Dialog Corporation<sup>30</sup>, PointCast<sup>31</sup>, The Street<sup>32</sup>, Egg<sup>33</sup> and Yahoo!<sup>34</sup> among other companies.

### **2.2: Description**

Lexis Nexis claims to be the world's largest supplier of credible, in-depth information.<sup>35</sup> The company grew out of a desire for legal information in the 1970s and supplies primarily the legal, business and government professions primarily with information. They also advise on how to collect, manage and use information more effectively.

The Dialog Corporation is similar to Lexis Nexis in that it provides a collection of databases. However, it is not as specialised as Lexis Nexis and might be described as an information 'supermarket'. It is used predominantly by information professionals and is marketed as a source for all kinds of information, ranging from news to financial reports.

Reuters deliver financial information to more than 255,000 terminals around the world (two times more than the nearest competitor).<sup>36</sup> They also have a highly reliable 'private' network for providing information directly to clients. Apart from this, they sell information to companies like PointCast. Reuters estimates that users of this network can obtain financial (and other) information approximately two seconds before non-users, a huge advantage in financial services. Reuters controls approximately sixty-eight percent of the foreign exchange information market, thirty-three percent of the equity market and twenty-four percent of the fixed income market.<sup>37</sup>

The Street is also a financial information company that provides investors with information that will improve their decisions when allocating money to various investments. They provide financial news and commentary, while Egg is an online financial services company. They organise savings, mortgages, pensions, savings schemes and so on. They also provide

financial information and cater for individuals by offering individual services. Everything the service offers has the convenience of being online.

Yahoo! (the search engine) offers users a facility for finding value-added information on the net. Information has been categorised into sections, with various comments and organisation. Users can obtain this information more easily because it has been indexed. Yahoo! provides services of its own like chat and e-mail, which add extra value to the site.

An increasingly important area of informational goods e-tailing is 'e-learning'. Companies like, 'The Learning Tree'<sup>38</sup>, 'Digital Think'<sup>39</sup> and 'SABA'<sup>40</sup> offer facilities for online learning, such as courses and training so that 'students' are not required to physically attend courses. The International Data Corporation forecasts that revenue from this niche will rise from \$550 million in 1999 to \$11.4 billion by 2003.<sup>41</sup> According to John Chamber (CEO of Cisco Systems), e-learning will be,

"The next killer application on the Internet. It's so big, it's going to make e-mail look like a rounding error."<sup>42</sup>

## **2.3: Main Issues**

### **2.3.1: Logistics**

A primary issue affecting this type of e-commerce is the avoidance of logistics. Informational goods require no physical delivery in the majority of e-tail cases. Information can be downloaded. This saves time for the customer and vendor, resulting in cost savings and lower prices.

### **2.3.2: Cost Savings**

An important issue for companies selling or distributing information online is that there is an advantage to having the information available online.<sup>43</sup> The Encyclopaedia Britannica is an example. It costs \$1250 to buy the hardback version, \$69.95 for the CD-ROM and \$69.95 for the DVD encyclopaedia. Also, Microsoft Encarta (CD-ROM) can be purchased at around \$50 and often arrives free with new home computers.<sup>44</sup> In this case, the online/CD-ROM version has obvious price advantages.

E-learning is a case-in-point. On line training costs about 90% less on average. For example, a Microsoft Excel classroom course could cost up to \$300, while an online alternative could be only \$2.50.<sup>45</sup>

### 2.3.3: Immediacy

"Information is like an oyster: it usually has the greatest value when it is fresh."<sup>46</sup>

Shapiro and Varian say this about information to indicate that immediacy is a major advantage when dealing with information. This would suggest that Internet information vendors should have an advantage over other sources of information such as newspapers. However, the majority of people still prefer to use 'hard copies' when studying information. Several studies have attempted to ascertain why this is the case.<sup>47 48 49</sup> Studying such research suggests that information's 'look' or 'style' on the page can alter its effectiveness. Landoni and Gibb refer to this phenomenon as 'Visual Rhetoric'.<sup>50</sup> This term encapsulates the use of various methods to add value to text such as fonts and typographical styles, spacing and pagination rules that draw attention to certain parts of a text.<sup>51</sup> The idea of such tactics is to draw reader attention to what is most important.

A principle reason for the preference of reading material in hard-copy form is legibility.<sup>52</sup> Readers are used to paper format and page dimensions, spaces between words and contrast between words and the page. Maintaining an equivalent ratio between written text and white space on a computer requires a twenty-one inch screen.<sup>53</sup> These screens are not cheap. Even if they were readily available with packaged computers (especially home computers) screen resolution would still remain a problem and only technology development through time will alter that.<sup>54</sup> Therefore, online information has to be made more attractive than the offline version and immediacy is crucial to this.

Companies see a future in online books. Barnesandnoble.com<sup>55</sup> is joining with Microsoft to open the first major Internet store selling digital books.<sup>56</sup> This comes recently after the much publicised online novel releases from Stephen King and Michael Crichton.<sup>57</sup>

Information prices can vary according to completeness. However, distribution costs tend to be similar for all qualities of information. Therefore, profit margins for more complete information can be excellent.<sup>58</sup>

#### 2.3.4: Customisation

Online information trading offers the chance to customise both the information being distributed and its price.<sup>59</sup> PointCast users choose the types of news headlines they receive. Customising information adds value to the information by filtering it. This is particularly valuable in today's climate of information 'overload'.

Companies can also customise the prices they charge for information. The Dialog Corporation offers two basic levels of service: Dialog Web, which is offered to information professionals, online searchers, experts and so on and Datastar, which is a subset of the full Dialog database with a simpler interface. Subscription fees for these services vary but they both offer advantages. Datastar requires little or no basic training to allow the user to search vaguely. However, more training makes better searchers. Dialog is more powerful but requires more training to use it.<sup>60</sup>

Information delay is a profitable tactic. Information can be delivered to higher paying customers more quickly. Such tactics are possible on the Internet because of its one-to-one interactivity. The service a customer receives from information organisations online is more tailored and customised. For example, Lexis Nexis sell to virtually every user at a different price.<sup>61</sup> Even though it is difficult to find a unique online information provider, companies try to find a way of differentiating their product. Customisation is one way that online information providers try to achieve this.

#### 2.3.5: Reliance

Internet infrastructure affects e-tail companies more completely than clicks and mortar businesses but e-commerce in general is subject to infrastructure and companies that produce the equipment and software required for running an e-commerce venture. Infrastructure companies and their success will be discussed in a separate chapter. However, it is important to acknowledge that even if Internet browsers are platform independent, businesses running e-commerce ventures must be reliant on a company or companies that produce the hardware and software they use.

The Internet is in an unusual position because Microsoft has a virtual stranglehold on the market in terms of its operating system. Alternative Internet browsers like Netscape will run on Windows but the provision of Internet Explorer with Windows makes it difficult for other browsers to compete. Platforms like UNIX come without a browser in the majority of cases and a choice of browser must be made. However, when Explorer is provided with virtually



every PC (the most common platform), it is difficult to see how other browsers will gain a foothold. How long this remains the case is debatable due to the anti-trust lawsuit. At the moment though, there is almost a monopoly and many e-commerce ventures are reliant on Microsoft.

## **2.4: Advantages Over Traditional Methods**

Immediacy and interactivity are two primary advantages that e-tail information commerce holds over traditional methods of supplying information. Information is far more valuable to a company when received quickly. The web's interactivity allows a user to browse multiple information sources, bringing on screen what they wish. Also, links within information can take the browser in new directions within a field. Browsing online is quicker and easier than in a library or other physical information source.

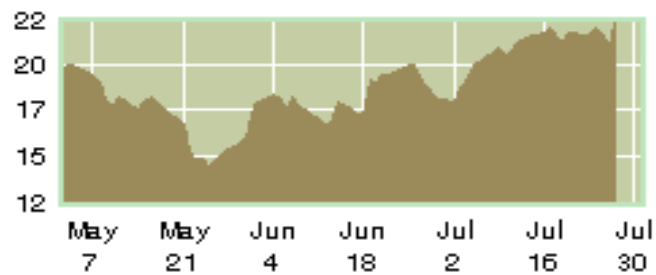
Interactivity means products can be tailored to suit individual requirements. Feedback that companies like PointCast ask for determines what information sources a user receives. This is the added value of online information. It is an advantage over traditional methods because it cuts down the amount of useless or unwanted information. A daily newspaper caters for everyone and an individual may have to purchase several papers. Online information can be tailored and multiple sources examined easily.

The Internet is an advantage for online information brokers because it costs approximately the same amount to send different amounts of information. This being the case, packaging information can improve profit margins if less information is being sent for the same cost.

## **2.5: Performance and Market Evaluation**

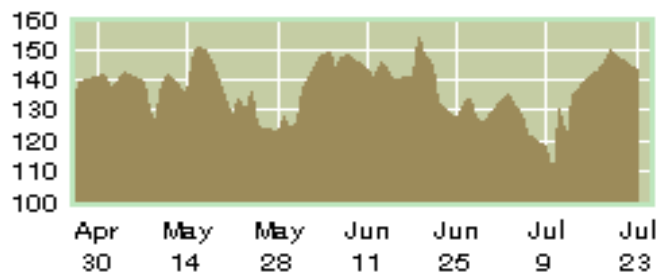
Reuters has recently announced a nine percent rise in first half revenues.<sup>62</sup> This rise has been partly accredited to Reuters' electronic broking arm 'Instinet'.<sup>63</sup> The company's underlying operating profits have risen by three percent to £285 million, with revenue for the first half reaching £1.7 billion compared to £1.56 billion from the same period in 1999. Apparently, there has been a fifty percent rise in Instinet sales (online). As a result, Reuters shares rose in value by four and a half percent in June to £13.14 compared to a low of 517 pence. This price has continued to escalate. Reuters believe this change in fortune can be attributed to their desire to centre activities on the Internet. One example that shows their

commitment to adopt the Internet is their link with Aether (the US wireless software group) to deliver Reuters information to mobile phones.



**Figure 4: Reuters Share Prices<sup>64</sup>**

The chart shows that Reuters is experiencing a 'boom' in terms of its share price. The company's recent performance is equally impressive. Reuters has an excellent name and reputation for providing financial information and news reliably and quickly. Therefore, now it has focused on the Internet as a major part of its strategy, its good name is sure to help the Internet services it offers as consumers they supply should be more trusting of a good name.

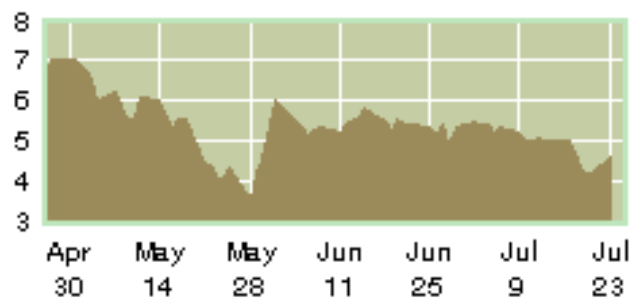


**Figure 5: Yahoo! Share Prices<sup>65</sup>**

Yahoo! is arguably the biggest search engine on the Internet. It has done remarkably well since its student beginnings. Its share prices tend to fluctuate a little but they never drop substantially. Yahoo! has many challengers including Alta Vista, Lycos and Excite. However, Yahoo! is likely to remain strong after securing a deal with Google<sup>66</sup> (a search engine software design company) who now supply Yahoo! with the actual search engine.<sup>67</sup> Google is acknowledged as being an excellent supplier of software for searching the net. This raises questions about what Yahoo! actually is if another company produces the search engine

itself. Yahoo! is the organisation and structure that the search engine works within. As was mentioned above as well, Yahoo! provides other services like mail and chat functions. It is not just about searching the web although Google is now operating within an organised and successful framework.

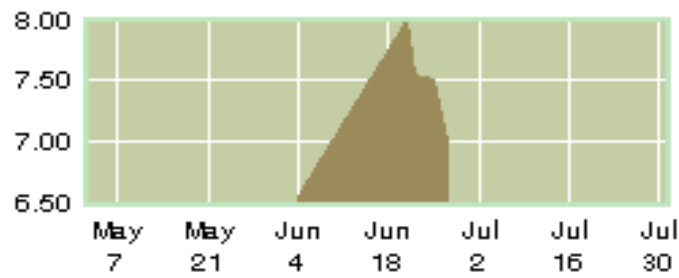
The Dialog Corporation's success is not clear-cut. A majority of the company's services have not been well received in the UK to date.<sup>68</sup> Figure 6 shows that the company's share price has been slipping in the past few months. Since May, however, the share price has been relatively consistent and had started to improve again towards the end of July.



