

eCommerce: a critical review

Introduction

It is normal, in choosing a critical issue for review in an academic journal, for subjects to be identified which, although topical, are relatively stable, evolve slowly and are therefore capable of leisurely consolidation, analysis and reflection. Key contributors to the development of thinking in the area are identified; broad categorisations of the subject are attempted. A considered research agenda is finally generated which indicates, for interested academics and researchers, profitable directions for future investigation. This is the first critical review issue of the *International Journal of Retail and Distribution Management*. It deals with eCommerce, and it is therefore rather different from the regular experience. Rarely has the retail and consumer services sector been faced with a strategic challenge of such significant complexity and uncertainty, which has grown in terms of that significance so rapidly. Opportunities for leisurely reflection and analysis by academics have been eclipsed by the need for practitioners to take business decisions not in regular corporate time, but in what has emerged as "Internet time". Rightly discomfited by the rush to action, practitioners have turned to business schools, researchers and finally to consultants and, until very recently, has found them wanting in both rigour and quality of insight. Rarely has the academic world, the conventional provider of rigorous analysis, lagged so significantly behind the world of practice:

Academic work on eCommerce is ongoing, but due to the nature of the peer review and publication process, much of this work is not yet in the public domain (Department of Trade and Industry, 2000a).

Is it therefore premature for an academic journal to seek to draw together some of the main themes of discussion and analysis on such a fast-moving topic? *IJRDM* is designed to provide a forum for researchers from a very wide stakeholder group and in doing so seeks similarly to draw insights and analysis from

work in progress undertaken within a wider field than more narrowly defined titles, yet without sacrificing a critical stance. A preliminary assessment is very much in order if the journal is to satisfy many of those stakeholders who look to it for guidance.

Nevertheless, even since this issue's original commissioning by MCB in late 1999 and through its production in May and June 2000 and eventual publication in September 2000, much has changed and will have changed in the so-called new economy. Indeed, there are those who would argue that over the last 12 months, the "problem" has gone away. Whilst the apparently unreal world of Internet stock valuations in the latter part of 1999 had led to substantial and unrealistic expectations about the growth of B2C (business-to-consumer) eCommerce in particular, the downward step change in high technology stocks in the Spring and Summer of 2000 led many to assume that the danger to the old economy was over and a return to historic stability was in the offing. Venture capitalists and Internet incubator companies in North America and Europe have become hostile towards B2C eCommerce, temporarily enamoured of B2B (business-to-business) and even more enthusiastic about more tangible infrastructure projects. But any belief that the game was over would be premature (Christiansen and Tedlow, 2000). Speaking about the "Internet Galaxy" in Oxford in June 2000, Manuel Castells of the University of Berkeley, California observed that conditions of instability might now be the norm in financial markets of the new economy and we should not necessarily expect burst bubbles to lead to a return to stability (Castells, 2000; Giddens and Hutton, 2000).

As this issue also points out, whilst many of the old rules of the game remain intact for retailers and other intermediaries, a number of key ones have changed. Whilst many of the Internet "pure play" companies are counting down the days' cash remaining to them, a number of others have built strong brands and defensible business models and some of them are even making profits. Nevertheless, they remain at the whim of fashion, sentiment and confidence on the part of their investors. Established retail businesses have in general (and with a few notable exceptions) been slow to assimilate the learning of these new entrants and to accommodate them in their developing strategies. This presents real risks:

Consumer companies are particularly vulnerable to rapid change. Ten of the 25 retailers that were the world's largest in 1960 have disappeared. Eight of the 25 retailers at the top in 1997 either didn't exist in 1960 or had nominal sales. Change can overwhelm even the most capable of management teams. The reality of consumer marketing is "innovate or die" (Boston Consulting Group, 1999).

This critical issue does not provide an all-encompassing and inclusive assessment of eCommerce or eBusiness. It deals rather with four discrete areas of the new economy as it affects retailers, and seeks to draw together such authoritative commentary and analysis as exists, from a wide variety of sources, in an attempt to discern convergent thinking. The issue considers first three developments in the consumer-facing marketplace. We explore the extent to which the emergence of new electronic channels to market has led to distinctive and defensible means of business differentiation for new entrants and legacy retail businesses alike. We then explore in particular current thinking about the ways in which pricing and branding appear to work

within an electronic channel. Secondly, we review the ways in which B2B applications of Internet technology have opened up opportunities for existing retail businesses to further pursue productivity improvements within the supply chain and the extent to which such chains are capable of being re-engineered to accommodate the new challenges of electronic procurement and fulfilment. Thirdly, we assess how far we understand some of the organisational change issues to face retail and other intermediary businesses as they seek to accommodate an eBusiness perspective alongside their existing bricks and mortar operations. Finally, with an eye to the future, we take a snapshot of the current thinking on eCommerce futures, which will influence the nature of the marketplace within which retailers will seek to trade over the next decade.

In each case, we consider unresolved questions and issues which may form the basis of a series of future research agendas for both academics and other commentators.

The consumer marketplace

New means of differentiation

Information technology has played an important role in affecting the scale and nature of retailing. For example, IT used in connection with sales-based ordering (SBO) or efficient consumer response (ECR) already allows retail intermediaries to accrue significant cost reductions and raise barriers to entry. John Dawson (1996) suggested that there were three particular types of IT investment, which had led retailers to become more profitable:

- (1) knowledge-based investments provide more creative ways to run the enterprise;
- (2) alliances-based investments between businesses work to generate new or reinforce existing competitive positions; and
- (3) productivity-based investments seek to achieve cost reductions or substitutions in particular business units or processes.

eCommerce potentially offers opportunities in all three of these investment areas for conventional retail businesses. Because it uses wholly electronic means in allowing consumers to conduct commerce transactions, however, it has been consistently suggested that its emergence as a competitive channel to market in practice presents a threat to conventional retail businesses as well as an opportunity for new entrants into the marketplace; indeed, that by their very character the availability of electronic channels serves to lower the barriers to entry for such players, to the detriment of the existing incumbents (Clemons *et al.*, 1993; Davies and Reynolds, 1988). This was termed the “electronic markets hypothesis” by Malone *et al.* (1987). Indeed, disintermediation or the wholesale replacement of the conventional retail intermediary was held up as a showstopper for traditional bricks and mortar retailers, or at the very least providing very considerable disruption to their activities, market share and profitability (Christensen and Tedlow, 2000). Whilst we have witnessed an exponential growth in the activities of the so-called “pure-

play” intermediaries, it is, however, by no means clear that disintermediation has proved possible in any but the most specialised of marketplace niches (such as that for computer software and, prospectively at least, for other essentially digital products and services, and perhaps some commodities). Indeed, a countervailing hypothesis was subsequently developed: that the reality of channel proliferation and new opportunities for different kinds of organisation to add digital value (Rayport and Sviokla, 1995) might in practice result in an effective “reintermediation” of channels with new players and new configurations and networks of actors (Sarker *et al.*, 1996). This process, of course, could well provide opportunities for the more nimble and far-sighted of established retail businesses. Chircu and Kauffman (forthcoming) propose that the extent to which disintermediation is possible is a function of how far value may be appropriated from technological innovations within eCommerce (so that, for example, where a technological innovation can be easily copied, all competitors will seek to appropriate it). They use the example of the corporate travel industry to illustrate the point, but it is not hard to develop other examples. If we accept this as a valid hypothesis, it is not therefore accidental that “pure-play” intermediaries vigorously seek to defend their intellectual and technological property in the courts. (The extent to which Priceline.com is willing to resort to litigation to defend its “Name your own price” patent is an excellent example of this.) Chircu and Kauffman (forthcoming) further suggest that another consequence of the value appropriability argument is that alliances will emerge between electronic players, as well as between electronic and conventional businesses. Again, this is a hypothesis anticipated by Dawson (1996) and witnessed recently in practice.

However, it is difficult to discern clear patterns emerging from the flux of activity that has surrounded eCommerce ventures over the past 18 months. For example, in the early vacuum created by relatively low levels of activity from traditional intermediaries, new entrants flourished particularly strongly, benefiting from exclusive access to the rhetoric, from enthusiastic investors, as well as from unoccupied niches in the marketplace (Table I). Those pure-play operations that

Table I A typology of marketplace niches, with retailing examples

	Businesses	Consumers
Businesses	B2B	B2C
	GlobalNetXchange	EToys.com
	RetailLink	Designers Direct
Consumers	C2B	C2C
	Adabra.com	EBay.com
	Ybag.com	QXL.co.uk
	Letsbuyit.com	
	Priceline.com	

survived cash flow and general management problems have also demonstrated beyond doubt that there are both new kinds of markets to be assembled and exploited as well as new kinds of intermediary roles, which might be difficult, expensive or impossible for established retail businesses to undertake through conventional channels to the consumer.

Product and market redefinition

New entrant eCommerce ventures have proved adept firstly at redefinition of both products and markets. First, we have seen the extension and aggregation of markets for products and services. One example of geographical market aggregation is www.fromages.com, a “lean, light, cheap and soon profitable” French cheese retailing eBusiness. The company offers a small selection of gourmet cheese boards. Founded in 1998 with a €100,000 investment, the company has just three full-time equivalent employees. Yet in mid-1999, it boasted 2,000 regular customers, generated some 50 orders of around 450FF a day, trading seven days a week and 24 hours a day. Around 80 per cent of its orders were exported in 1999. In many ways, operators like fromages.fr are no different from conventional mail order specialogue operators; they are simply rendered more visible, other things being equal, by making use of electronic channels. More sophisticated are those new entrants, which have sought to aggregate markets through the use of benefit, rather than geographical, segmentation. Sawhney (1999a) calls these businesses “metamediaries”. His notion of the “metamarket” takes advantage of the Internet’s more effective capability for linking and aggregating information and knowledge

related to certain kinds of activities in a way that is not possible (or is more difficult) conventionally.

He suggests that metamediaries:

- offer a rich set of related activities that can be clustered together;
- are important in terms of their demands on customers’ time and their economic impact;
- require customers to deal with many product and service providers across several industries;
- are in markets containing integrated middlemen who currently provide channel flows inefficiently and where the buying experience is unpleasant (Sawhney, 1999a).

There are some obvious candidates for unpleasant or difficult buying experiences: car buying, for example, or moving home. But there are also some potentially new markets that can be created which satisfy Sawhney’s (1999a) criteria. These might include childbirth, weddings or holidays (activities referred to by the Henley Centre for Forecasting as “perfect moments”, where there is high involvement by the consumer and where value for time – rather than value for money – is being sought). They may also be able to capture the totality of consumer behaviour in respect of one broad market sector and act as gatekeepers within the channel in relation to the activities of contributory players: examples here would include health care or home improvement.

The second aspect of product and market redefinition of note is the way in which a number of new entrant eCommerce ventures have been able to further erode distinctions between goods and services. Oft-cited Amazon.com has successfully positioned itself as a service provider rather than a book retailer through its reviews, book suggestion service rankings information and such innovations as its consumer small-ads site. Boston-based Streamline.com offers, for \$30 a month, a regular housekeeping service, which includes dry cleaning, video rental, pizza delivery and photo processing in addition to grocery delivery.

The miracle continues. I get home from a business conference to a full house of out of town friends. Milk for the kids? No problem. It’s here. Along with bagels for breakfast and picnic supplies for lunch at Walden Pond. Boy, were my California friends jealous of my “virtual

staff"! (Streamline.com customer testimonial, 19 May 2000).

How defensible are these strategies of product or market redefinition? Can they only thrive in the vacuum created by conventional retailer inaction? Or are they genuine niches but ones that will prove difficult and costly to emulate in physical markets? The jury is still out as the pure-plays consume cash (for example, Streamline.com lost \$20mn in 1999 against net sales of only \$15mn).

New relationships: personalization and agency

Perhaps more worryingly for established retailers, new entrants have also been seeking to create the possibilities of new kinds of relationships with customers, which are dependent upon technology for mediation. Maes has summarised the kinds of features being exhibited by these Web sites, which offer new or complementary opportunities for enriching relationships between retailers and customers (and sometimes between customers and customers) (Table II).

The increasing acceptance of e-mail as a means of interpersonal communication signifies real direct marketing opportunities. Companies such as www.amazon.com, www.lastminute.com and conventional goods and service suppliers are using the medium extensively as a notification channel. More sophisticated intermediaries use software applications to track user behaviour and store user preferences, in order to make relevant recommendations to customers. New intermediaries have become established with the sole purpose of brokering online retailers to the end customer. www.evenbetter.com, for example, has won several awards for its pioneering price comparison service. It is also possible to envisage software development which permits consumers, or groups of

consumers, to negotiate with suppliers direct. The experimental *Kasbah* service at MIT Media Labs derives haggling rules from North African markets and souks to generate negotiating profiles, sticking points and haggling styles for individual consumers, who send off their avatars to discuss prices with similarly virtual retail agents.

The nature of the medium has already allowed a number of variants on conventional fixed pricing to be developed by new entrants to the marketplace (Table III). Priceline.com already offers consumers power to propose offer prices for airline seats, hotel rooms and groceries. Services such as Adabra.com and Ybag.com offer consumer-to-business services involving negotiation with suppliers in response to specific product or model requests by consumers. Ybag.com is also in discussion with suppliers in different vertical markets, such as medical supplies, to license its algorithm product. This decides which retailer receives which requests depending on the relevance of the request and the fulfilment capability of the suppliers. These strategies seem superficially more profitable (or at least less unprofitable) than many. Priceline.com reported a net loss of "only" \$7.3mn on \$313.8mn in revenue for the first quarter of 2000, representing a loss of around 4c per share. It increased its revenue by 525 per cent over the same period one year ago and added 1.5mn customers in the same quarter.

Of course, the most widely discussed new relationship models are those developed by the auction sites, such as eBay, QXL and Ricardo.de. MMXI research suggests that some 8 per cent of active online users in the US are so-called "bargainers" (MMXI/

Table II New kinds of customer relationships

Category	Examples
Notification	Lastminute.com
Recommendation	Internet Bookshop
Merchant brokering	evenbetter.com
Negotiation	Kasbah
Reputation mechanisms	Consumers' Association

Source: after Maes (1998)

Table III Pricing strategies for C2B and C2C businesses

Strategy	Description
Auctions	A seller or an intermediary for the seller entertains bids from a number of potential buyers and controls the auction
Reverse auctions	A buyer or an intermediary for the buyer entertains bids from a number of potential suppliers and controls the auction
Dutch auctions	The price of a product or service is reduced by an auctioneer intermediary until a buyer is found
Collaborative purchasing or exchanges	A neutral party operates an exchange, and sets ground rules for many buyers and sellers. A fee is levied for each transaction conducted

Source: OXIRM

McKinsey, 2000). This comprises some 52 per cent of all eBay visitors. These sorts of sites, MMXI suggests, need to appeal on both a rational and an emotional level. There is both the excitement of “the search” and a parallel desire for community, which sites such as eBay also satisfy (de Koning *et al.*, 1999).

The sociological aspects of online auctions may finally be what drives their success. Americans love flea markets, which is why C2C auctions have become the most popular kind of auctions on the web (de Koning *et al.*, 1999).

To address community-related interests, eBay offers a number of facilities, including:

- category-specific chat rooms;
- the eBay Cafe, a chat room for the entire eBay community;
- a bulletin board devoted to user feedback on new features;
- an announcements section that covers new features on eBay or other eBay news;
- customer support boards; and
- “items wanted” listings where users can post notices seeking specific items.

Certainly, eBay is one of the few Internet start-up companies to be avoiding significant financial pain. Earnings were \$0.06 per share in the first quarter of 2000, with registered users up by 230 per cent year-on-year, revenue up 127 per cent, and revenue estimates for 2000 “up by \$20mn” on previous expectations, according to the company.

Pricing

Many of the advantages we have highlighted in the previous sections have focussed on the ability to manipulate price in a sophisticated way as a key differentiator of Internet start-up businesses. Alba *et al.* (1997) were amongst the earliest to suggest that the Internet presented consumers unparalleled opportunities to locate and compare product offerings. They suggested that such new technological routes to market offered four distinctive advantages:

- (1) faithful reproduction of descriptive and experiential product information;
- (2) a greatly expanded universe of offerings relative to what could then be accessed through local or catalogue shopping;

- (3) an efficient means of screening the offerings to find the most appealing options for more detailed consideration; and
- (4) unimpeded search across stores and brands, and memory for past selections, which simplifies information search and purchase decisions.

New entrants played upon these advantages in the late 1990s, in their development of so-called “frictionless” business models, with which to convince venture capitalists. Value America’s proposition was typical of these:

[CEO Craig Winn] grandly called his e-tailing venture “the marketplace of the millennium”. He described his concept as “alliances of consumption with alliances of production”. Above all, he intoned, Value America permitted “friction-free capitalism” (Byrne, 2000).

The most critical of comparison elements from the consumer’s perspective, and certainly the most discussed, was that of price. The growth of an essentially frictionless information medium, suggested some commentators, would lead to an unparalleled threat to conventional intermediary businesses, which relied upon market imperfections (mainly consumer ignorance) to sustain differential pricing:

The Internet is a nearly perfect market. The result is fierce price competition, dwindling product differentiation, and vanishing brand loyalty. The more perfectly competitive the market, the scarcer the rents (Kuttner, 1998).

Kuttner suggested that in such circumstances, not only were profits difficult to obtain, but that the only response of the players is to “aggressively pursue market power” to, in effect, re-establish their “miniature monopolies”. In a useful review paper, Smith *et al.* (1999) agree that, at least in principle, the characteristics of electronic markets may lead to them being considered to be more efficient than conventional ones. They set out four dimensions of Internet market efficiency, which require exploration in order to satisfy this proposition (Table IV).

We do not have definitive answers to these questions at the time of writing. Whilst there are several detailed studies of pricing behaviour online, the evidence in favour of increased market efficiency is somewhat mixed. A technically excellent empirical exercise by Brynjolfsson and Smith (2000) confirms both the difficulty of the task and the challenge of generalising from too little

Table IV Four dimensions of Internet market efficiency

Dimension	Research question
Price levels	Are the prices charged on the Internet lower?
Price elasticity	Are consumers more sensitive to small price changes on the Internet?
Menu costs	Do retailers adjust their prices more finely or more frequently on the Internet?
Price dispersion	Is there a smaller spread between the highest and lowest prices on the Internet?

Source: Smith *et al.* (1999)

evidence. Nevertheless, at least in respect of the pricing strategies of books and CD retailers online as against conventionally, the authors reached four significant conclusions:

- (1) the online prices of books were 9 per cent cheaper and those of CDs 16 per cent cheaper than identical items offline;
- (2) online price setting was incrementally smaller than offline (typically 1 cent online as against 35 cents offline);
- (3) in terms of price dispersion, there were “substantial and systematic” differences in prices across retailers online; and
- (4) the dispersion of prices weighted by retailer popularity showed highly concentrated online markets. Yet retailers with the lowest prices did not receive the most sales.

The conclusions of the MIT team are instructive. They tell us that, whilst online prices in these categories at least appear to be generally lower and online retailers can benefit from the cheaper costs of price changes (and therefore these changes are more frequent and incrementally smaller), price dispersion is presently as equally pronounced online as offline.

Of course, the relatively immature position of the online marketplace may mean that the mechanisms and environment observed by Brynjolfsson and Smith (2000) and others may not be inherently stable. (For example, Bailey’s (1998) earlier work on price levels within the books, software and CD markets conducted in early 1997 and published in 1998 – contradicts the subsequent findings of Brynjolfsson and Smith, revealing higher prices within similar categories in online markets, although similar levels of price dispersion (Bailey, 1998).)