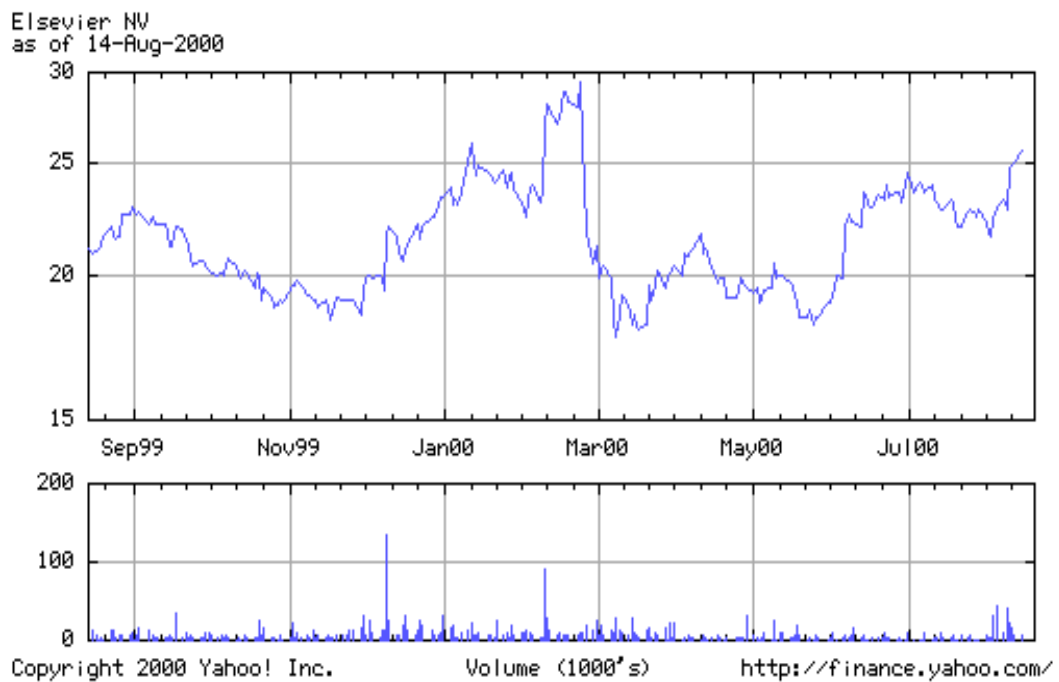
**Figure 6: Dialog Corporation Share Prices<sup>69</sup>**

Compared to Reuters and Yahoo! this is not so impressive. The reason for this may be related to the point about The Dialog Corporation being an information 'supermarket'. While Reuters is very specialised, primarily catering for the financial sector, Dialog has no specific sector. This in itself is not bad but Yahoo! does not cater for a specific section either and its services are free. Dialog offers good information but Yahoo! offers value-added information for nothing. There are also companies like About.com that offer value-added information for nothing and perhaps Dialog's services are not seen as offering enough of an advantage to justify the expense.

The Street also has a questionable performance rate. Although it offers financial advice to investors as well as financial information, it has to compete with Reuters. Even if the services are slightly different, consumers are more likely to adopt Reuters' services because of its image. A strong possibility for its struggle is the strength of its competitors in a niche market. Reuters has the size, the finance and the reputation at present and the graph of its share prices bears this out. It is clear from this graph that The Street had a massive popularity boost in June but this has been tempered and the share price has dropped back to (or lower than) the price before it boomed.



**Figure 7: The Street Share Prices<sup>70</sup>**



**Figure 8: Reed Elsevier Share Prices (Lexis Nexis as part of this company)<sup>71</sup>**

Reed Elsevier (another information provider) has purchased Lexis Nexis. This chart demonstrates how Reed Elsevier's share price has fared with Lexis Nexis as a core part of the business and it shows that the company's share price is doing very well with Lexis Nexis on board. The reason that it is doing better than The Street for example, is probably because Lexis Nexis offers a more detailed and specific information service targeted towards law firms. This could be what persuaded Reed Elsevier to buy it in the first place. Practices

like Herbert Smith<sup>72</sup> are heavy users of Lexis Nexis facilities and have particular Lexis 'terminals' dedicated to searching the Lexis database.

Egg, the online bank has recently been struggling. The online banking service (offered by Prudential) had lost £80.7 million in the six months ending June 30<sup>th</sup> 2000, compared to £69.7 million in the equivalent period in 1999. However, this does not tell the full story because total revenue actually rose from £2.1 million to £33.2 million and there were 311,000 new customers in the first six months of the year.



**Figure 9: Prudential Share Prices<sup>73</sup>**

Egg's falling share price is thought to be a result, primarily, of the threat of new competition.<sup>74</sup> For example Halifax's 'Intelligent Finances' (IF),<sup>75</sup> the phone and Internet banking service that was supposed to be launched in August 2000 but has experienced problems resulting in launch being delayed to later in August. IF was mentioned earlier in relation to the email software it would be using to create an advantage over competitors.

Such a delay can only help Egg maintain its status and create doubts about IF and its stability. Given the recent troubles suffered by Barclays Bank's online services, when the site required closure for a period due to customers being able to see other people's bank details, trust is hard-earned in online banking and IF might struggle to catch-up with Egg.

Information providers should do well because of the advantages inherent in having immediate information. The fact that Instinet (Reuters company) has been cited as a major reason for the company's recent success shows that online information should have a bright future. Customisation of the product and price are also important advantages that online information providers hold over more traditional competitors. Being able to give the customer exactly what he or she requires is important, especially in regards to information

that people would still rather read in hard copy format because of the reasons discussed above.

## **Chapter 3: E-tail Physical Companies**

### **3.1: Type of E-Commerce**

Again, these are companies based on the Internet. Trading in physical goods is obviously different to selling information and has different requirements. These companies are closer to traditional catalogue companies that have existed for many years and examples of this type of company are Lastminute.com,<sup>76</sup> Lateescapes.com,<sup>77</sup> Lastorders.com,<sup>78</sup> eBay<sup>79</sup> and Amazon.<sup>80</sup>

### **3.2: Description**

One way to describe physical e-tail companies is as online catalogue companies. However, a web site should not just be an online catalogue even though they advertise products and services. If this were the case, there would be little or no advantage to what already existed in the field. They do save money over businesses that print and distribute catalogues, which should allow lower costs.<sup>81</sup>

A report entitled, 'Not all Dotcoms are Created Equal' published by the Centre for Research in Electronic Commerce at the University of Texas has suggested that e-tailers dealing with physical products are at a disadvantage compared to purely digital companies.<sup>82</sup> The Internet offers physical e-tailers global reach and a digital customer interface, which allows them to build customer relationships over a wide area and is an advantage over traditional retailers. However, they still require a physical inventory, warehousing and delivery systems, the same as traditional catalogue retailers and retailers. Although digital e-tailers also require premises and inventory, they do not require the same delivery mechanisms. Intermediary functions in the supply chain are vital to physical product delivery.

Lastminute.com sell many products, ranging from flights and holidays to gifts and restaurant bookings. They have a large selection of holidays through which users can browse and they can be purchased online. Lateescapes.com sell holidays only and has taken advantage of the Internet's interactivity and provided a service that makes them unique.<sup>83</sup> Internet users can bid for holidays. The purpose is to fill empty seats shortly before flights are due to leave. There is a countdown to let users know when the bidding will finish and the holiday goes to the highest bidder at that time. The Internet is perfect for this purpose because it allows

users to bid and remain up-to-date with the progress of their bid in real-time. Ebay is an online auction site selling many types of good. It also takes advantage of the Internet's real-time interactivity by bidding for goods. It is an actual online marketplace where consumers can sell goods as well as purchase them.

The holiday market can be referred to as a spot market. A seat on a plane can be considered as a perishable good because no revenue can be gained from it once it leaves. Similarly, cargo space on ships or planes cannot make money when they leave. The Internet can be used to sell these products effectively.

Lastorders.com is an online off licence. Beers, wines, spirits and soft drinks can all be purchased online and delivered to the doorstep.

Amazon is arguably the most famous e-tail company. It is a massive organisation that provides books, music, software, videos and such around the world. It is an American company but has a separate UK branch.

Analysts have expressed concern about the health of online commerce.<sup>84</sup> There is continual speculation concerning whether the dot.com bubble has 'burst'.<sup>85</sup> E-tail companies have no traditional outlets to rely on so it could be considered as a risky business to move into at the moment, regardless of the hype.

### **3.3: Main Issues**

#### **3.3.1: Logistics**

Logistics and the supply chain are more of a consideration for physical e-commerce companies than digital ones. Order fulfilment is a crucial aspect of physical e-tailing. Delivery of products must be efficient to overcome the disadvantage of waiting. Disintermediation is evident in the logistics of delivery.<sup>86</sup> Consumers purchase directly from their home or office and the product is delivered without customer participation. There are intermediary functions that must be employed. For example, products purchased from Amazon are delivered mostly by the Royal Mail in the UK.

Online order fulfilment is an area of development. For example, Express Dairies<sup>87</sup> has recently bought a £4 million share in M-Box<sup>88</sup> (an Internet fulfilment company that forges links with e-tailers) and will be using its network of delivery centres and milk floats to distribute goods ordered online.<sup>89</sup> The Express fleet passes forty percent of Britain's



population everyday, covering the Northwest, London and West Midlands. The service will be used as an orders and returns service. This makes a lot of sense as most people are still in the home when the milkman delivers, so customers will receive their purchases. This is a low-risk venture because the delivery infrastructure already exists. An initial customer base is already established as well because they deliver milk anyway.

There are other methods of solving the delivery problem that are unaffected by the actual delivery. For example, 'Dynamid'<sup>90</sup> has created a range of electronically sealed deposit boxes that customers can purchase for deliveries. There are three basic box types: The first is a single box that can be installed at the door of a house (The Hippobox). The second consists of a set of lockers that can be installed in an office (Dropblock Business) and the third consists of boxes installed at convenient places like train or bus stations (Dropblock Local). The company hopes to install more than eighty thousand of these various boxes. They work electronically and are opened with a pin-number. Whoever delivers the good is given a pin-number by Dynamid and opens the box for delivery. As soon as the box is closed again, the number is scrambled for security. The box owner has a constant pin-number.

Suggesting lockers in offices for goods is indicative of society's shift towards a more time-poor / cash-rich economy.<sup>91</sup> Companies like Dynamid and Express Dairies hope to cash in on this phenomenon by providing alternative means for people to access their goods. Dynamid is taking particular advantage of technology by ensuring that customers do not even have to be home.

### 3.3.2: The Environment

There is a 'green' issue involved in delivering online goods, due to increased deliveries to homes. Using delivery boxes like Dynamid's would reduce the number of failed trips meaning less pollution.<sup>92</sup> Also, in the case of Express Dairies, milk floats are being used for deliveries and they are environmentally friendly. Increased deliveries by Royal Mail might increase pollution but postal vans travel daily anyway so increased emissions would probably be negligible. An increase in online shopping might reduce traffic because hundreds of individual trips to the shops could be gradually replaced by less trips by intermediary delivery agents. Admittedly, such delivery schemes would invariably involve greater numbers of smaller vans, but these vans would deliver to multiple destinations in a single trip. How effective deliveries would be in reducing traffic would depend on how many customers made the transition to Internet shopping instead of supermarkets. One suspects that people will use both rather than one or the other.

### 3.3.3: Reliance on Others

Internet companies, like catalogue companies before them rely on intermediary delivery agencies, like Royal Mail. Companies like M-Box and Express Dairies are providing alternatives but without having company delivery services, physical e-tailers will rely on someone to deliver for them.

Dot.coms that deliver physical goods rely on the customer to be in to a certain extent. Dynamid have proposed one solution to this problem and if becomes popular, dot.coms will find themselves being reliant on companies like Dynamid instead. As people work longer hours, solutions provided by the likes of Dynamid can become more popular, especially lockers at work or boxes installed at home. Also, reliance on companies that provide software and the infrastructure for the Internet exists for physical companies as well. In this respect they are no different from digital e-commerce businesses.

### 3.3.4: Alternative Mediums for E-Commerce

The Internet is becoming more popular and widespread. Although the USA is ahead in terms of Internet users (as figure 10 shows), Europe is gaining consistently. Online retailing revenue increased by more than two hundred percent in 1999, compared to one hundred and forty five percent in the USA.<sup>93</sup>

Recently, there has been an increase of mediums that can be used to access the Internet other than the traditional PC connection. The development of WAP (Wireless Application Protocol) and UMTS (Universal Mobile Telephone Service) devices would seem to be indicative of the fact that the Internet is becoming more important. It also seems to be recognising that rapid information is becoming more desirable in modern life. Some analysts suggest that a significant proportion of E-Commerce will be done using WAP over the next few years.<sup>94</sup> However, WAP devices have, thus far, proven to be inefficient as web surfing tools. They are more useful for everyday activities like ordering take-away food, buying tickets and such.<sup>95</sup> This being the case, it does not appear to be particularly useful for gathering information. Another major complaint about WAP is the fact that web pages have to be written and rewritten in WML (Wireless Markup Language) for every WAP device.<sup>96</sup> This makes the technology as much a hindrance as a help. UMTS devices however, will provide data speeds of up to two Mbps (Megabytes per second), allowing much more information to be transferred and even making portable videophones a reality.<sup>97</sup>

**Top 15 Nations in Internet Use at Year-End  
2000**

Rank	Nation	Internet Users (millions)	Share %
1.	United States	135.7	36.2
2.	Japan	26.9	7.18
3.	Germany	19.1	5.10
4.	UK	17.9	4.77
5.	China	15.8	4.20
6.	Canada	15.2	4.05
7.	South Korea	14.8	3.95
8.	Italy	11.6	3.08
9.	Brazil	10.6	2.84
10.	France	9.0	2.39
11.	Australia	8.1	2.16
12.	Russia	6.6	1.77
13.	Taiwan	6.5	1.73
14.	Netherlands	5.4	1.45
15.	Spain	5.2	1.39
	<b>Worldwide Total</b>	<b>374.9</b>	<b>100</b>

**Figure 10: Top 15 Users of the Internet<sup>98</sup>**

Of course, with WAP technology, the Internet is still being used. However, the Internet is not actually owned by anyone. Those that would be hurt by alternatives to PC Internet connections include infrastructure companies and software providers like Microsoft and Netscape. Also, businesses that survive on advertising made possible by powerful computers would also be hurt by a move to other means of browsing (like Hotmail who make money from the advertising banners bordering the site's pages).<sup>99</sup>

A rapidly increasing alternative to PC Internet connections is Digital Television. British Sky Broadcasting's (BSkyB) OPEN facility is an interactive television-based service.<sup>100</sup> It is being continually developed but shows signs of success. It offers banking services (not fully interactive until 2001), shopping, ticket purchase, holiday arranging, games and news. An example of companies that have moved onboard with OPEN are Abbey National, Argos, Dixons, Carphone Warehouse, Dominoes Pizza, Iceland and Going Places. OPEN also offers email facilities using a special keyboard. This requires a subscription fee and a keyboard at around £35.99. Calls are charged at local rates. ON Digital<sup>101</sup> offer similar services through a special remote control that opens into a keyboard, while NTL<sup>102</sup> uses an infrared keyboard to access the Internet and allow email.