Indeed, one of the ironies suggested by our data is that, far from being a great equaliser of retailers and eliminating the need for branding as

is so often claimed, the Internet may heighten the importance of differences among retailers in dimensions such as trust and branding (Brynjolfsson and Smith, 2000).

Branding

The heterogeneity of trust that, the research on pricing is beginning to suggest, is currently acting as a brake on frictionless eCommerce, brings our focus directly back to concerns over branding. Investigation of branding within electronic channels also suffers from a blizzard of rhetoric affecting rigorous analysis. Basu contrasts an apocalyptic paradigm (a “transformational” approach) with an integrating paradigm (a “tool-based” approach) (Basu, 2000). Whilst he makes no claims to which is likely to be the dominant approach, we do need to question whether the rules of the game have actually changed between marketer and consumer, at least insofar as brands are concerned. Certainly, most market research suggests that consumers value the familiar online (Table V). Brands, as familiar simplifiers of choice, might be expected to be as sought after online as offline. This should not surprise us given our knowledge of how branding works offline (de Chernatony and McDonald, 1998). However, there are two questions in particular which might occupy our attention. First, are the components that make up brand equity online any different from those offline and second, to what extent have Internet start-up businesses been able to quickly establish brand equity?

“I have my trusted sites, there’s no need to surf anymore” (BCG survey respondent, Boston Consulting Group, 2000). It is becoming clear that trust acts as an important component in brand building online, just as it

Table V Online consumer attitudes

	(%)
Knowing the product’s brand name is important/very important in decision to buy online	82
Familiarity with an online retailer is important/very important	79
Familiarity with an online manufacturer is important/very important	80
Familiarity with an online mall-like Web site is important/very important	52

Source: Ernst & Young LLP (1999)

does offline (Morgan and Hunt, 1994). Basu proposes that a trusted brand is a composite of experience (looking back) and expectation (looking forward) (Basu, 2000). Indeed, trust may play an even more important role online, given the relative unfamiliarity of the environment and of many of the start-up "brands", for the majority of the consumer base. Start-up names such as jungle.com reflect the nature of this environment. But how can we map the development of trust across channels? An important study by Cheskin Research has sought to identify components of trust within the online brand. They suggest that there are six direct elements that appear important in judging the trustworthiness of a Web site (Table VI).

But direct evidence from the site, whilst necessary, is not a sufficient contribution to the generation of trust on its own. Table VII itemises several components of trust within brand, which also includes an assessment of overall brand equity (what a company stands for outside its Web presence), and the relationships it has with other organisations that the consumer may use to reinforce the trustworthiness of the home site.

Of course, we should not expect these attitudes to be necessarily uniform across different categories of online consumers. A number of management consultancy, geodemographic and lifestyle companies have sought to differentiate online consumer segments. These analyses have ranged from the straightforward to the sophisticated. The Boston Consulting Group identifies three segments of online shoppers amongst 250,000 US Internet users: pioneers, early followers and first-of-the-masses, based purely upon tenure online (BCG, 2000) (see Figure 1).

The BCG analysis confirms the nature of eCommerce adoption, as conforming to what we would understand as a straightforward innovation-adoption curve, with greater tenure leading to more active involvement in both online browsing and purchasing. We might expect (although there is no rigorous evidence to confirm this suggestion) that maturity in relation to online behaviour will also be differentially distributed between user groups. However, the more recent analysis undertaken by McKinsey and the new media measurement group MMXI developed a more complex lifestyle segmentation. Half of all Internet users were classified as "most active users" and this subgroup were further divided into six further segments. The segments are differentiated according to each user's active time online, pages and domains accessed, and the amount of time spent per Web page (MMXI McKinsey, 2000) (see Figure 2).

This approach to segmentation is more useful in providing a sophisticated insight into consumer behaviour online; although there is still a tendency to resort to convenient rhetoric and jargon ("sportsters"; "connectors") as analysts struggle to come to terms with new manifestations of consumer behaviour.

To some extent rhetoric and jargon have also clouded our insights into the second question: to what extent have Internet start-up businesses been able quickly to establish brand equity? Commentators have been quick to point out the apparent success of amazon.com in building what they refer to as brand equity over an exceptionally short period of time (Vandermerwe, 1999). Others have been more sanguine:

... having an established brand or selling well-known products is likely to be a major advantage

Table VI Six primary components in building eCommerce trust

Type	Description
Seals of approval	Security brands such as Visa and Web-based seals of approval such as VeriSign and Consumers' Association Web Trader
Brand	Retailer's promise to deliver, based on reputation and previous experience
Navigation	Ease of finding what the customer wants
Fulfilment	Indicates how orders will be processed; reassures on remedies
Presentation	High quality and professional site design
Technology	State of the art denotes professionalism, despite any difficulties in use

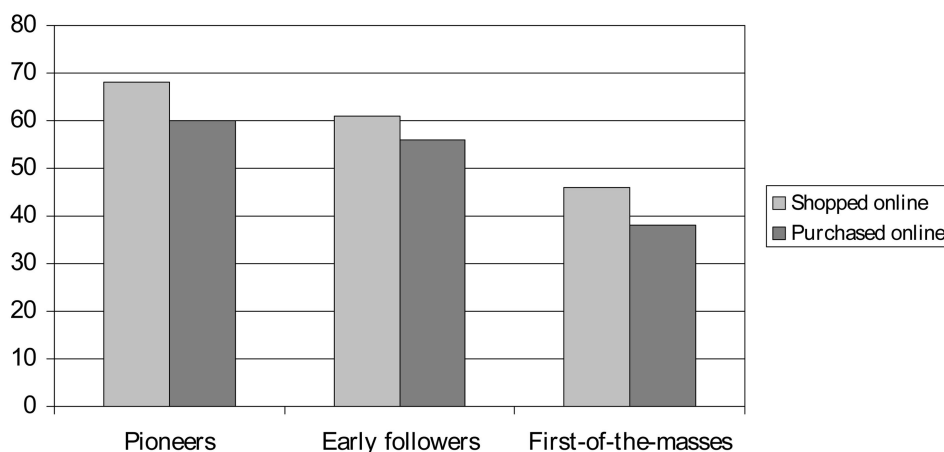
Source: Cheskin Research (1999)

Table VII Components of trust within brand

Component	Description
Overall brand equity	Consumer awareness of what this company does for consumers outside of the Web
Web brand equity	How well the company's Web site fits with consumers' sense of what the company is about generally
Benefit clarity	How easy is it to determine what the site is promising to deliver on the first visit
Portal/aggregator affiliations	Mention of an affiliation to portals and aggregators such as Yahoo! Lycos, etc.
Co-op third party brands	Promotion of third party quality brands
Relationship marketing	Sending updates and other notices to consumers
Community building	Facilitating interactions between individual shoppers
Depth of product offering on site	How many varieties of product the site contains
Breadth of product offering on site	How many types of products the site contains

Source: Cheskin Research (1999)

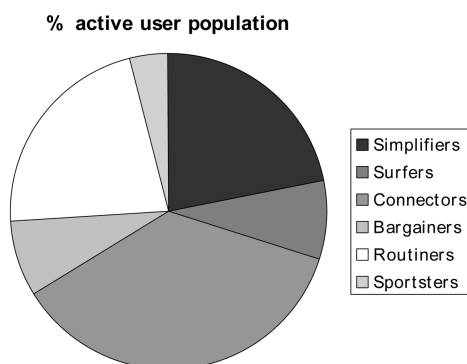
Figure 1 Online shopping and purchasing by segment, US, 1999 (percentage segments)



Definitions: *Online shopping* defined as using the Internet to research or browse products, compare prices etc., but not necessarily for purchasing; *Online purchasing* defined as ordering a product or service online and completing the purchase/transaction online. *Pioneers* defined as having been online for 36 months or more; *early followers* for 13-35 months and *first-of-the-masses* for 12 months or less.

Source: Boston Consulting Group, 2000

Figure 2 Segmentation of most active Internet users

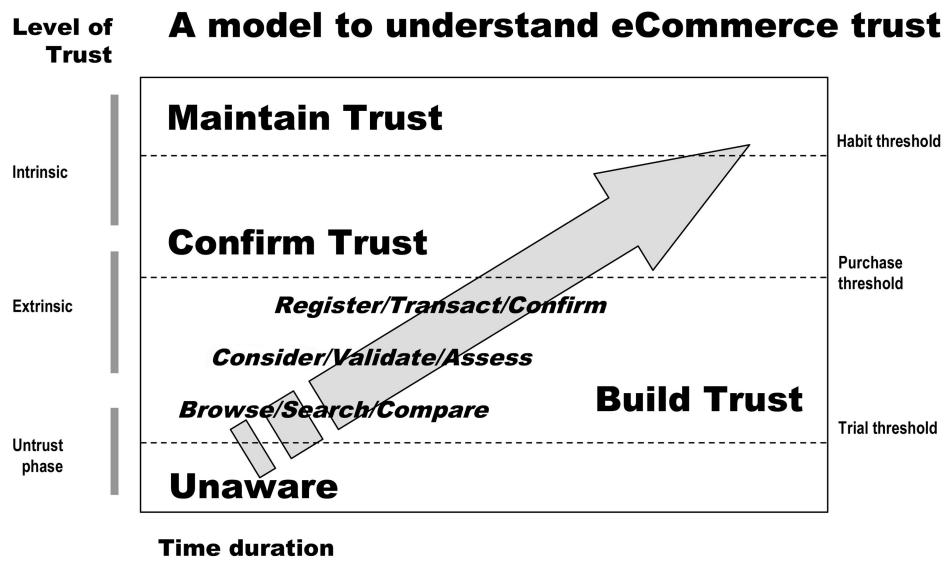


Source: MMXI/McKinsey (2000)

for a company setting up shop on the Internet at least in the early going. But as Amazon.com has demonstrated, the "brand edge" is short-lived and vulnerable to the efforts of innovative and nimble competitors. So the message really is that whilst brands can help you get a foothold in cyberspace, they're not enough – on their own – to sustain competitive advantage (Crawford, in Ernst & Young LLP, 1999).