OPEN is marketed around the idea that it is easier and cheaper to use the Internet this way rather than through a PC. People will almost definitely have a TV anyway and analogue TV in general is being phased out. BSkyB's own analogue satellite service will be terminated in August 2001.<sup>103</sup> The result should be more people with digital that can access the service.

Value for money is a key term in this instance. Millions of people worldwide have computers for accessing the Internet and emailing. This is the extent of their use and it represents a waste of money because these functions use only a fraction of what the average home computer is capable of. Digital TV in the form of OPEN or ON Digital appears to offer value for money because it is an extra function of a device people would probably have bought anyway.

At the time of writing, Sky Digital had signed up one million subscribers in the twelve months ending June 2000.<sup>104</sup> This has taken the total number of digital subscribers to 3.8 million, with a target of five million by the end of 2000. Sky has also created a new target of seven million digital subscriptions by the end of 2003.

BSkyB have taken control of the OPEN service and currently own 80.1% of it.<sup>105</sup> This will allow them to implement a new strategy that is thought to include a new digital text service offering extra information and e-commerce opportunities linked more fully to the TV channels themselves. This was not allowed when OPEN was independent of BSkyB. Such facilities might include an online betting facility for Sky Sports and the Racing Channel.<sup>106</sup>

Neil Davidson, the Chief Executive of Express Dairies has indicated that they expect orders from interactive TV to be more important than the Web.<sup>107</sup> This might prove to be the case if computer manufacturers continue to produce over-powerful, expensive machines, while digital TV appears in more homes. However, for Sky to succeed, it will have to fare better than some high-profile failures. Previous attempts to introduce interactive television have made it clear that when people watch television they do not, in the main, want to interact with it.<sup>108</sup> One failed project is 'ACTV', the interactive TV system that allows viewers to choose viewing angles. This has made substantial losses and is similar to a scheme offered by Sky TV on the Sky Sports Extra channel, in which viewers can select the angle at which they watch football matches.

As long ago as 1986, Knight-Ridder shut down a venture called 'Viewtron' that transmitted pages of news and information through TV sets. However, more recently, set-top boxes marketed for Microsoft's WebTV service that allow users to connect to the Internet through television (same as Sky Digital) has reached about a million subscribers since 1997 when

Microsoft bought the company. However, Jupiter Communications predicted three years ago that five million people would be surfing the net via television, indicating a lack of success by WebTV.<sup>109</sup> We live in a more Internet accepting and driven society now and Sky's recent figures suggest that interactive television's popularity is increasing.

By 2005, ninety-one percent of US homes will be online.<sup>110</sup> Ninety percent of these homes will be using an Internet PC but seventy-three percent will also have interactive TV, or other Internet appliances, such as advanced game consoles (e.g. the Sega Dreamcast). These claims would suggest confidence in interactive television's future.

Alternatives to PC Internet connections will probably add to the number of Internet users rather than displace them. In the future, choice of medium could depend on browsing circumstances. For example, when in the home, browsers might use either the television or computer. This would depend on what the browsing was supposed to achieve. The Internet as accessed through a PC has more to offer in terms of information, web sites, e-commerce and searching the web. Digital TV through the likes of Sky Digital offers more limited services. If a user were shopping for groceries, they may well use the television to do this rather than switching on the computer and connecting to an Internet Service Provider (ISP). Alternatively, if the user were looking for information for a school project, they would use the Internet through a PC to access search engines and specific sites of interest. A commuter wanting to order pizza on the way home would use WAP / UMTS technology to achieve this before reaching his or her destination. The Internet and the associated mediums may well become a 'horses for courses' environment.

### **3.4: Advantages Over Traditional Methods**

The most traditional method of selling items outside of the shop is catalogue sales. The advantages over catalogue shopping are clear. Online sales do not require the same design and print costs of a catalogue and the expense of sending reprinted versions to possible customers.

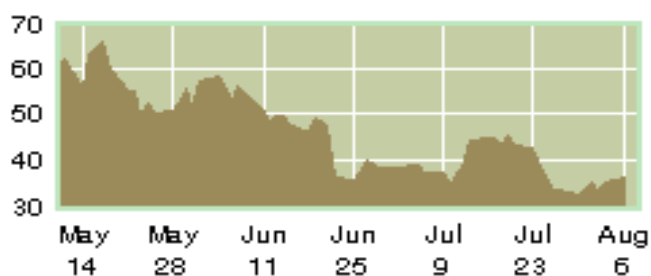
Online businesses obviously do require designing to make them more attractive to the eye. Due to the lack of effort required to shift from vendor to vendor on the Internet, design is very important in holding user attention. There are other factors that must be considered when developing a web site such as links between pages and use of the back button and so on.<sup>111</sup> Although these factors are more the concern of web site administrators, they have to

be considered by designers that will only be capable of fitting so much information into a page.

### **3.5: Performance and Market Evaluation**

Amazon is arguably the most famous of these companies. It has developed from its origins of selling books, into an online retailer of CDs, software, videos, toys and other merchandise. Toys are particularly topical at the time of writing because Amazon has recently agreed a ten year partnership with the world's largest toy store chain Toys R Us.<sup>112</sup> The agreement sees Amazon becoming the fulfilment and customer service agent for Toys R Us products sold online. Amazon can sell more goods without the cost of owning or housing them in warehouse space. Therefore, their overheads remain steady while selling the products will be profitable. However, it is also an admission that Amazon is incapable of selling toys on their own. This admission along with Toys R Us' admission that its online sales record is poor, is why the deal has taken place. The ten-year agreement includes fixed payments to Amazon, per-unit payments and a single-digit percentage of revenues.<sup>113</sup> One primary advantage Amazon hopes to gain is access to the new baby category (Babies R Us) without the expense of starting from scratch.<sup>114</sup>

The fact that Amazon has branched out into other types of good might suggest it is doing extremely well and by the end of the second quarter of year 2000, Amazon had recorded a £6 million operating profit for the first time.<sup>115</sup> However, sales from its established activities were down by four percent between the first and second quarters.<sup>116</sup>



**Figure 11: Amazon Share Prices<sup>117</sup>**

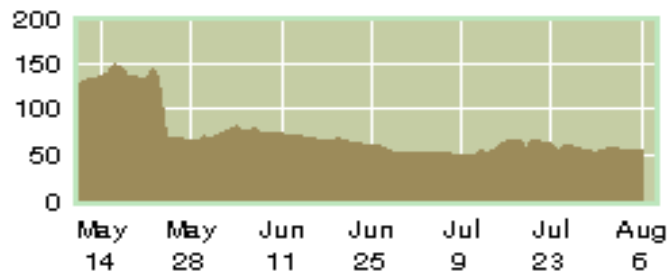
It is clear from the diagram above that Amazon is experiencing a slump. The share price has been consistently dropping since May and despite a small upturn at the start of August,

there is little evidence to suggest the price is about to rise yet. Some analysts question Amazon's ability to be any more than a bookstore, while others claim that shopping on the Internet is too convenient to go away.<sup>118</sup> If this proves to be the case, Amazon must be one of the favourites to succeed, especially given the fact that Amazon along with eBay and Pipeline account for ninety percent of the market value of the US online retailing sector.<sup>119</sup> Given this dominance, they ought to succeed if e-commerce succeeds. However, Amazon has seen its stock drop to two thirds of its 1999 peak and investors are losing faith.<sup>120</sup>

Investors are not alone in this trend. A recent National Consumer Council survey in Scotland has revealed that only three percent of those questioned shop online regularly. Eighty-five percent said the High Street was the safest place to shop, while thirty-five percent said the Internet was most risky.<sup>121</sup> Apart from the obvious mistrust of Internet security, it was clear from the survey that people did not shop online in many cases because they are unable to check goods before paying. Also, there is a lack of information concerning legal rights and redress for consumers. Inability to check goods is a fundamental problem and cultural issue. Until consumers are comfortable with purchasing physical goods without testing them first, online vendors of physical goods will continue to make losses.

Selling information goods does not create the same problems. They can be tested (usually) to some extent through information snippets or less up to date examples of what is available. The Street offers some information free of charge while users must pay a subscription to reach other pieces of information. Dialog users pay for what they download on certain schemes. There is not the same requirement to test goods before buying, or try the information for size. If it does not suit the requirements of the user, a new vendor can be found quickly with relatively little fuss.

Amazon would appear to be under threat from companies like Barnesandnoble.com that will sell electronic books. Doing this will turn a physical good into an information good and the primary advantage of that is immediacy. Even if consumers do not want to read books from the screen, they can download and print them. This poses serious questions for Amazon who, until now, has not offered similar facilities. Continuing to depend on consumers desiring the 'real thing' may not be profitable in the long-term and Amazon would do well to offer digital books themselves.



**Figure 12: eBay Share Prices<sup>122</sup>**

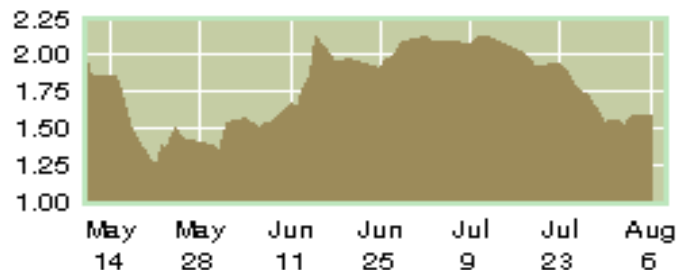
The online marketplace 'eBay' is different from Amazon and other competitors in that it is one of the profitable consumer e-commerce companies.<sup>123</sup> The above chart would seem to suggest otherwise, indicating that share price may not be the best indicator of success. Perhaps eBay's relatively small but stable share price is a reaction to the general trend of decreasing share prices in this sector. Second quarter earnings in 2000 were £8.7 million (more than double the equivalent period in 1999) and this was more than eBay expected. The company saw a ninety-seven percent rise in revenues and hosted more than sixty two million auctions compared to twenty nine million in the same quarter a year previously.<sup>124</sup>

A study of technological advantages suggests that eBay are better placed than Amazon to succeed.<sup>125</sup> Research conducted by the Centre for Research in Electronic Commerce at Texas University proposes that e-tailers dealing with physical products are at a disadvantage compared to purely digital companies. The study was based on the factors revenue, revenue per employee, gross margins and gross margins per employee. It was discovered that IT spending does not contribute to productivity for physical dot.coms in any factor, while the opposite is true for digital companies. Also, when digital companies expand, all they expand is their web presence, with little labour or financial costs. However, a physical dot.com must expand its physical premises, which is often labour intensive. Having said this, Amazon owns millions of square feet of warehouse space.<sup>126</sup> This suggests that digital companies selling physical goods are liable to spend similar amounts on premises, despite the fact that they do not own shops.

Lastorders, the online off-licence, was invented in July 1999 and started trading in November the same year. It claims to be the UK's first online off-licence and is based in Edinburgh. Although actual turnover is unavailable (the company would not divulge this information), the amount of money invested in the operation amounts to around £2.75 million. £2.5 million of this is investment from the Royal Bank of Scotland.<sup>127</sup> Therefore,



there must be at least potential in the scheme if a major bank is willing to participate and take a seat on the board. The estimated value of the company stands at approximately £20 million and is rising.<sup>128</sup>



**Figure 10: Lastminute Share Prices<sup>129</sup>**

Lastminute.com is a good example of a dot.com that floated itself on the market and then struggled (at least initially) to make any significant impact. Like most dot.coms, Lastminute makes a substantial loss and this has adversely affected the share price. When first floated, Lastminute.com shares stood at 380p each. This has plummeted but recently started a recovery and stands at around 172p. Losses have decreased recently. In the third quarter of year 2000 (before tax) losses stood at £9.27 million compared to £11 million from the quarter before.<sup>130</sup> More importantly, the number of registered users has risen to over two million. However, gross profit dropped to £950,000 from £1.05 million the quarter before.

Lastminute.com has recently purchased a leading French competitor, 'Degriftour'.<sup>131</sup> This suggests that Lastminute has a future at the moment and is viewed as a good investment. The take-over is predicted to bring forward Lastminute's break-even date one year to the end of 2002 and make it one of Europe's biggest e-commerce companies by revenue.<sup>132</sup> On this evidence, it seems that Lastminute is finding some stability. With competition from the likes of Lateescapes and the major tour operators, this is a particularly volatile market to be involved in.

As discussed above, the best way to describe such facilities might be as online catalogues that save the costs of print and distribution. There is more to physical e-tailers than this however. They can accept orders at any time and orders are processed more quickly through the immediacy of requests being sent. Interactive catalogues give the customer up-to-date information on what stock is available and purchase over the Internet is quick and easy. Customers are more interactively involved in what they are buying. For example,

Virgin Wines tries to assess what kind of wine a customer might like to purchase by asking questions related to price and taste.<sup>133</sup>

This e-commerce section contains the most spectacular dot.com failures. Boo.com is one example. Also, Lehman Brothers' assessment that Amazon will collapse within the next four quarters suggests that dot.coms are struggling.<sup>134</sup> Many shoppers will not use the Internet because they cannot try goods first. These same people would presumably not use catalogues either but there are people who will use both. When people become used to shopping from the desktop either through choice or necessity, Internet shopping for physical goods will become profitable. If this does not happen then it will remain a potentially profitable industry.

## **Chapter 4: Clicks & Mortar Informational Companies**

### **4.1: Type of E-Commerce**

As the term suggests, 'Clicks and Mortar' companies are more like traditional 'Bricks and Mortar' retailers. In this case, the companies in question supply information. They have a physical presence and an Internet presence working in tandem. The majority of these companies (as for clicks and mortar physical companies) have the physical presence first, which is followed by an Internet element.

### **4.2: Description**

To an Internet-based business, the web and how the company approaches it is obviously critical. However, with a clicks and mortar company, there is more room for development and error because the physical side of the business still exists. A lot of Internet development by companies has been carried out in response to other companies doing the same. Alex Berger, the co-chairman of V.Net says that,

"If we don't get out there and get our stuff online, somebody else will."<sup>135</sup>

Creating an online presence purely for the sake of doing so and because everyone else is, is not the best reason for creating a web presence. Simply creating an online presence is not enough. Companies must exploit the Internet's interactivity and use this to better understand and cater for their customers.<sup>136</sup> Interactivity and building relationships with repeat buyers is where the Internet offers great advantages and businesses must be aware of this.

The Financial Times is an example of 'clicks and mortar' informational e-tailing. The company traditionally produces a daily and weekend newspaper. However, it also offers FT.com, an online version of the newspaper.<sup>137</sup> This consists of various headlines and features that can be 'clicked' on by the user to read the articles. The service is free and can be requested daily through email facilities such as Hotmail.<sup>138</sup>

CNN is another example of an information provider with both a physical presence and a web facility.<sup>139</sup> However, it is slightly different in that the 'physical' presence is still 'digital'

because it is accessed through television. CNN online offers facilities other than news. For example, they have a 'My CNN' option that can be customised to suit the user. The site also offers e-mail facilities, local news, weather, sports and entertainment in far more detail than is allowed in a bulletin. It is more interactive as well because the user can search for the news or information they desire, rather than having a set bulletin on the television news.

The third example requires no introduction. Microsoft is arguably the most famous company in the world and is taking over from Coca-Cola as the world's most valuable brand.<sup>140</sup> Its value has risen by twenty-four percent to around \$70.2 billion since 1999's assessment. This value is based on possible future earnings potential, which is assessed through financial statements and analyst's reports. Despite recent anti-trust proceedings, Microsoft is in the unique position of controlling a majority of the world's computer's desktops and office software. This, along with financial, reading and games software (amongst other products) constitutes the physical side of the company. Microsoft also has a huge web presence. The Microsoft Network (MSN) offers online shopping, email (through Hotmail), chat, news, sports and other information and purchasing facilities.<sup>141</sup>

Microsoft also has a site dedicated to its business.<sup>142</sup> Consumers can research Microsoft products and services and buy them online. They can also download material and contact Microsoft to ask any questions or make comments. Microsoft is a huge business both physically and digitally.

### **4.3: Main Issues**

#### **4.3.1: Logistics**

As with digital companies that deliver information, avoidance of delivery logistics is a key issue. However, a physical presence means there are more logistics to consider than in an e-tail company. Information being produced and sold comes in a physical form as well, which involves physical production, supply, inventory, location and transportation as well as increased staff. Costs for a 'clicks and mortar' company will be higher because they are operating two services, essentially offering the same product in the majority of cases. For example, producing an online newspaper requires somewhere to organise the material, writers and the necessary technology to put the information on to the web. However, to produce the same information in print requires writers, printing machinery, paper, ink and somewhere to store this plus the actual premises to do the printing. It also requires delivery facilities to distribute the paper round the country.

### 4.3.2: Customer Preferences

'Clicks and mortar' information companies rely on people still preferring to look at 'hard copies' of material. Having information online is fine in the home or an office setting but commuters still want newspapers, as do many workers during the day that do not have access to a computer. If devices like UMTS become popular, the newspaper may be eventually replaced but this would take a long time if it happened at all. Replacing the daily newspaper would require a massive cultural change and it would also be extremely expensive until the cost of purchasing and accessing such digital devices dropped dramatically.

Reading on computers is becoming easier, thanks in part to developments like Microsoft's Reader software and ClearType font that is supposed to be easier to read.<sup>143</sup> Adobe<sup>144</sup> is also a main player in producing software to make text easier on the eye, like Acrobat Reader.

### 4.3.3: Use of the Internet

'Clicks and mortar' companies (both physical and informational) must market their products carefully so their different mediums do not compete with each other. For example, CNN is primarily television based. They have a web site but people will always watch TV. It is conceivable in CNN's case that they could provide exactly the same content in the web site as they do on TV. However, this would make the site a waste of resources. There are aspects to the site that cannot be done on the physical, television side, such as browsing for older material, in-depth forums on politics and other issues, even contacting Larry King. The web site should be marketed to show that there are extra options to be explored along with the news of the day.

Similarly, FT.com contains much of what the physical daily newspaper contains. It is aimed at those who have a computer at home or in the office and want to receive news updates every morning straight from the web. The newspaper itself is marketed as a newspaper for business information and is more formally positioned than the online version. The Financial Times obviously do not want regular newspaper buyers to abandon the FT in favour of FT.com because that would result in customer numbers remaining static rather than attracting new customers.

This researcher has the impression that the FT.com is being marketed as a way for non-FT readers to 'get into' business news, particularly students and avid Internet users. Those who buy the FT are likely to continue this trend and FT.com is trying to capitalise on the web to

capture new readers. It is much more informal than the FT newspaper and therefore, is more attractive to a wider audience.

#### **4.4: Advantages Over Traditional Methods**

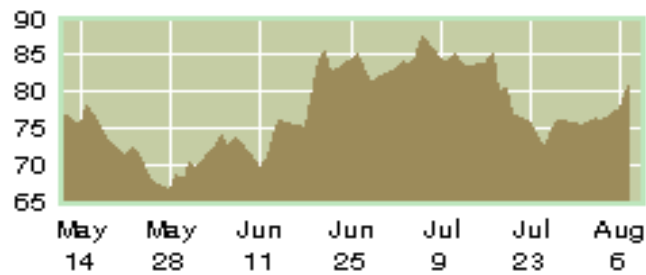
One advantage that 'clicks and mortar' information vendors have over traditional information companies (and perhaps e-tail information businesses) is that they can appeal to a wider audience. For example, the Financial Times in its physical form is purchased by hundreds of business people every day, particularly in city financial areas. The online version, FT.com, attracts a wider audience of web users that might not necessarily purchase the physical product. It especially allows people in the workplace to access the facility. This is the same for CNN, especially in the workplace where the majority of people are not allowed to watch television but may be able to use the Internet in any free time.

Another advantage these companies have is that the physical side provides a safety net while an Internet presence is developed. For example, with Microsoft, the MSN can be developed with the knowledge that Microsoft's other ventures will continue to make money. Similarly, CNN can mould an Internet presence knowing that people will continue to watch television.

A major advantage that 'clicks and mortar' companies possess is reputation. In retail, customers trust brands and this appears to be no different online. Consumers are becoming more familiar with online brands and are concentrating their spending. Major vendors taking their products online are at an advantage.<sup>145</sup> Due to the physical size of many retailers, they do not have to be that successful online to put strain on smaller e-tails.<sup>146</sup>

#### **4.5: Performance and Market Evaluation**

It proved to be extremely difficult to ascertain information about The Financial Times and CNN performances. Therefore, this section is weaker than the corresponding sections in other chapters. However, both companies are large and profitable with worldwide exposure. The FT is generally considered to be one of the top business newspapers, while CNN is well-watched and respected.



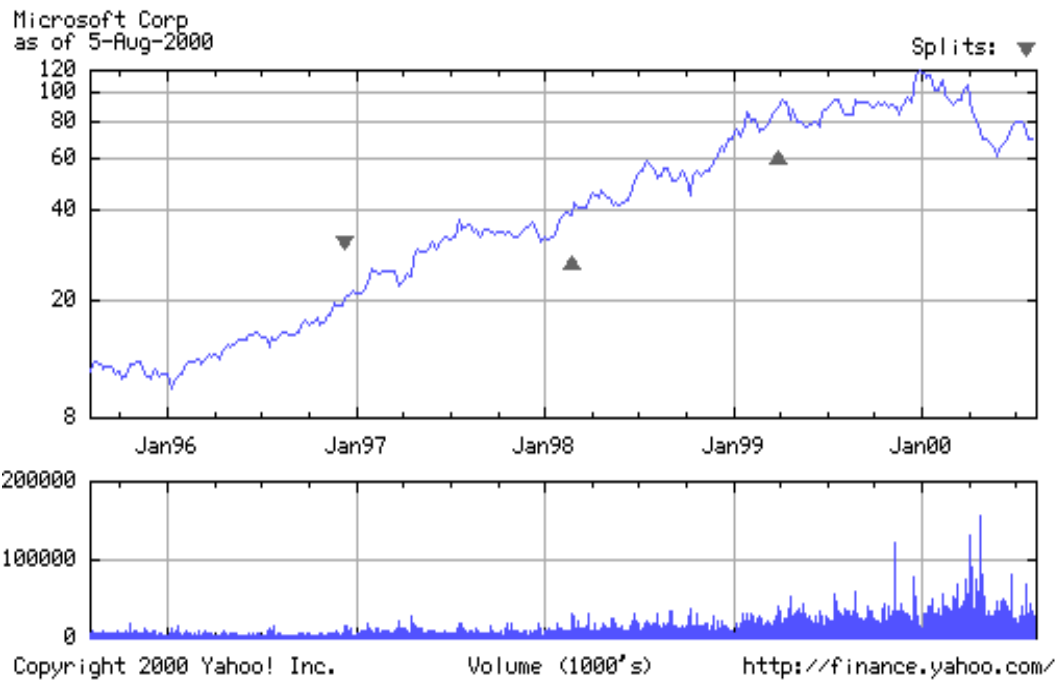
**Figure 11: Microsoft Share Prices<sup>147</sup>**

Microsoft predictably does extremely well. Despite the recent problems concerning the anti-trust lawsuit, the share price has remained relatively high. The chart above shows that Microsoft's share price suffered a dip in May but it recovered in June and July before falling slightly and recovering again at the start of August 2000. It should be recognised that the price of these shares is being measured in pounds, not pence. The blip in May can be explained by the anti-trust trial and the subsequent revival of stock prices can be put down to the trial being over and an appeal being lodged. This guarantees an element of stability for Microsoft until the appeal is decided. The technology sector in general is doing well, buoyed by the fact that the trial is over.<sup>148</sup> The recent merger with Barnes and Noble (the online book retailer) to coincide with the release of Microsoft's new e-book software can only help to increase Microsoft's already impressive bank balance.

Any reasons for success that can be given here will make little difference to Microsoft so long as they hold a virtual monopoly on desktop operating systems. Even if the anti-trust law specifies that they cannot offer Internet Explorer as part of the Windows package, the operating system itself will still be purchased. Microsoft Office has also basically become an industry standard and its various versions will continue to sell.

The chart below shows that apart from the blip in May 2000 Microsoft has enjoyed continually rising share prices. There seems little to suggest that this trend is about to change. Microsoft has locked customers in to its products.<sup>149</sup>

The key for information 'clicks and mortar' companies is offering something different with their web presence. For the service to be exactly the same would be a waste of the medium. There are many possibilities to extend both the services and reach of those services online.