We should also bear in mind Basu's (2000) observation that successful brands combine consumer experience as well as expectation of performance, that is, building a history of experience for the consumer is a critical element of brand-building online (Basu,

Figure 3 A model to understand the development of eCommerce trust



Source: © 1999 Copyright of Studio Archetype and Cheskin Research

2000). Cheskin Research has some useful insights here also. Its proposed model seeks to understand the development of trust over time (Cheskin Research, 1999) (see Figure 3). This is premised upon the need to build experience of the online brand rapidly, to reach a level of “intrinsic” trust.

It is still too early to say whether such trust building is effective in practice and how the experience may differ between online start-ups and multi-channel businesses. However, recent research by the shop.org site in the US

suggests that a higher proportion of repeat buyers are to be found amongst multi-channel retailers trading online and that repeat buyers constitute 45 per cent of revenue for these organisations, compared to 30 per cent for the online pure-plays. This would seem to reinforce our understanding that start-ups spend their marketing budgets on customer acquisition, whilst established retail businesses have successfully sought to build brand awareness online and to transfer brand values and customers from offline channels.

Supply chain, distribution and fulfilment

Business-to-business developments

With continuing uncertainty affecting business strategies and the scale and nature of consumer behaviour on the demand side, it was almost with some relief that, in the latter part of 1999, established retailers acknowledged the growth of interest in applying Internet protocols to supply chains and to the transactions taking place between retailers and their suppliers. Here at last was an application with which they were intimately familiar and where the leading members of the sector were demonstrating a high degree of competence. In the UK, Tesco's Information Exchange (TIE) was just one of a number of examples of a retail business moving its electronic data interchange towards an open standards extranet. Here, the emphases were very much on cost savings to the various parties through technical standardisation and the improvement of access by smaller suppliers to larger buyers (Morgan Stanley Dean Witter, 2000; Cuthbertson, 2000). Suppliers would also benefit from joint planning, tracking and evaluation of promotions, reducing the effort required setting up promotions as well as minimising stock outs and production waste. Tesco trialled the system not only with Procter & Gamble, CCSB, Nestle, Britvic, St Ivel but also two smaller suppliers, St Merryn Meats and Kingcup Mushrooms.

This kind of single firm, or one-to-many exchange, in many cases represented a simple transition for a conventional retail business. There is already investment being made in automating and simplifying the supply chain. It is a natural extension to seek to use Internet protocols to undertake these processes. More challenging for established retail businesses is to collaborate either with a third party exchange provider, or with other intermediary businesses (perhaps even competitors) to develop consortium business-to-business collaborative buying ventures (Table VIII).

A great many B2B exchange marketplaces have been established since the middle of

1999. *The Economist* estimated that there were already over 750 exchanges in existence in the first quarter of 2000 (*The Economist*, 2000). Morgan Stanley Dean Witter's detailed investigation of these explored 170 emerging B2B companies in more than 70 industries. They determined that companies were making use of at least eight different business models (Morgan Stanley Dean Witter, 2000). However, relatively few of these exchanges have been in retailing. In part, this is because retailing at least at the global scale is relatively fragmented compared to such highly concentrated markets as automotive or steel, which offer much more attractive opportunities for collaboration.

The first substantial retail marketplace to be established was between Carrefour-Promodès, and Sears, with Oracle as the technology partner. GlobalNetXchange (GNX) has subsequently invited J Sainsbury, Metro, Kroger and Coles-Myer as equity partners. Between them the organisations comprise over \$250bn in annual sales. Reportedly stung by this alliance, other companies attending the Turin meeting of the newly established global commerce initiative, in March, announced the formation of the Worldwide Retail Exchange in early April. The 11 founding members (including Kmart, Albertson's, Safeway US, Target, CVS, Ahold, Auchan, Casino, Kingfisher, Marks & Spencer and Tesco) represent over \$300bn in annual sales. Unlike GlobalNetXchange, partnership is open to all retailers to join. The founding group has been joined at the time of writing by Delhaize, Jusco, Walgreen, J C Penney and Gap, bringing the total buying power of the consortium to over \$400bn, although the group has yet to appoint a technology partner. A much more open exchange than GNX, each WRE partner holds only a 5 per cent stake. No doubt there will soon be a number of other examples in existence as well as broader membership of both exchanges.

GNX consortium members suggest that there are four specific benefits to membership:

- (1) greater efficiencies and cost savings in buying on the Web;
- (2) collaborative buying opportunities for non resaleable goods;
- (3) more efficient planning and forecasting in supply chain;

Table VIII A typology of B2B exchanges

Type	Description	Examples
Single firm	Transfer of existing manual or batch EDI processes to extranet	Tesco Information Exchange
Consortium	Alliance of competitive and non-competitive businesses through jointly owned subsidiary	GlobalNetXchange World wide Retail Exchange
Third party	Independent business offering B2B intermediation platforms	Commerce One Ariba MySAP.com

Source: OXIRM

(4) increased range and choice of sourced goods, particularly in own label goods (J Sainsbury press release, 23 March 2000).

“Ultimately”, the press release continues, “Sainsbury’s aims to purchase 75 per cent of its goods through GlobalNetXchange”. Although Sainsbury’s first public use of the GNX consortium was to source three months’ supply of own brand mild cheddar cheese (some 11,000 tons) through a reverse auction process, auctions are only one of the possible types of order matching procedures which collaborative e-procurement is likely to involve (Table IX).

It is likely that the catalogue order type will be the most common. Nevertheless, the reverse auction model has received the most publicity. In the GNX version, the companies that are invited to take part in closed auction are sent a training package explaining how to take part; they are given a password to the system and specifications for the products as well as the purchasing company’s business terms and conditions. The auction typically lasts for a few hours on the Internet and bidders will be able to see the lowest bid amount at all times (although not the identity of the bidder.) At the end of the auction the final bid will be known but again the other

bidders will not know the name of the successful bidder. GNX suggest that the final decision will not always be just based on price.

Third party exchanges in retailing have also been growing rapidly. Commerce One, Ariba and MySAP.com all offer neutral ground for e-procurement and exchange activity. Surplus to requirements retail merchandise is also capable of being cleared through such exchanges, although to date these have generally been bespoke in nature rather than organised by the dominant third party exchange businesses themselves. For example, CloseOutNow.com auctions excess fashion inventories and has exclusive agreements with shippers in Europe and the Far East. There are a number of other start-up businesses, such as rebound.com and redtagbiz.com that have moved to occupy this specialist niche. Rebound.com, for example, uses sealed-bid auctions to expedite the clearance of surplus merchandise from North America to Asian markets and vice versa.

But what are the real, rather than the expressed, benefits and costs to retailers and suppliers of new supply chain arrangements of this kind? The first observation must be that there has been much rhetoric, but relatively little action, at the time of writing, in respect

Table IX Types of order matching

Type	Temporal matching	Pricing	Good fit
Dynamic pricing	Real time, frequent trades	Volatile; real time	Commodities; narrow selection; spot buys
Catalogue	Recurring orders negotiated pricing	Standard or negotiated pricing	Standard products; broad choice; industrial markets
Auction	Infrequent trades	Wide disparity depending on bidders	Standard and non-standard products; used equipments; programme buys
Request for proposal (RFP)	Weeks or months per transaction	Custom pricing; negotiated	Complex services and products; custom specs

Source: Morgan Stanley Dean Witter (2000)

of the new retailer-owned B2B marketplaces. GNX has undertaken limited pilot purchasing; WRE has yet to appoint a technology partner. Involvement in the exchanges is not inexpensive – likely annual costs for a typical GNX member are estimated at £30mn and it is estimated that the founding members of WRE have invested \$100mn to start the venture although, of course, these costs need to be set against the anticipated benefits in cost savings through buying on the Web. In part, of course, these must be seen as fashionable investments. Nannery (2000) observes that “what troubles many experts in the field of B2B eCommerce is the lack of direction these nascent exchanges have shown. Most have poorly articulated mission statements, and few have given more than cursory thought to the technological infrastructure to support their plans”. The extent to which they will genuinely drive down costs is, at this point, unknown. Hubbard and Kelly propose that such partnership arrangements are now being pursued for a number of different reasons, but that: “for food retailing, size matters in securing purchasing power; in non-food, size is important only when delivering supply chain success”. But Hubbard and Kelly (2000) conclude that the correct choice of partner is critical in determining such success.

This suggests that there are a number of more subtle barriers to effectiveness that may need to be assessed. One of these is the degree of difference in objectives between the consortium members. These are likely to be more apparent in the highly concentrated buying exchanges such as between Ford, DaimlerChrysler and General Motors than within the relatively fragmented retail sector. Indeed, one view is that collaborative buying is likely to be the least practical application of these consortia:

A common misconception about the online exchanges is that one of their primary functions would be as group-buying forums ... Though possible, that is unlikely. The probable value of the exchanges is as informational exchanges where business partners could exchange information in a common format quickly and efficiently. Most buying relationships will likely remain one-to-one, even if the buys are executed via an online exchange (Nannery, 2000).

Yet, within WRE we can already see several companies often perceived as archrivals: Target and Kmart, for example. WRE members will keep proprietary information

and trading negotiation data confidential and this may hinder the effective operation of the marketplaces in the way that Nannery suggests. There may also be emerging significant anti-trust concerns within the US and the European Commission over the market power of such exchanges in practice.