**Figure 12: Microsoft Stock Price Since 1996<sup>150</sup>**



# Chapter 5: Clicks & Mortar Physical Companies

## **5.1: Type of E-Commerce**

This is arguably the most interesting section of e-commerce. There are a wide variety of businesses and companies that fit into this section. Such companies have well established methods for selling their products and have developed or are developing Internet strategies. Some suggest that the most successful online businesses have a strong offline presence. For example, 1-800 Flowers in the US recognise that walk-in stores will complement an Internet presence to win customers in both markets.<sup>151</sup> There are signs of a developing trend of executives returning from Internet companies to 'bricks and mortar' companies that are establishing online divisions that senior consultants at PwC call 'dot.corps'.<sup>152</sup>

## **5.2: Description**

These companies differ from physical e-tailers because they have a traditional method of selling and delivering their goods. Embracing online trading changes the way a physical business operates. It must, because order fulfilment becomes crucial when previous delivery mechanisms suited a traditional retail system, in which the customer collected the goods.

Tesco (the major supermarket chain) has developed a major online facility that includes financial services as well as online shopping.<sup>153</sup> The company has taken advantage of the web to offer services other than shopping. It is important to stress that offering services other than shopping is an indication that Tesco want to develop the online presence into more than just an extension of the phone for ordering groceries. This highlights Voyle's claim that supermarkets will only keep their first-mover advantages if they realise they need to deliver more than food.<sup>154</sup>

The airline industry is a particularly active one, with many companies like British Airways,<sup>155</sup> Ryanair<sup>156</sup> and EasyJet<sup>157</sup> creating an online presence. EasyJet is an Internet only airline but they do have a physical presence in terms of check-in desks. Also, the company has established rental car and Internet café businesses, both of which are physical products. It could be argued that the 'Easy' empire crosses boundaries because the Internet café business (Easy Everything)<sup>158</sup> is an information facility but has a physical element in the fact that it is a café. British Airways is more obviously a 'clicks and mortar' physical company that

couples an online presence with various physical elements like travel shops around the globe.

Majestic Wine is a wine 'warehouse' business that sells wine, beer and spirits by the caseload.<sup>159</sup> It differs from a traditional off-licence in that it sells a minimum of twelve bottles of wine at a time and all staff are trained wine tasters. This gives them a niche in the market as suppliers to businesses such as hotels and restaurants. The Internet presence allows customers to purchase online.

## **5.3: Main Issues**

### **5.3.1: Logistics**

E-tail companies selling physical goods must also create a means of delivering the product. The supply chain that e-tail companies are part of is determined by the fact that they choose to function online. This is not the case with 'clicks and mortar' physical companies. These companies are based on a different supply model. For example, Tesco was built around the concept of people coming to the store, choosing their own products and taking them home themselves. Now, online shopping requires a different approach to the supply chain, while continuing to operate the old one.

Looking at the supply chain that the Rockford Consulting Group outlined, the differences between retail and 'clicks and mortar' can be assessed. Production remains the same because it is the same goods that are being produced, whether it is tinned beans or holidays. Supply will also remain the same because the goods are not changing. The suppliers do not have to change either for reasons of selling online. Inventory is a different matter. If a company's inventory is based on customers coming to the outlet and this were to be replaced by deliveries, the inventory in the shop might change. However, in Tesco's case, it operates from its shops rather than warehouses. Therefore, the inventory has to account for extra orders, rather than deciding whether to stock less in a shop to account for online warehouse sales. Transportation is a key factor. Most shops are based on deliveries being made to the shop and then customers collecting goods themselves. This is not the case with online shopping because transportation becomes delivering rather than supplying stores.

Therefore, shopping has shifted from customers going to the supermarket to ordering their goods online and having them delivered. However, this idea is not as novel as it might seem. For years customers have been able to phone local shops and request items to be put aside.

The difference is that such requests were more local, with a shopkeeper that the customer tends to know. Tesco (among other supermarket chains like Iceland and Wal-Mart) are offering this facility on a grander scale.

The primary logistical problem caused by this facility is waiting time. Buying the goods physically takes time to go to the shops and choose the products but purchasing them online takes even longer. Even Tesco's television adverts suggest that the process is a lengthy one as the woman orders her shopping before going to bed and receives it the next day. This advert and the impression it portrays go against the immediacy offered by the Internet. Having said that, this dissertation has already stated that immediacy is a misnomer because it is only the order acceptance (not process) that is immediate.

In the case of the airline companies, Ryanair and EasyJet are equipped to deal with online logistics because that is what they do but British Airways have had to create a new supply chain to provide customers with tickets online. In Ryanair's case, customers are requested to print out the online booking confirmation page that contains a booking number to be displayed at check-in. This removes the need to send a product to the customer at all before the time of the flight. British Airways have traditionally sold tickets through travel agents, teletext and British Airways shops. It is not difficult to arrange logistics for delivering tickets from online sources because the majority of tickets are delivered by mail after the date of purchase anyway.

Delivery becomes an issue when a physical product weighing more than a letter has to be transported, like a box of groceries. In the case of Majestic Wine, the delivery infrastructure is already in place. Majestic promises to deliver anywhere in the country through a network of delivery vans so there are few, if any, logistical problems involved in establishing online sales deliveries.

Tesco is a different matter altogether. The delivery model for a supermarket is based around large supply lorries or train containers; basically bulk delivery to individual stores. This is fine for delivering to a supermarket where shoppers come to collect goods. However, haulage trucks are entirely unsuitable for home deliveries. This problem can be solved by providing delivery vans. However, there are other considerations such as the expense of setting up another delivery network. Majestic Wine already covers this cost but Tesco will have to consider vans, road tax, fuel, servicing and staff for the new development. There are considerations relating to the vans themselves. For example, should they contain refrigeration if dairy products are being delivered? The actual design of the van could be important as well. Just as traditional fishmonger vans have a different design to regular

transit vans, delivery vans should have design features like lower floors, steps at the back or even lifting equipment for bigger orders. Another possibility might be mobile supermarkets in which customers can buy everyday items without travelling to the shops.

### 5.3.2: The Environment

As with e-tail physical companies, the 'green' issue is a consideration. Increasing the number of home deliveries will increase traffic. In the case of Majestic Wine, it will increase the number of trips or the length of trips for vans already on the roads. In Tesco's case, it will involve a whole new fleet of vans as well as the haulage trucks that already deliver produce to stores.

Safety is also an issue. More traffic entering residential areas increases the risk of road accidents, especially amongst young children. An option that could reduce this problem is that pursued by Dynamid; delivering to places of work or convenient drop-off points. By delivering goods to lockers in either offices or train stations/bus depots or so on, deliveries to residential areas could be reduced.

### 5.3.3: Fitting in with Existing Services

Is it really practical to order a pint of milk online? The answer is probably no. This being the case, what would online grocery shopping be useful for? Conceivably, online grocery shopping could be very useful for purchasing non-perishables like tinned beans or washing-up liquid. It could also be good for repeat order items that a customer will always buy, saving the need to physically buy the products. Another option is that non-perishable or repeat orders could be purchased online, while perishable goods like dairy produce, bread or fruit and vegetables could be purchased from local supermarkets. This infrastructure is already in place in the form of Tesco Metros and local Sainsbury's outlets. However, as with WAP and UMTS technology, having more options for shopping will probably increase shopping rather than redistribute shoppers to different mediums. More obviously, online shopping (in general as well as groceries) will be extremely useful for the disabled, elderly and infirm and those lacking mobility.

In general, schemes like these work best when they are focussed on high net-worth individuals that are time-poor.<sup>160</sup> There is a potential market for workers struggling to shop

due to time constraints, especially if they have family as well. Delivery to offices or drop-off points is a distinct possibility.

#### 5.3.4: Hands on Feelings

Customers like the hands-on feeling only possible by going to shops or travel agents and so on. Human interaction is still important, especially when the customer is considering a sizeable sum of money. Even with teletext as an alternative to travel agents, customers are still required to phone the company involved and speak to them. Lateescapes.com is a unique venture but people are still of a mindset that precludes the majority from trusting such operations. They must build client trust, as all service industries do but this may be more difficult due to the lack of human interaction and fears over Internet security.

When shopping for groceries, customers like to have a good look at the product, check its price, weight and quality. This is especially true of perishable items like meat, fruit, vegetables and so on. Consumers check these products for fat or bruising before purchase. Any online shopping of groceries removes this option. Consumers can view pictures of goods but they cannot choose the actual product that goes in the shopping basket.

### **5.4: Airlines and the Internet**

Purchasing flights and holidays has become more popular over the Internet in recent times. Companies like EasyJet and Ryanair use the Internet to organise their entire operation, while more traditional airline companies like British Airways use it to complement their existing systems. Market forecasters think that travel will be the biggest growing item over the Internet within the next five to ten years and that airline tickets could account for sixty percent of these purchases.<sup>161</sup>

However, some suggest that airlines have not used the technology to the best possible effect. Some claim that ten years ago, airline booking systems were advanced but have not moved on since that.<sup>162</sup> Traditionally, airlines have relied on intermediary agencies (travel agents) to sell seats. However, companies like EasyJet and Ryanair do not have the bureaucracy of more established companies so can trade directly on limited budgets.<sup>163</sup>

Airlines see the Internet as an opportunity to drive down costs and create profitability in a sector that tends to destroy rather than create value.<sup>164</sup> As in most industries, the web

allows airlines to move closer to their customers. British Airways' Internet strategy was created to be at the centre of its efforts to change its relationship with customers and suppliers.<sup>165</sup> However, BA's Chief Executive (CE) has recently publicly doubted this strategy.<sup>166</sup> BA has set a target of increasing online ticket sales from less than one percent of passenger revenue to more than fifty percent by 2004, but there is no real clarity over how many people will actually use the Internet to deal with the airline. The CE's primary concern is that the online revenue target is ambitious compared to other carriers. In the light of a perceived slow uptake of Internet shopping generally in the UK, it looks over-ambitious. This might be harsh criticism because BA's e-commerce revenues are growing at a rate of four hundred percent per year.<sup>167</sup> However, United Airlines (the world's largest carrier) has aimed for just twenty per cent of sales revenue from e-commerce by the end of 2003.<sup>168</sup> Considering this is an American company, where the Internet is strongest, BA's assessment might be ambitious, despite the current rate of growth.

The Internet offers airlines and associated business the chance to develop new ideas and avenues of business. For example, the British Airports Authority (BAA) has purchased a minority stake in Lastminute.com to access information about travellers moving through their airports.<sup>169</sup> They plan to use this data to encourage spending within the airport by tailoring their shops and services.

BA, Air France and Swissair have signed a letter of intent to establish a neutral web portal, hoping that the Internet will enable airlines to save billions on sales and marketing costs.<sup>170</sup> The result should be lower ticket prices for consumers. A web presence would intensify competition between carriers while at the same time eliminating a large part of their distribution costs such as travel agency commissions or fees paid to reservation systems like SABRE, AMADEUS and GALILEO. Swissair's CE suggests that the Internet could save around fifty percent on distributive costs. This is a major saving when one considers that distribution can consume eighteen to twenty percent of a company's total costs. On a ticket that costs \$5000, traditional distribution costs amount to \$900. Compare this to a ticket bought online that would have distribution costs of approximately \$29. BA's average yearly distribution costs are approximately £8.5 billion so a fifty percent saving would be welcome.

Some airlines have publicly stated their reluctance to join a scheme like that above, for example, Alitalia and Lufthansa. The latter possesses an e-commerce strategy of its own. Lufthansa.com offers flight booking online with five hundred airlines, while Lufthansa e-commerce offers corporate customers a booking agency on their desktops.<sup>171</sup>

The Internet has competition for holidays from teletext. Many people purchase holidays found on the television, the majority of which are late deals, like those sold by lastminute.com and lateescapes.com. Teletext is firmly established and trusted, so it could be difficult for the Internet to prise customers away. However, those who tend to use teletext might be easily swayed towards Internet holidays because they are used to purchasing holidays without going to a travel agent. The big difference between the two is that using teletext requires calling a tour operator at some stage so the customer does receive some human feedback.

The Internet appears to be effective at selling flights only. EasyJet and Ryanair have shown this to be the case. They have created new ways of carrying out business. For example, customers are given code numbers when they make an online transaction. This serves as a reservation and ticket, reducing paper and distribution costs. These numbers are handed over at check-in and the customer can then choose whichever seat they like on a first come, first served basis. Again, this reduces the paperwork and administration involved in giving a customer a particular seat. The entire process is completed without the customer being sent anything (confirmation of booking or tickets), meaning flights can be booked at extremely short notice if seats are available.

### **5.5: Advantages Over Traditional Methods**

It is easier and more convenient to order groceries online. The problem is making customers used to doing this and planning their shopping more in advance than they normally would to allow for delivery times. The convenience of shopping online has to merit longer waiting times and delivery charges for goods (should they exist). An advantage that should increase in importance is cheaper shopping online. This might not necessarily be caused directly by supermarket prices themselves but instead by petrol and parking prices that customers would avoid paying so regularly. This is subject to how online grocery shopping develops; whether it becomes an alternative or another source of the same activity.