Above all, however, if such marketplaces become as dominant in retailer's procurement planning as Sainsbury's propose, they are likely to have a significant impact upon the nature and quality of retailer-supplier relationships. They may lead to suppliers seeking to become either the lowest cost provider or an innovative, unique product provider. Cuthbertson (2000) comments:

Are these real adversarial auctions designed to ensure that the retailers are supplied at lowest cost for the product quality desired, or are they mock auctions designed to ensure that the retailers' current suppliers provide excellent value for money? While either of these approaches may seem reasonable, history suggests that such constant pressure focussed solely on suppliers' prices eventually leads to instability and conflict throughout the industry (Cuthbertson, 2000).

Consultant Walter Loeb highlights another aspect of the relationship impact: “It'll be much harder for suppliers to market themselves. On the retailer side, I still think that personal contact is necessary”, (quoted in Frook, 2000). Loeb questions the extent to which large proportions of procurement can be anonymously automated; he suggests that this will be at the expense of much of the creativity, innovation and flexibility in retail buying.

Fulfilment

Distribution does matter (Bill Curry, amazon.com).

The second broad supply side preoccupation for eCommerce is that of fulfilment. A company's choice of distribution channel is influenced by several factors, according to Hill and O'Sullivan (1996). These include consumer and product characteristics, the nature of the company's organisation, the nature and extent of competition. Yet the final fulfilment strategy within the eCommerce channel has for long been a neglected aspect of a company's deliberations. Davies and Reynolds (1988)

observed that few economic models of home shopping in the 1980s took proper account of the costs of fulfilment. This neglect seems only recently to have begun to be addressed:

Unlike last year [1998] in the US when server outages dogged new Internet start-ups through heavy demand, and inadequate stocking and fulfilment arrangements held up delivery, most companies this year [1999] had remedied the problem (Reynolds, 2000a).

A recently produced consultative document produced by the UK's Foresight programme commented that in respect of eCommerce logistics and fulfilment, "many important questions ... remain to be answered" (Department of Trade & Industry, 2000b). In many cases for Internet start-ups, "remedying the problem" consisted of building up a massive and expensive inventory to minimise out-of-stocks, rather than developing a coherent stock control and fulfilment management strategy. For a few, detailed and expensive fulfilment strategies were begun during 1999. For example, the California-based Webvan online grocer service (www.webvan.com) announced its proposal to invest over \$1bn in 26 fully automated warehouses in US metropolitan markets to be part-financed and constructed by Bechtel between 2000–2003.

Until relatively recently, academics have undertaken little detailed conceptualisation of fulfilment issues through electronic channels. Two main strategies applied, according to Ranchhod and Gurău in their 1999 study of 500 companies using the Internet as an element of their integrated international distribution (Table X). Within the direct

distribution category, in addition to mainstream third party carriers such as FedEx and UPS, we have seen the rapid growth of specialist eCommerce fulfilment businesses, such as www.ExpressAction.com.

This relatively simplistic categorisation has been overwhelmed by the rich variety of approaches to direct distribution that have been recently developed both by new entrants and by established retail businesses. More recent UK research identified that UK grocery retailers online are using two basic logistics models: store-based order picking and e-fulfilment centres (Department of Trade & Industry, 2000b). Three other possible variants were identified:

- (1) e-fulfilment centres at the same location as existing stores;
- (2) e-fulfilment centres at the same location as existing regional distribution centres; and
- (3) a centralised e-fulfilment centre with the picked orders being distributed to existing stores, for onward distribution to the consumer.

An attempt to devise a more comprehensive typology for retailer fulfilment strategies has been undertaken by Sawhney (1999b) in his study of "the pipes that bring eCommerce home". It is still nevertheless difficult to place all the existing fulfilment variants offered by retail businesses into one of these categories. For example, Tesco Direct's predominantly store-based pick-and-pack service runs alongside an element of warehouse picking, and is a very much hybrid strategy. In fairness, Sawhney (1999b) calls his analysis of distribution a series of "approaches" rather than strategies. It does take us a lot further in understanding the relative positioning, competitive advantages and challenges of distinctive approaches to fulfilment (Table XI).

For example, Streamline.com's virtual housekeeping service offers enormous scope to the time-pressured consumer. For \$30 per month, Streamline – based in Boston, Washington DC and Chicago – will make weekly deliveries of favourite products and services. Products will be delivered to a free, full-size refrigerator, (the Streamline Box) accessed via a keypad entry system in the garage. Services include dry cleaning, shoe repair, video rental, picture processing and UPS shipping pick-up. Local sources are used

Table X Strategies for Internet-enabled international distribution

Strategy	Description
Direct	
distribution	Customers attracted to the company's Web site, provided with all necessary information about offered products and then with the possibility of buying the products online. Then, the acquired product is transmitted to the customer either through online distribution or through direct shipping
Intermediate	
distribution	Customers provided with essential online information about the product, the company and its international distribution network. Potential customers may identify required product, find the geographical location of the closest selling unit and contact them directly

Source: Ranchhod and Gurău (1999)

Table XI Approaches to distribution strategy

Item	Portal	Overbuild	Caching	Speed	Niching
Strategy	Aggregate demand across categories within a household	Aggregate supply and demand across households	Reaggregate bulk by using collection points	Focus on time-sensitive and “emergency” delivery solutions	Focus on specific categories or specific delivery solutions
Competitive advantage	Scope	Scale	Centralisation	Speed	Specialisation
Associated values	Customer intimacy	Operational excellence	Operational excellence, customer intimacy	Operational excellence	Product leadership
Key challenges	Delivery boxes (cost, reluctance) Matching delivery cycles across categories	Capital intensity High execution risk	Designing appropriate pickup locations Limited throughput	Maintaining delivery guarantee Small order sizes Low volumes	Narrow scope Limited scale Risk of being overcome by scale/scope players
Examples	Streamline.com	Webvan.com	Waitrose@Work	Pink.Dot.com	FurnitureFind.com EthnicGrocer.com

Source: after Sawhney (1999b)

in the majority of categories. Streamline distinguishes between its “virtual channel” of two-way exchange of information through the Internet and its physical channel, or direct distribution system, operating from its dedicated fulfilment centre (Streamline.com Annual Report, 31 March 2000). Whilst an all-encompassing service, Streamline is clearly vulnerable not least because of the intimate relationship it needs to develop with its customers, gaining access to their homes and lifestyles. It is also vulnerable because of the fragmentation of the merchandise and service mix and the consequently wide variation in fulfilment requirements this generates across categories. These include the need to operate a so-called “backhaul” return service for videos and other service items. Partly because of its expansion in the latter part of 1999, the company reported a \$20mn loss on continuing operations against net sales of \$15mn in the year ending January 2000.

By comparison, new start-up online grocer Webvan.com focuses upon “doing fulfilment better” through more efficient distribution strategies than conventional grocery retailing:

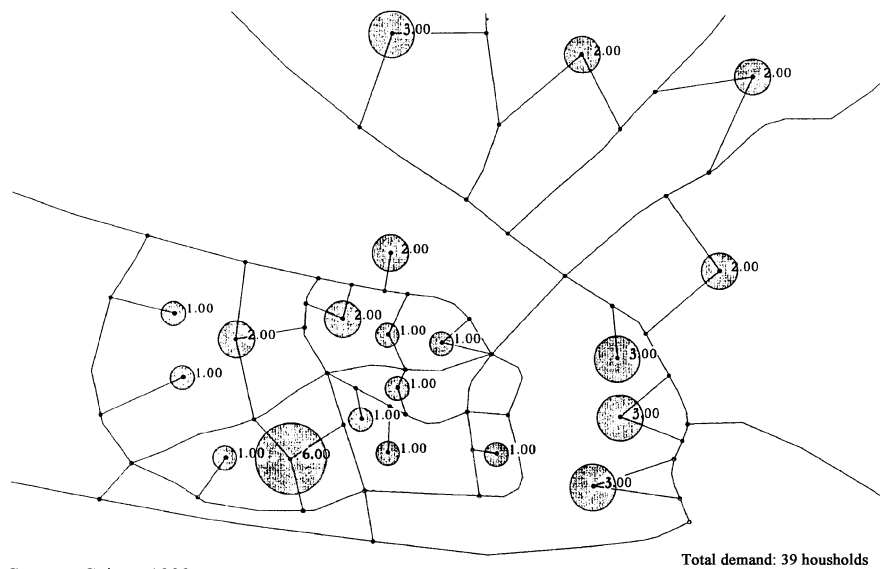
Commitment to service is evident throughout the entire fulfilment process until the order arrives at a customer’s door. Webvan’s delivery couriers do more than deliver – they serve as dedicated customer service professionals and act as Webvan’s ambassadors to customers. In this capacity, they build one-to-one relationships with customers, ensure that orders are complete, hand deliver items in a timely manner, gauge customer satisfaction, and monitor quality (Webvan Company information, 2000).

These are ambitious claims and seek to inculcate the business’s brand values in the fulfilment model. Furthermore, Webvan’s “overbuild” approach is a high risk one. By the end of December 1999, the company’s accumulated deficit was running at some \$159mn. Its single existing automated distribution centre in Oakland was running at only 25 per cent capacity. It boasted only 47,000 customers (Webvan SEC filing, March 2000).

Aspects of Sawhney’s classification can also be closely aligned to a benefit segmentation of personal eCommerce (Jobber, 1998). His portal approach typifies a retailer seeking to build a relationship with a consumer wishing to simplify their lifestyle through timesaving benefits. His speed approach addresses the need of consumers for emergency purchases; whilst caching fits well with different shopping occasion opportunities, as well as providing reaggregation efficiencies.

Finally, duplication of supply chains or emergency replenishment services hardly represent environmental good practice. Relatively little attention has been devoted to the environmental impact of remote ordering and delivery. OXIRM (1998) suggested that constraints on personal mobility – such as a carbon tax or road pricing – might improve the attractiveness of home delivery or pick up from local collection points. However, anecdotal evidence suggests that in the absence of significant mobility constraints, individuals and households will tend to

Figure 4 Modelling of eCommerce demand in Witney



substitute commodity-based shopping trips for more attractive leisure- or comparison-based shopping activity. Cairns has made some empirical studies of the impact of grocery delivery in terms of trip generation (Cairns, 1998). Her conclusion from a limited modelling exercise was that even if two-thirds of households within her study area undertook parallel shopping trips, overall trip mileage would be reduced if home delivery of groceries were introduced (Figure 4).