Buying from Majestic Wine online offers few advantages. The online service is simply an extension of the phone-based delivery service already offered, operating on the same price scale. The web site is really an online catalogue. They do not offer other services like Tesco, which is what these companies require in order to be competitive on the Internet.<sup>172</sup> The primary advantage that Majestic online offers is the opportunity to place orders at any time of the day. These orders may not be processed more quickly, but the order will be accepted.

Majestic is based around customers coming in and trying the wine and speaking to the experts before purchasing.<sup>173</sup> The staff likes this and fear online sales will change the way the company works. However, this is unlikely. The Internet will offer Majestic customers the opportunity to repeat buy wines they have already tasted at a cheaper price than over the phone. The company say themselves that the number of customers entering the store has not altered and their regular visitors still prefer to visit, although they might buy wine online as well. They say it is too early to ascertain whether customer numbers have risen since introducing Majestic online but one is given the impression that the web site is there because they feel they must have one rather than because it will add something to the business. In fact, the site was only created recently because it emerged that an employee had some web design training. This suggests that despite the company creating a corporate presence and virtual storefront,<sup>174</sup> Majestic has put little thought into the reasons for having a web presence and is a good example of a company using technology for technology's sake.

There are obvious advantages for airline companies with an online presence, most of which have been mentioned above. Airlines can dramatically reduce prices by removing layers of administration like EasyJet and Ryanair have done. The web's interactivity allows transactions to take place quickly and efficiently. This removes the need for intermediary booking agents (e.g. travel agents) that confirm a booking, send the customer confirmation, organise and send tickets to the customer and receive payment for doing this. EasyJet, Ryanair and online holiday companies remove these costs to the extent that prices can be lowered. These businesses still require premises to operate from but they make administrative savings and the first human contact a customer tends to have is when they hand over confirmation numbers at check-in. By avoiding seat reservation, these companies save money on the systems required to do this and the training required for staff to use them.

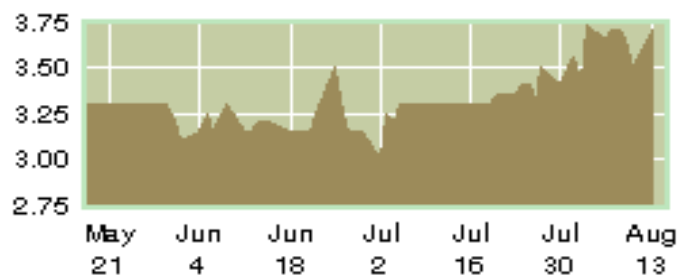
The system employed by airlines like EasyJet allows last minute seats to be purchased without sending out tickets. This can create profit because in theory, fewer seats should be left unfilled. In a similar vein, companies like lateescapes.com can thrive in the web's interactivity, offering late seats in a more effective way than shop windows. Anything that cuts down on the number of unfilled seats has to be good for airlines.



## **5.6: Performance and Market Evaluation**

Tesco claims to be the world's largest online grocer with over 450,000 registered ISP users and over 28,000 deliveries per week. By the end of 2000, they expect to be offering delivery to ninety percent of the UK's population.<sup>175</sup> At the time of writing, Tesco had introduced online shopping to more than a hundred stores. More importantly, Tesco claims to be making a profit from online trading.<sup>176</sup> This is a result, primarily, of Tesco's decision to operate its online service from stores rather than custom-built warehouses. Online orders are processed and sent to the store serving a customer's postcode area. Shop workers basically do the job the customer is avoiding by travelling round the store collecting desired items to be put into vans for delivery. This is the opposite from Tapscott's theory of Disintermediation.<sup>177</sup> Although the customer does not have to make the effort to visit a supermarket, another layer of organisation has been created between the customer and their groceries. This is a return to the days that customers walked into a grocers and told them what they wanted so the grocer could collect it from the shelves.

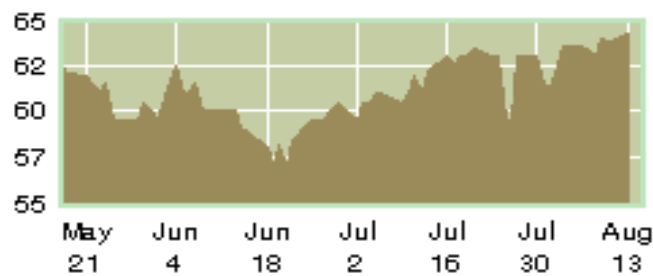
Supermarkets are designed for shoppers to collect their own goods. Therefore, they are not designed for efficient collection of goods in bulk for delivery. If there are multiple deliveries to be made, a supermarket is not as good as a warehouse for collecting several amounts of the same good. Supermarkets are unsuitable for forklift trucks and shelves are stacked for individual amounts of a good, not bulk amounts. Apart from this, staff members collecting goods for online deliveries have to work around customers visiting the store. These different problems added together mean that deliveries could be slower from a store rather than a warehouse. However, this would cause few complaints if deliveries were within a reasonable time frame and efficiently executed. Not doing the shopping may be advantage enough.



**Figure 13: Tesco Share Prices<sup>178</sup>**

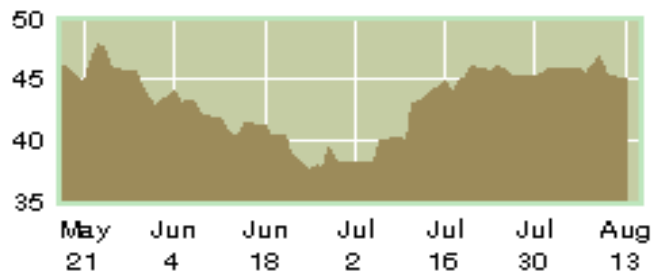
Tesco's share price has taken a substantial upturn in recent months and seems to be consistent, despite the fact that it is operating in one of the least profitable Internet shopping sectors. A 1999 study by the Boston Consulting Group<sup>179</sup> revealed that food and wine sales accounted for E154 million (Euro) of Internet sales, while clothing was the only sale type that made less (E151 million). The most profitable type of Internet sales appears to be travel. These sales accounted for E980 million in 1999.

How successful Tesco's online venture is could well depend on the services it offers other than shopping. Being a supermarket offers Tesco the chance to develop an online presence, which in turn allows the company to develop more potentially profitable services such as finance, selling books, CDs and videos and also concentrating on specific markets more effectively like babies and toddlers or home living. Online grocery shopping is only part of the overall service. The figures above show that groceries are not profitable online, so supermarkets (as well as all 'clicks and mortars') must have other avenues to pursue.



**Figure 14: British Airways Share Prices<sup>180</sup>**

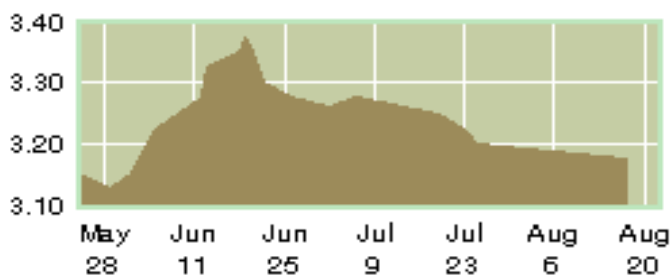
The above figures also indicate that travel is the most profitable service online. The above chart shows that British Airways shares are consistently increasing in price. This will be partly due to an increase in online flight bookings. It is probably also partly explained by current negotiations to join BA with KLM. The possible merger announcement was made on June 7<sup>th</sup> 2000 and the share price has risen substantially starting from June.<sup>181</sup> There is an obvious blip between the 16<sup>th</sup> and 30<sup>th</sup> of July. This was around the time that BA's CE made his doubts about the company's e-commerce strategy public but the share price has recovered from these comments to grow in August. Despite this, BA recently announced a first quarter 2000 loss of £50 million compared to a profit of £23 million in 1999's equivalent period.<sup>182</sup> However, the hope is that increasing focus on the Internet will save costs and create profit.



**Figure 15: Ryanair Share Prices<sup>183</sup>**

Ryanair shows a substantial share price increase as well. On August 9<sup>th</sup> 2000, Ryanair announced strong growth and record financial results for the quarter ending June 30<sup>th</sup> 2000.<sup>184</sup> There was a total revenue increase of thirty-seven percent that reflected a passenger increase of thirty-two percent. Overall profits increased by twenty-nine percent for the first quarter. Ryanair has also been able to remove GALILEO from its operations, representing a large cost saving. Ryanair admits that part of its (and presumably other airlines) success is due to the strength of the pound and present fuel prices.<sup>185</sup>

Although there is no information regarding EasyJet share prices, there is information regarding sales. The company now sells approximately seventy percent of its seats online (more than any other airline).<sup>186</sup> However, this figure varies and was actually over eighty percent in the week ending 6<sup>th</sup> August 2000, amounting to 132,371 seats.<sup>187</sup> In fact, the average has been closer to seventy-five percent in August 2000. The company plans to have forty-four planes in its fleet by 2004, replacing some older models during this increase. This suggests the company is doing very well. The fact that the chairman is currently expanding the company's other interests, EasyEverything (Internet cafés) and EasyRentacar (the world's first Internet-only rent-a-car company) shows that the business is thriving.



**Figure 16: Majestic Wine Share Prices<sup>188</sup>**

Unfortunately, it appears that Majestic Wine's share price has dipped substantially in recent times. This might be a reflection of the fact that the company's web presence fails to add anything substantial to the business, unlike Tesco's web presence. Majestic appears to be a company based on customer-facing interaction. Whether this is an unwillingness to accept change and e-commerce as a way forward is unclear but the web strategy seems to lack vision or add anything to the business.

There is also increasing competition for Majestic Wine, particularly in the form of Richard Branson's new venture, 'Virgin Wines'. While Majestic Wine is obviously a well-reputed wine seller, it is not perhaps a household name. Virgin, on the other hand, is very much a household name. While Majestic caters for the more 'discerning' customer and business, the 'ordinary person' will have heard of Virgin and may well go to them in the majority of cases (at least they will go there before Majestic Wine). Richard Branson's popular image will help the business too. There are other competitors like Lastorders.com and off-licences. In the cases of Virgin Wines and Lastorders.com, these companies are set-up to operate on the Internet, while Majestic seems to be doing it because they have to.

It would seem that certain clicks and mortar companies do better than others, certainly from the examples highlighted here. Airlines in general are doing well. However, despite BA's e-commerce related upturn, its low-cost carrier 'GO' is not doing as well. It posted losses of over £22 million in 1999 and rumours suggest its total losses since opening amount to approximately £41 million.<sup>189</sup> Although most dot.com enterprises appear to make initial losses, it must be worrying to make such large losses in the most profitable sector of e-commerce.

This area of e-commerce is probably the most popular because it is very easy and efficient to organise over the web. The fact that flights offered by companies like EasyJet and Ryanair are short-haul flights only makes it easier because it is not like organising an entire holiday. These companies have created a culture of the plane as a convenient method of transportation rather than a luxury. Many more travellers will look to Ryanair and EasyJet for trips within Britain when before they would automatically look to trains or busses. GO has not made the same impression. Perhaps this is because it was a late entry into the market and has to catch up or perhaps it is because their price structure is different.

It does appear that airlines do not have to offer much else than cheaper flights over the Internet. However, this differs with the other examples here, Tesco and Majestic Wine. While Tesco is offering more services than just grocery shopping, Majestic Wine is not. Tesco is doing well and is making a profit, while Majestic Wine has made no significant

impact. Virgin Wines is only an online wine retailer also. However, the difference is that it forms part of a wider online Virgin presence offering a multitude of services. Majestic's online presence offers no more than what already exists. If, as Voyle suggests, companies that move online have to offer more than just the basic service already traditionally offered, Majestic Wine may struggle, while Tesco will grow stronger.

## **Chapter 6: Infrastructure Companies**

### **6.1: Type of Company**

These companies make e-commerce possible. They produce the necessary hardware (computers, cables, modems etc.), software for managing the Internet (Internet Explorer, Netscape Navigator etc.), Internet Service Providers (ISP's) and can advise on and implement e-commerce solutions for companies. These are some of the types of company that this chapter will discuss in more detail.

Companies in this section do not rely on the Internet for their business in the same way as companies in previous chapters. While dot.coms rely on customers wanting to use the Internet and have to encourage this, businesses in this chapter rely on companies wanting to create an online presence. Therefore, these companies are not adversely affected to the same extent when dot.coms do not work (like boo.com). Infrastructure companies may not receive any more business from that particular avenue but there are new avenues opening constantly in the present climate. Until dot.coms go out of fashion, which is unlikely at the present time, infrastructure companies will have a major role in providing the ability to use the Internet in a physical and advisory manner. The very nature of the industry means that hardware and software becomes obsolete very quickly and upgrades are required, resulting in repeat business. In a climate of uncertainty about dot.com effectiveness, the better infrastructure companies are sure winners.

### **6.2: Description**

There are many companies that come under the infrastructure heading. This dissertation will use only a few as examples. The examples chosen should provide a broad range of companies that are involved in this section.

Hardware companies are at the forefront of e-commerce activities, whether this is computers, servers, firewalls or other equipment that the Internet requires. There are several major players in this field including IBM,<sup>190</sup> Dell Computers,<sup>191</sup> Compaq<sup>192</sup> and Apple<sup>193</sup>. There are also massive corporations like Cisco Systems,<sup>194</sup> which claims to be the worldwide leader in networking solutions for the Internet. Cisco hardware, software, and services are used to create complete Internet solutions. Cisco solutions are designed to

provide competitive advantage through more efficient and timely exchange of information, which in turn leads to cost savings and closer relationships with customers.

Another major source of business related to e-commerce is CRM, as explained in a previous chapter. According to research conducted by the International Data Corporation (IDC), a renewed interest in winning and retaining customers contributed to a seventy-one percent increase in world-wide CRM revenue in 1999.<sup>195</sup> It is increasingly important to solidify and deepen relationships with valuable customers because competition in e-commerce is easily found with the 'click of a button'. IDC claim that Internet technology is having a profound impact on marketing and that in this 'e-environment' marketing is gaining in strategic importance. It is also becoming more aligned with sales and customer service.<sup>196</sup> Therefore, it is clear that CRM will continue to play an increasingly important role in e-commerce and those companies that can gain an advantage in this sector will do well. Presently, no CRM supplier outside the top five has more than approximately two percent market share, suggesting that there are some powerful companies in this section.

Three of the biggest vendors are Oracle,<sup>197</sup> Chordiant Software<sup>198</sup> and Siebel.<sup>199</sup> Oracle claims to be the world's leading supplier of software for information management and the world's second largest software company. It also claims to be the only software company that offers a full suite of e-business products.<sup>200</sup> Therefore CRM products form only a part of what the company offers. Similarly, Siebel provides complete e-business solutions and is supposedly the world's biggest supplier of eBusiness application software.<sup>201</sup> The company formed in 1993, so to be in such a position so quickly shows how successful companies in this sector can be. Chordiant Software provides a CRM product as opposed to entire solutions.

Internet software is essential. Although there are alternatives to Netscape and Internet Explorer such as Mosaic, Netcruiser and Lynx, the two main browsers dominate the market. Netscape was the primary browser until recently, when Microsoft took up the mantle. The recent anti-trust lawsuit is a part result of Netscape's demise as the major browser provider.

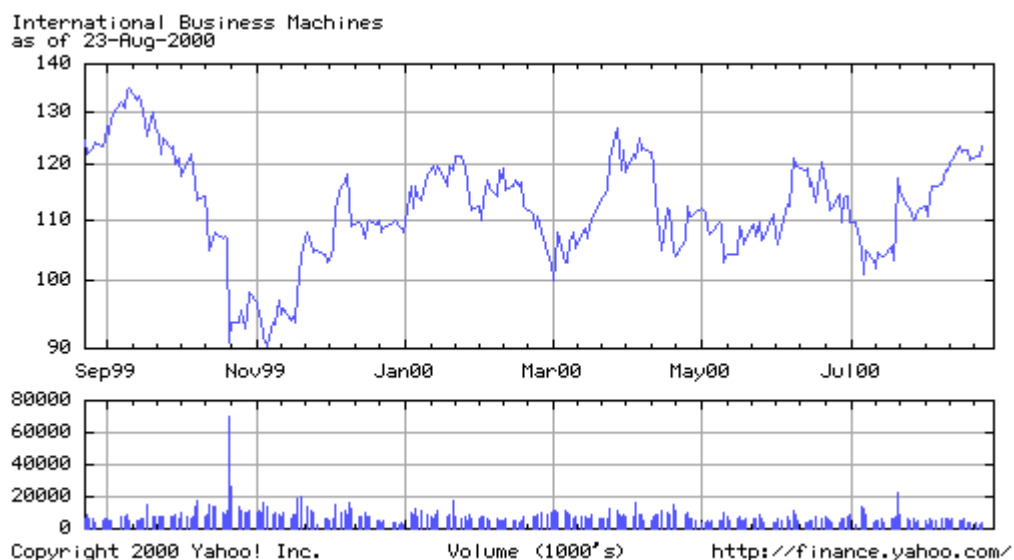
Connection to the Internet requires certain hardware components. The currently used connections are ISDN (Integrated Services Digital Network), cable modems and ADSL (Asymmetric Digital Subscriber Line). Although ADSL is not widely available, there is a waiting list of homes in North America to have connections established. Such is the nature of the industry that people are purchasing ISDN lines knowing that the next wave of connection technology is coming. ADSL and cable modem suppliers claim that cable modems are up to four times quicker than ISDN lines and that ADSL is even faster.

With the advance of interactive television, companies that provide the infrastructure for TV, like NTL and SKY Digital are also considerations in this section. However, this type of company has been discussed in a previous section so are mentioned here to recognise that the Internet economy is affecting them not only in terms of the services they provide but also the infrastructure that makes those services possible.

There are other types of company that provide the infrastructure necessary for successfully using the Internet. This chapter is studying only a sample. The purpose of the chapter is to highlight that companies providing the basis for e-commerce stand a good chance of being successful. Dot.coms will come and go but they all need the infrastructure to at least try.

### **6.3: Performance and Market Evaluation**

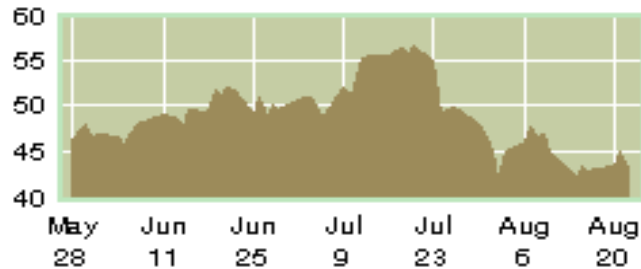
IBM has a relatively stable share price. It supplies many products (hardware and software) and applications for several fields. They work in the fields of computer systems, software, networking systems, storage devices and microelectronics. They have resources specially suited to specific sections of business such as the home or home office, small businesses, large businesses and government. The graph below shows that the company's share price suffered a dip in November 1999. Since then, it has recovered well. IBM has undergone a change in image in recent years in order to compete with Microsoft. It has obviously been successful, making healthy profits in the three years up to 2000.



**Figure 17: IBM Share Prices**<sup>202</sup>

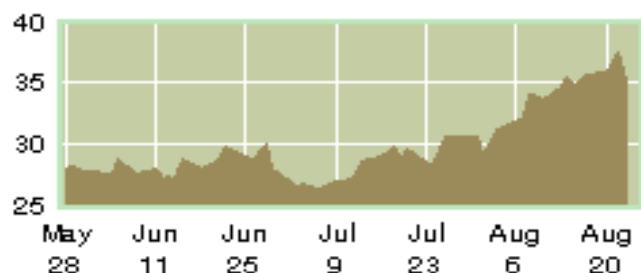


IBM suffered greatly when Microsoft took over as the leading computing company but it is starting to compete again, marketing itself as a company providing business solutions, especially e-business solutions.



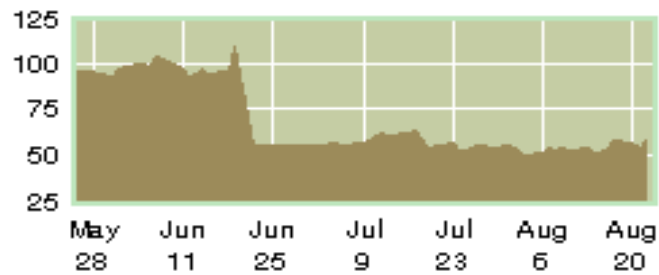
**Figure 18: Dell Computer Share Prices<sup>203</sup>**

Dell Computers is one of the bigger manufacturers of computer hardware. The share price is not particularly high and has dropped through August 2000. This could be viewed as surprising because technology is always changing and advancing. Computer chips are enhanced and more powerful computers are created to take advantage of any advances. Software developers then create more demanding software packages that utilise the greater capacity of new machines. The result of this circle is that businesses are continually pressurised into upgrading their hardware to keep up with the times rather than because it is actually broken. Therefore, it is perhaps surprising to see Dell's share price fall like this, especially when it has recently signed a three-year, \$60 million contract to provide personal and notebook computers and servers to Tennessee-based hospital chain HCA (The Healthcare Company).<sup>204</sup>



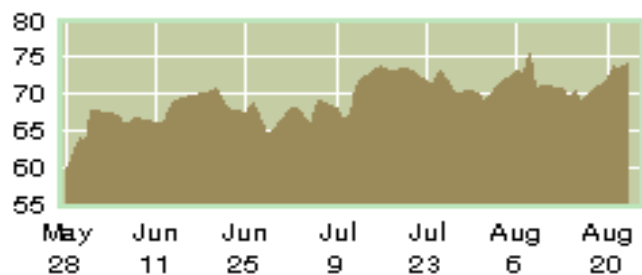
**Figure 19: Compaq Share Prices<sup>205</sup>**

Looking at just one of Dell's competitors, Compaq, shows that other computer hardware companies are popular and doing well. Compaq offers hardware and Internet products in the same way as Dell but Compaq's after purchase care and support seems to be more thorough and they offer solutions as well as actual hardware. Compaq also seems to be a bigger and farther-reaching company.



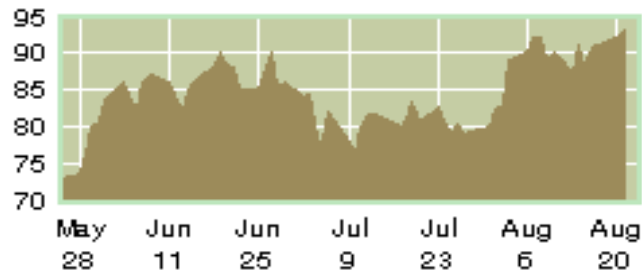
**Figure 20: Apple Share Prices<sup>206</sup>**

It is clear from this graph that Apple (Mac) is not a popular company as far as share prices go. This is to be expected when it is in almost direct competition with PCs and especially Microsoft. Apple has continually struggled to remain competitive with PCs that run with the Windows operating platform. The fact that the Microsoft Office Suite has become basically a standard now in computing means that PCs are becoming almost a requirement. Office versions can be purchased for Apples but doing this involves a conscious decision to buy an Apple because it is better in some respect to a PC and most businesses just require a computer and not a specific type. Therefore, most businesses purchase PCs because they are most common and run most software that companies require.



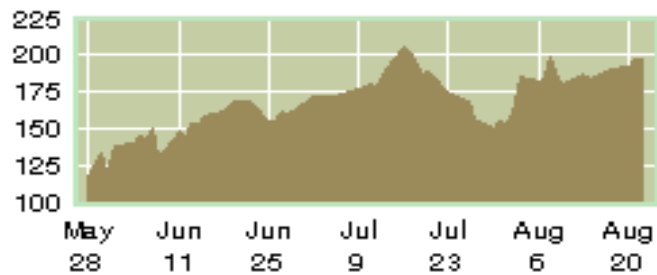
**Figure 21: Cisco Share Prices<sup>207</sup>**

Cisco is another company that produces hardware for Internet access and business. The graph above clearly shows that Cisco retains a steady and growing share price. The company has a good reputation in a field that continues to gain popularity. Therefore, Cisco is a major player.



**Figure 22: Oracle Share Prices<sup>208</sup>**

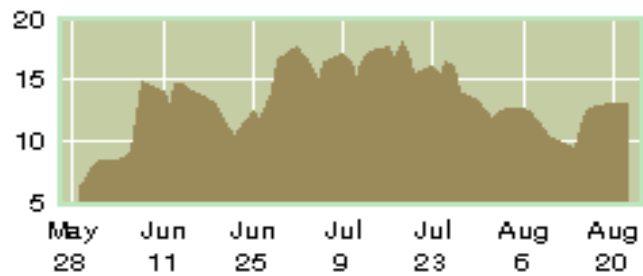
Primary beneficiaries of the current e-commerce boom are solutions companies that provide the framework for business on the web. Two examples of such companies are Oracle and Siebel. The above graph shows that Oracle is popular and growing. As a market leader in this field, this is to be expected. Siebel, as the chart below shows commands a greater share price, supporting their claim of being the largest e-business software supplier in the world.



**Figure 23: Siebel Share Prices<sup>209</sup>**

The Chordiant share price is not as high as either Siebel or Oracle. It is also the only one of the three examples that has a falling share price going into August while the other two continue to grow. Share price is no absolute indicator but it suggests Chordiant is not as popular or successful as Oracle or Siebel. This could be a reflection of Chordiant's nature as

a software developer (specifically CRM) rather than being a 'solutions' company that advises on and designs whole e-commerce solutions for companies.



**Figure 24: Chordiant Software Share Prices<sup>210</sup>**

These share prices indicate the type of environment e-commerce works within. It is an environment of constant change, whether this is the technology that a company is using for its web activities or the actual design of a site in order to keep customer interest. Regardless of the requirement for change, it constantly happens in this industry and those companies involved with supplying technology, software or complete solutions can be very successful.

The rise of CRM as a concept and practice in business can also be used as a reason for such companies to be successful. Chordiant Software is based around CRM and Siebel and Oracle produce CRM solutions within an overall solution framework. Any company that can enable businesses to retain customers in high numbers will be successful in the e-commerce industry. While it remains popular for companies to develop e-commerce elements, or indeed for people to establish purely e-tail companies, software and hardware technology businesses will be successful and they all fight for reputation after that.