Such concerns of sustainability are important if eCommerce is to take a significant market share of certain categories of business. But, finally, not just environmental sustainability is at issue. Some commentators argue that fulfilment choices have environmental, economic and social sustainability implications (Department of Trade & Industry, 2000b):

- *Environmental sustainability.* The overall impact on traffic levels will depend upon

the balance between total distance travelled by home delivery vans and the impact that this has upon customer travel behaviour.

- *Economic sustainability.* The ability of grocery and other eCommerce sectors to flourish will depend upon providing a high quality service at competitive cost. This in turn requires effective communications with customers and suppliers and cost effective management of the logistics function.
- *Social sustainability.* Exclusion from eCommerce services may become an issue for those who live in deprived urban environments, in rural areas or whose homes are not compatible with unattended delivery technology. The use of local collection/delivery centres may help overcome these barriers (Department of Trade & Industry, 2000b).

Organisational change

Organising for eBusiness – both in terms of appropriate organisational behaviours as well as of effective organisational designs – is an activity that many established retailers have tended to neglect. A Jupiter survey in late 1999 revealed that whilst 66 per cent of business sites surveyed had dedicated Web staff, many were poorly integrated within the parent organisation and their roles were poorly defined. “Jupiter recommends that companies create a central Internet group (CIG) directed by a chief Web officer and composed of dedicated staff for each business function” (Dodd, 2000). Yet is the solution as simple and as straightforward as Jupiter suggests? If it were, then the somewhat complacent comment below would make a convincing argument for traditional businesses poised to invest in eCommerce:

It's not important that German retailers are rather slow in e-Business. What counts is that they have enough horsepower to overtake others and to take over smaller companies to buy expertise (Nikolai Baltruschat, Deutsche Bank).

Organisational behaviours

“Buying expertise” may not be as straightforward as many expect. We already know that conventional retailers have, in general terms, acquired organisational habits that are not well aligned to the needs of eCommerce. The Boston Consulting Group's research (1999) on behaviours in consumer markets identified four undesirable traits amongst the businesses surveyed. They suggested that the increasing complexity to be found in such firms resulted in inflexibility and slow decision-making processes. They noted a tendency towards internal conflict and stratification, as well as a leadership that would tend to emphasise capital investment as a solution to all problems. Finally, the movement towards centralised control, which characterised the typical consumer goods business, would carry with it limited co-ordination among divisions and a weakened sense of market trends and dissatisfactions (Boston Consulting Group, 1999)

These features conflict with what we know about the cultural characteristics of pure

eBusinesses, although recent anecdotal evidence shows that many of these attributes may not necessarily be positively correlated with profitability and success. Moore describes eBusinesses as predominantly flat organisations with quick decision making, where risk taking is encouraged and failure is merely education. Such companies, he suggests, use guiding principles rather than procedures and tend to lead by example (Moore, 2000).

When these two types of cultural environment are brought together, unexpected and perhaps dysfunctional behaviours may be expected to emerge. For example, Kmart Corporation and Softbank Venture Capital formed BlueLight.com in 1999 with an additional investment by Martha Stewart Living, one of Kmart's most successful in-store brands. By servicing Kmart's US consumer base, BlueLight.com was intended to become an industry-leading, integrated e-commerce company. BlueLight.com also offered free Internet access nationwide. The “blue light” is derived from the special blue light offers, which are a well-known characteristic of Kmart stores. Less well known are some of the ways in which old and new economies seek to work together:

For the 90 or so employees at BlueLight.com, long hours at the office are not enough. To draw a paycheck they have to jump through hoops. Every pay period they must buy something – anything – at two Kmart stores and bring in receipts as proof. They are required to own a Kmart cash card. And Tuesdays are Kmart days: Everyone is asked to show up to work clad in Kmart clothes.

BlueLight.com has also recently appointed a new vice president and general merchandise manager, transferred from the Kmart bricks and mortar business. The accompanying press release proposed that Steve Ryman's “... proven ability to manage across categories and work successfully with suppliers and creative teams to ensure disciplined execution of merchandising strategies will be of great benefit to Kmart and BlueLight.com”. These are two very different forms of discipline from a conventional retailing business seeking to instil some control and sense of belonging into its otherwise wayward start-up. It remains to be seen which is likely to be the more successful approach.

Of course, not all “hybrid” ventures exhibit such dysfunctional behaviour. For example,

Yorkshire butcher Jack Scaife has become a global business as a consequence of £1,000 spent on developing a Web site within the Classic England on-line shopping mall (<http://www.classicengland.co.uk>), although the owner of the business claims to have resisted early pressure from his son and daughter to divert local advertising spend into Web site design. The company's subsequent success, however, has been well-documented. Ten months after setting up the service, some 20 per cent of the company's business – half from outside the UK – comes through the Internet. It has been suggested that small businesses may in fact be more flexible organisationally. Certainly, UK SMEs are of the view that eCommerce has provided greater "e-quality" for smaller businesses in relation to their larger competitors (Nextra, 2000).

Organisational strategies and designs

Given cultural and organisational differences between "new" and "old" economy businesses that appear to be emerging, the ways in which established retailers set up their Internet operations is therefore extremely important. Again, little work has so far been undertaken on this aspect of eBusiness, although earlier work on the impact of inter-organisational networks in general upon business organisation provides helpful insights into what we might expect to find (Steinfeld *et al.* (1996).

From his work across a range of businesses extending existing operations online, Moore (2000) identifies five models of eBusiness organisation (see Table XII). He suggests that the presently most successful models are those which retain an Internet culture in a parallel or Greenfield operation.

An excellent example is the way Moore positions the Internet strategy of European home improvement, electricals and general merchandise retailer Kingfisher as "Greenfield in parent firm". At its Spring 2000 results meeting, the company made a preliminary announcement of its corporate strategy for eCommerce (Reynolds, 2000b). Previously, its complementary channels activity had involved purchases of online businesses such as www.screwfix.com and investment in ISP LibertySurf and the German DIY site www.heimwerker.de

(totalling £135mn of investment in the 1999-00 financial year). The announcement of eKingfisher represented an integration of these various initiatives within a formal organizational structure reporting to a main board director.

The eKingfisher business was formally announced in June 2000. The company has developed a "3E" strategy: exploit, extend and explore. Advantages derived from the Internet will be exploited both within and between existing sectors of the bricks and mortar business. A prime example of this is the company's involvement with the WorldWide Retail Exchange. Second, eKingfisher will extend current brand propositions online, through – for example – the expansion of Screwfix into Europe. Third, eKingfisher will explore new opportunities. A home portal for Europe will be developed. Improveline.com, a builders' recommendation service, will be launched. Think Natural.com, a site concerned with healthy lifestyles, will be developed. To manage these activities, Kingfisher has set up a Greenfield-in-company business. The new CEO reports directly to the holding company's CEO and the Internet culture has been "corralled" (see Figure 5). It remains to be seen how well the sectoral teams will relate to the bricks and mortar operating businesses.

The wide variety of organisational designs to be seen clearly does not represent a static position. The evolution of retailers' organisational strategies towards eBusiness is therefore also of interest. Moore already discerns a large number of movements between different organisational forms (Moore 2000). Some of these are shown in Figure 6. They vary substantially and enormously and, of course, are related to the business's overall objectives in eCommerce. Nevertheless, Moore suggests that most organisational designs will tend to converge on an integrated model over the next two to three years as businesses overcome mismatches in culture and outlook. This conclusion is confirmed by KPMG, which examines the ways in which networked organisations more generally are evolving. KPMG proposes that businesses develop through four stages in network development, mediated by technology:

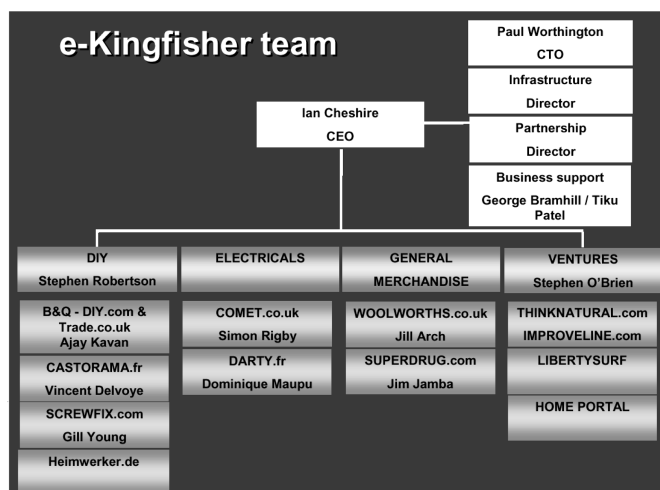
- *Stage 1.* The initial fragmented period, describes the classic silo organisation.