## Conclusions

The purpose of this dissertation was to study four different types of e-commerce. The reason for doing this was to introduce and discuss some perceived issues regarding the type of e-commerce before evaluating it. The goal of this dissertation was to form an assessment of different e-commerce types; what is involved in them, are they struggling financially and are people using their services. A more personal goal was to assess whether e-commerce is as good an idea as the hype would make us all believe. Failures like boo.com and high-profile loss-makers like lastminute.com pose questions about the web's suitability for conducting transactions and also about society's willingness to accept such a platform for shopping and/or information retrieval. This dissertation, from a personal point of view, has been written to answer some questions to form an opinion on whether e-commerce is 'a good thing'.

E-commerce can be split into at least the four sections that the introductory Matrix showed. These sections are characterised at a fundamental level by the type of commerce (whether it is completely web-based, or if it is an online 'department' in a bigger company picture) and the goods being sold online (whether they are physical or informational). However, these sections are not completely accurate or 'cut and dried'. For example, Ryanair and EasyJet claim to be Purely Internet-based airline companies and most of their organisation is online. However, there is an element of human interaction involved, at least when checking-in for the actual flight. Similarly, there is debate about whether businesses like Egg (the online bank) are information companies or physical ones. It can be argued that any services Egg offers are informational, especially now so much banking is electronic with switch, visa and electronic transfers. However, at the end of the day, the company is dealing with people's money so there might be a case (although not really a strong one) suggesting it should be an e-tail, physical company. Similarly, Reuters has existed without a web presence so could be categorised as a 'clicks and mortar' company. However, Reuters has been chosen to represent the e-tail informational goods section of e-commerce due to the huge success it has gained from this. So much so that the company is moving online more and more, rather than merely complementing its existing methods.

E-commerce has increased dramatically in recent times. The primary reasons for companies either creating an online presence or creating an entire online business are several. The main one is that it gives companies a perceived edge or advantage. Considering the

Internet's recent influence in most societies, having a web presence accesses new markets of home and office buyers. Through the use of concepts and practices like CRM, Internet companies and businesses using the Internet can lock customers in to their services and products by offering them good products and equally good service. Customers are looking for 'one-stop' shops rather than going to individual stores. This gives vendors the opportunity to build portfolios of individual customers. If someone purchases something, the company can note this. For example, Amazon (amongst other companies) asks customers to log their details so that any purchase can be kept in a record. This allows simple customer welcomes when a user logs-in to the site, but on a higher level Amazon can keep detailed accounts of what customers buy and target material and products towards them accordingly. Similarly, the advertising banners that surround the Hotmail site are tailored towards individuals according to the interests and hobbies they indicate when joining the service.

The interaction of the Internet allows businesses to enter the home or office more effectively. It can also be used to reduce marketing and advertising costs. These costs are still relevant and important but there is less physical advertising in terms of promotional posters, fliers and so on. The majority of web advertising is done on the web itself.

A major advantage offered by the Internet for commerce is flexibility and immediacy. Orders can be placed at any time and will be accepted immediately. They may not be processed immediately but customers can place them. There is a paradox within e-commerce because orders are placed immediately but may not be fulfilled immediately. Also, delivery times result in goods being obtained slower than the time it would have taken to retrieve the good from a shop in the first place. Shopping over the Internet is useful but it will take a change in expectations of shopping for e-commerce to be accepted. It has to become enough of an advantage for customers to not have to shop themselves for goods to offset the extra waiting time for that good. Buying a good must become more about not wanting to 'go into town' rather than 'I want it now'.

The term 'present state' is used here because e-commerce continues to develop, as well as its associated services. For example, Amazon's recent partnership with Toys R Us creates a new choice for consumers. Part of the problem with online shopping is trust; particularly in reference to security of transactions and quality of fulfilment. Toys R Us is a trusted high-street brand and being its partner can do Amazon's image no harm in the eyes of consumers. It also shows consumers that companies value e-commerce and what it allows.

Current Internet shopping is based around a simple model; customers browsing to find a desired product and then purchasing it. This works best for simple commodities like CDs or

books. This should develop into more interactive shopping experiences in which the customer specifies requirements and reviews query results. This would result in customised products and services and would make full use of the Internet's interactivity. Rather than simply taking orders, newer applications should guide the customer through the buying process. Bringing sales together would be an example of this. For example, white goods can be purchased online but it would be advantageous if the customer could also organise the installation, servicing and breakdown cover at the same time. The Internet's interactivity offers the chance to bring sales like these together and reduce sales costs for individual companies.

Other developments in the e-commerce field concentrate on order fulfilment. For example, Express Dairies' decision to partner M-Box in delivering goods purchased over the Internet via their network of milk floats. Similarly, companies like Dynamid are providing solutions to avoid missed deliveries by offering safe boxes to Internet buyers. These boxes can be placed in the home or offices to make sure deliveries are received. Initiatives like this should increase the number of people willing to buy online because their goods should be delivered. It might certainly encourage the online shopping of everyday items like certain groceries as an alternative to visiting the supermarket on the journey home or when the individual could be otherwise occupied.

Grocery shopping is a particularly interesting example. There are so many considerations that come into this type of e-commerce. For example, should the service operate from the supermarkets themselves or warehouses? Tesco have opted for the former option and claim to be profiting from this. There are also logistical issues including the delivery of products. At the present time, supermarkets are designed with visiting shoppers in mind and any e-commerce venture changes this. Huge delivery vans are unsuitable for home deliveries and transit vans may not be suitable either unless they are designed with low floors for access and refrigeration for dairy products and / or perishable goods. It will probably be the case that online grocery shopping will complement supermarket buying rather than replace it. People still like to have 'hands on' when they buy goods and online shopping in general cannot offer this. There are certain groceries that are more suited to online shopping such as tinned or frozen foods, beverages, washing materials, toiletries and so on. The development of online grocery shopping will depend on customers feeling that fresh goods can be confidently purchased without seeing them first. Like any service industry, Tesco and other supermarkets must build consumer trust by providing quality products.

Tesco is an interesting example because its online shopping service forms only a part of its e-commerce activities. Other services Tesco offers include books and CD selling, specific sections to deal with wine and babies and a personal finance service. Broadening a company's activities online is a way of creating some kind of advantage for having a web site. This is in the case of clicks and mortar companies that have developed a web presence to complement existing services. If Tesco's web site was purely online grocery shopping there would be little advantage for the company in having it. However, by offering other services, they can gain more customers and allow existing customers the opportunity to buy online. This appears to be an important part of e-commerce for companies that are not entirely e-tail based but instead are creating an e-commerce presence. Majestic Wine is an example of a company that offers no more with its web site than it already offers through its stores. The company sells wine so what else should they do? Tesco is a supermarket but they now offer financial services. Tesco is doing very well but Majestic profits are down as well as the share price.

E-tail companies that trade in information goods do well in general. Reuters has almost reinvented itself on the web and supplies information to desktops around the globe as well as supplying other information vendors with information. Yahoo and other search engines supply information to browsers all over the world and more specific search facilities like Lexis Nexis are also popular. The examples in this dissertation that do not look so popular, judging by the share prices studied, are The Street and The Dialog Corporation and reasons for this have been discussed. The Street seems to offer similar services to Reuters who already have the reputation. Similarly, Dialog is perhaps not specific enough and people can find a lot of the information they would search for here through a cheaper source.

The primary advantages of information being traded on the Internet are immediacy and customisation. Individuals can establish news alert services that deliver customised news bulletins to their computers. PointCast is an example of such a service. Reuters claim to offer financial information faster than anyone else does and seconds can make a tremendous difference in this field. Therefore, online information vendors with a good reputation can be very successful and the Internet offers great opportunities for information to make a bigger impact. Information can be proactive rather than just descriptive.

Clicks and mortar companies that deliver information could be seen to be at a disadvantage to their e-tail counterparts. If information is so valuable that speed is required, how will more traditional information vendors, even with an Internet presence compete with those companies geared specifically to providing up-to-date information? This misses the bigger



picture. While information providers like The Financial Times cannot hope to give up to the minute news through newspapers, they can come closer to this through FT.com. Apart from this, the FT is targeted towards a different audience from those that demand up to the minute (usually financial) information. The audience may contain the same people but a newspaper is more for general browsing to maintain a view of what is happening in the world in different sectors such as business, finance, politics, sport and so on in a format they can carry with them. The FT is not about providing up-to-the-second information. However, FT.com does offer more in-depth information in all sections because the user does not have to carry it with them. This is another example of the web site offering more than just the traditional services already offered.

CNN are in a slightly different position in that their traditional 'mortar' section of the business actually offers them the chance to update information regularly. However, they are similar to newspapers in that they appeal to an audience looking for an overview of news rather than specific, in-depth analysis and reports. By its very nature, television is a more passive form of information provision and would be of little use to businesses on a working basis. The web site offered by CNN, like FT's, allows more in-depth analysis of news and current affairs. It also offers sections on books, travel, entertainment, nature and local information. It is giving users more than what they would expect from the news broadcast on television.

Microsoft is also in a slightly different position because they offer several services on the Internet. They offer their products and services over the web but they also have an entire web site (MSN) that offers browsers many services including e-mail, entertainment news, games, sports news, business information and many other services. This is very different to what the 'mortar' section of Microsoft offers. In Microsoft's case, the web services they offer could be very poor indeed and the company would not be too badly affected due to their dominant position in the computing industry. It is almost like MSN is a hobby for the company and there is little pressure on the web development so long as their products continue to sell. However, Hotmail is one of the most popular e-mail facilities and it is directly linked to MSN, so many people are being exposed to MSN and its services.

E-tail physical companies are close in theory to traditional catalogue companies. Customers browse for the good they want to purchase and wait for it to be delivered. There are a number of considerations concerning this type of company. One of the main ones (as for clicks and mortar companies that deliver physical goods) is logistics, particularly in relation to order fulfilment. Making sure a purchase reaches the customer quickly and efficiently involves several factors: Order processing, dispatching the good, intermediary services (e.g.

post office, parcel force etc.) and order fulfilment agencies like M-Box and their delivery agents like Express Dairies. Even factors like the size of a letterbox can determine the successful fulfilment of an order. Companies like Dynamid might make an important contribution to both e-tail and clicks and mortar groups in this field by providing a method of ensuring all but the biggest products are successfully delivered.

Clicks and mortar companies selling physical goods are, in this researcher's opinion, the most interesting e-commerce ventures that have been discussed. There are a variety of businesses that fit into this section and the chosen examples reflect this. For example, there are companies that have existed for several years and are developing an Internet presence like Tesco and British Airways while there are companies that are newly developed and are based more centrally around the Internet, like EasyJet. The 'Easy' franchise has now branched into more physical businesses like the EasyEverything range of Internet cafés. Tesco has been discussed already in these conclusions and is an example of a company that is moving online but wants to offer more than its traditional functions over the Internet. British Airways has seen the success of Ryanair and EasyJet and wants to deliver its own services over the Internet.

Selling physical goods over the Internet if this has not already been offered involves substantial change. Tesco have accepted this while Majestic Wine would appear not to have. Tesco realises it must alter to compete, while Majestic is an example of a company that feels they target a market and that is the market they will concentrate on. They rely on their competitors like Virgin Wines not offering as good a service. However, Virgin Wines strength will lie in the fact that people are visiting the Virgin site anyway for other services and may decide to buy wine from them while they are there.

Further e-commerce developments are occurring in the form of different mediums for conducting commerce online. Digital television would appear to be the popular alternative but WAP / UMTS devices and more intelligent games consoles like the SEGA Dreamcast are also options. WAP is slow and only effective for a limited variety of tasks but UMTS should allow more mobile Internet use. Digital television is popular at the moment and numbers of subscribers to the UK's top digital network SKY TV and its digital service OPEN is increasing. As with different methods of shopping, it will probably be the case that having various different outlets for Internet use will increase the number of users rather than displace them. The Internet as experienced through a PC still offers the most thorough browsing experience, while OPEN is geared specifically towards shopping and the services it provides.

Therefore, seeking information is still a PC dominated pursuit, while online grocery shopping or banking may occur more often through the television.

Although it only accounts for a small percentage of commerce, e-commerce is growing extremely quickly. However, there have been recent claims that the bubble has burst and e-commerce is struggling. Examples like the collapse of boo.com, the early disastrous flotation of lastminute.com and even the recent struggles of Amazon have added credence to this argument. However, most dot.coms admit they will make a loss and give themselves a period of time to reverse this. The problem seems to be that this period is stretching. E-commerce is becoming more popular though and some companies are either making a profit (e.g. Tesco) or losses are reducing (e.g. lastminute.com). This shows that people are turning to the idea of online shopping. As it becomes easier to shop online, more people will do it so they can spend their time in other pursuits. It requires a change in people's shopping habits but this has happened before (in food shopping) when supermarkets first developed and then again when 'out-of-town' supermarkets became the norm. Shoppers adjust to new methods of shopping, especially if there is an advantage to it, whether this is price, convenience or not leaving the home. Finally, there seems to be a place for e-commerce in each section that this dissertation has highlighted. The nature of the industry means it will constantly evolve to encourage more shoppers to jump online.

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