Table XII Five models of eBusiness organisation

Key issues	Greenfield in parent firm	Semi-autonomous in parent firm	Integrated in parent firm IT	Integrated in parent firm in functions	Parallel organisation
Degree of management control	Low	Medium	Medium	High	Low
Contribution of shareholder value	Potentially high	Low (today)	Low (today)	Low (today)	Medium
Retaining culture	High	Medium	Low	Low	High
Impact on owner firm culture	Very low	Low	Low	Medium?	Potentially high in longer term
Alliances	High	Medium	Low	Low	Medium
Attract/retain people	High	Medium	Medium	Low	High
Examples	Kingfisher	TeleDanmark OCBC	Lockwest	Volvo cars Nokia	NorTel

Source: Moore, 2000

Figure 5 e-Kingfisher management structure



Source: Kingfisher analysts' presentation, June 2000

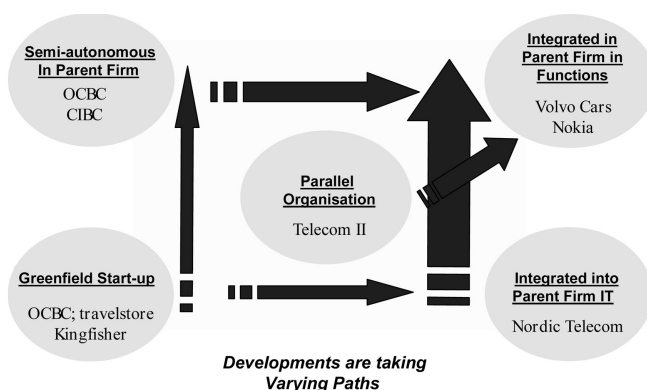
- *Stage 2.* The integrated enterprise witnesses substantial inter-departmental integration.
- *Stage 3.* The integrated enterprise promotes specific external networking, for example, that between Procter and Gamble and Wal*Mart CFAR.
- *Stage 4.* The value network/virtual company with the development of sophisticated extranets prompting new partnerships, alliances and organisational forms.

Greater scrutiny of conventional business's eCommerce strategies has become as much a feature of contemporary financial markets as the frosty reception afforded new Internet start-ups. Much of this attention is beginning to focus upon organisational as well as business strategy. Reynolds (2000b) reported on the contrasting responses of investors and analysts to three particular examples: Kingfisher, Carrefour and Coles Myer.

"Gone are the days when investors and analysts would uncritically accept rhetorical announcements on new economy investments by established players".

Coles Myer's attempt to consolidate its four years' experience with Internet retailing was instructive. E.colesmyer was to be created as a division of the parent group, rather than as a standalone venture. This is despite the useful lessons learned by the business from its independent treatment of its computer retailer Harris Technology. Analysts were not impressed. They pointed to the tiny scale of Coles' online business compared to the

Figure 6 Development paths for eCommerce organisations



Source: Moore, 2000

parent; to the unwieldy nature of its existing general-purpose portal, and to the reactive nature of the strategy. One commented that the strategy represented “a whole grab bag of options”. “You can’t expect to morph into a dot.com company and still wear a tie”, said another (Gluyas, 2000).

Finally, an increased willingness to seek appropriate alliances and partnerships (much as we have seen with the B2B ventures reported on in an earlier section of this review) are another emerging feature of organisational designs. Zimmerman (2000)

reports on the Internet activities of Sears, Roebuck:

In addition to building up its core site, Sears.com, Sears has entered into joint ventures to create spin-off sites. For instance, a partnership with IBM will yield thegreatindoors.com, a site that will feature home decorating ideas and products. Sears has also formed an alliance with Sun Microsystems on a collaboration to promote the Internet-connected home . . . and is teaming up with America Online to . . . offer Internet access through a proprietary edition of AOL software which will make it easier for customers to communicate with Sears customer service reps.

Conclusions: eCommerce futures

Discussion in the previous sections has been characterised by ambiguity and uncertainty. The nature of consumer behaviour, attitudes to pricing and brand are unclear in electronic markets; the extent to which new business models will prove either defensible or profitable is also open for debate. In the area of supply chain and distribution, whilst there are fewer intangibles, the degree of certainty which we are used to the supply side providing has been overturned by the rhetoric of business-to-business re-engineering and organisational flux. Are we likely to see many of these uncertainties resolved in the years ahead? The dangers of forecasting are well documented (Powell and Coyle, 1997; OXIRM, 1998). It is suggested that we often:

- depend on trend extrapolation without understanding the factors that influence change;
- believe that a forecast describes the reality of a future situation;
- do not expect the unexpected;
- ignore factors for which little data exists;
- become too persuaded by technology as a determinant of social change; or
- assume that every forecast is upwards (OXIRM, 1998).

It is not surprising, therefore, that in an area as volatile and inherently unpredictable as eCommerce, forecasts abound. Steckel suggests that "... numbers related [to online shopping and buying forecasts] are not difficult to find. Firms get publicity for themselves by disseminating key numbers" (Steckel, 2000). He points to three specific problems with such forecasts. They are either presented without methodological descriptions, prompting questions about their validity, or are one-shot studies that do not permit longitudinal investigations; or are somehow inconsistent with numbers from other sources. These problems are well illustrated by the forecasts published by the UK's National Foresight Programme (Figure 7).

There are clearly some widely divergent estimates of the value of business-to-

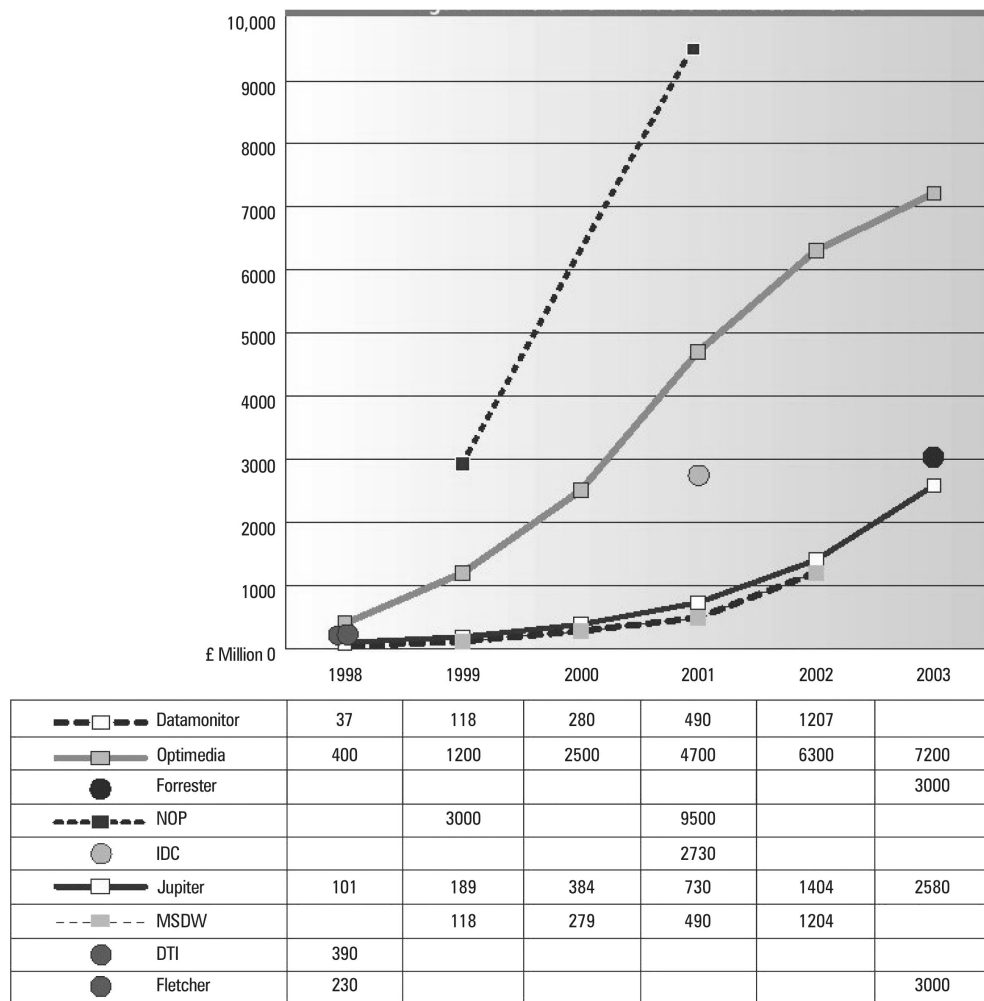
consumer eCommerce for less than one year away, let alone 2003. The authors comment:

There is a general lack of clarity and transparency between methods employed in existing research – confusion between sectoral classifications; unclear units of analysis such as population versus household; home versus office access; regular versus occasional purchase; vaguely described sample techniques, etc. (Department of Trade & Industry, 2000).

What alternatives exist to such somewhat spurious forecasting activity? Scenarios are sketches of plausible or possible futures, which are intended to demonstrate threats and opportunities. They can be developed in many ways, from mathematical modelling to intuition. One of the most influential sets of such forecasts – those of Kahn and Wiener (1967) – used the latter approach. Many large businesses have sponsored forecasting units – either in-house or outsourced – to carry out such exercises within a broader framework of strategic planning (for example, Royal Institute of International Affairs, 1996; OXIRM, 1998). Steckel capitalises on the contingency of online behaviours in order to calculate the likely possible extent of online buying in the US (Steckel, 2000). For example, he suggests, one cannot buy online without having a PC or access to the Internet, although the relevant inter-relationships are more complex than commonly assumed. Using these inter-relationships, Steckel develops three scenarios: a hierarchy of effects scenario in which online buyers are nested subsets of online shoppers, Internet users and, ultimately, PC owners; a second Internet drives all scenario, in which the all-pervasive effects of Internet utility motivates people to acquire a PC. His third hybrid scenario combines the first two. Figure 8 shows the results of his detailed modelling of the interaction effects in each case. It is clear that small changes in causal assumptions drive very different penetration rates.

Not surprisingly, since the focus of this analysis is the USA, Steckel neglects the kinds of opportunities that are presented by broadband and mobile access to eCommerce services and focuses exclusively upon PC-based Internet access. Beardsley *et al.* (2000) suggest that the infrastructure of broadband is developing quite differently between the US and Europe, with advanced but fragmented and complex developments in Europe contrasting with high infrastructure

Figure 7 The current value of UK eCommerce, 1999



Source: Department of Trade & Industry, 2000

penetration, but of poor quality, within the USA. Reynolds (1990) commented on the likely future difficulties of upgrading the US local copper cable loop. Since that analysis, federal legislation has constrained phone companies to provide the required hardware and software within exchanges to drive broadband interactivity down through the local loop. By comparison, work undertaken by the UK's BWFA shows how complex the future infrastructure provision within the UK alone is likely to be over the next few years (Figure 9). Without regulation, access to the Internet is likely to be impeded or, at best, confused. This will of course affect the likely future take-up of eCommerce. But regulation can be a double-edged sword. Most recently, for example, the proposed Regulation of Investigatory Powers Bill in the UK has generated considerable controversy:

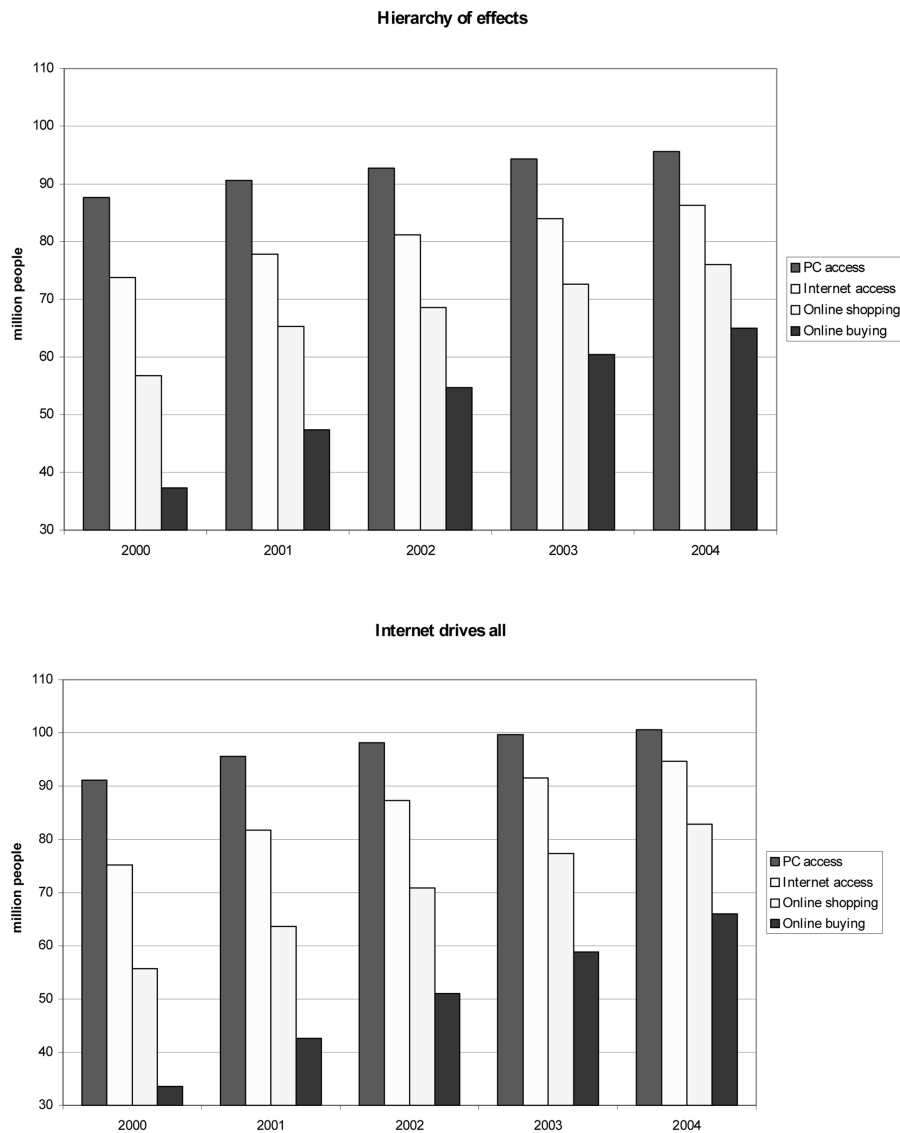
The Bill will create significant economic repercussions. It imperils the government's

intention of making Britain the most desirable place to trade electronically. As it stands, RIP is likely to create a legal environment which will inhibit investment, impede the evolution of eCommerce, impose direct and indirect costs on business and the consumer, diminish overall trust in eCommerce, disrupt business-to-business relationships, place UK companies at a competitive disadvantage, and create a range of legal uncertainties which will place a growing number of businesses in a precarious position (Brown *et al.*, 2000).

When we examine mobile commerce deployment, it is to find a further discrepancy between the US and Europe. Kehoe (2000) comments:

By 2005, more people in the world will have mobile phones than TVs, let alone PCs, which means that mobile data phones could be the means by which most people discover the Internet and use interactive services. Europe and Japan are the leaders of this particular revolution. The USA lags behind.

Figure 8 Differential penetration of online shopping and buying, US, 2000-2004



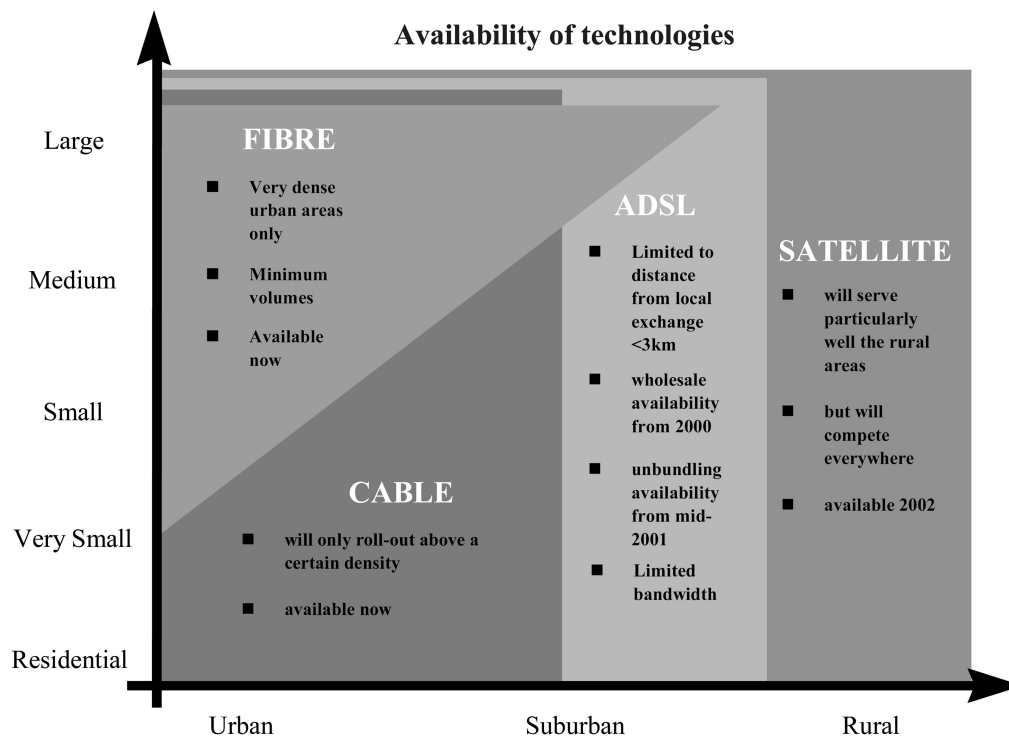
Source: Steckel (2000)

The role of regulation in facilitating or hindering eCommerce growth is well developed through the work undertaken by CRIC for the UK Department of Trade & Industry's Foresight Programme. CRIC comment that government policies developed in respect of broadcasting, competition, encryption, security and society in general will all affect the successful adoption of eCommerce (Department of Trade & Industry, 2000a). For example, some commentators suggest that the same kind of polarisation of opportunity which applies to different members of society in terms of physical wealth and status will extend into the information area: resulting in a distinction between the "information-rich" and "information poor" (Davies and Reynolds,

1988). Taxation policy, especially the reinforcement of sales or value added taxation regimes, will also affect eCommerce take-up (Baron, 2000). The Foresight work developed four scenarios of its own for understanding possible B2C eCommerce growth. These helpfully incorporated a regulatory/policy perspective. Two foresaw strong growth, two more difficulties and slower growth. In particular, the "dynamic" and "explosive" scenarios also relied upon the widespread adoption of broadband access through digital television (see Table XIII).

Thinking about the future as far as the Internet and the interplay between technology, society and economy are concerned is therefore by no means straightforward (see for example Cochrane

Figure 9 Future availability of broadband technologies, UK



Source: BFWA Consultative Group, 2000

Table XIII Foresight scenarios for business-to-consumer eCommerce growth in the UK

Explosive	Dynamic	Active	Sluggish
Rapid growth in wide range of information society activities, including consumer eCommerce	High growth in the value of consumer eCommerce transactions	Relatively high growth in the value of consumer eCommerce transactions	Relatively low growth in the value of consumer eCommerce transactions
Policy measures promote considerable social experimentation with information and communications technologies, facilitating uptake of related services with low levels of social exclusion	Low levels of social exclusion from eCommerce. Many existing differences eroded, though some groups may defy the general trends	High levels of social exclusion from eCommerce, current differences persist or amplified, though some groups may defy the trend	Obstacles to development predominate in UK

Source: Department of Trade & Industry (2000a)

(1989–2000) for a longitudinal perspective). This, of course, has not prevented commentators from sketching out possible futures of a number of kinds from the utilitarian to the downright poetic. For example, on the one hand, Wright suggests that: “people in 2010 will encounter a omnipresent, partly invisible Net through a whole host of intelligent devices, not just through their PCs. By 2010, the face of the Internet will look like something from the

hand of Pablo Picasso – a cubist montage liberated from the narrow perspective of the desktop” (Wright, 1999). On the other hand, Chircu sets out a series of trends in relation to the electronic marketplace that we are likely to witness in the next decade: she nominates virtualisation, deregulation, globalisation, disintermediation, new intermediation and convergence (Chircu, 1999).

It is not the function of this critical review issue, however broad-ranging it has turned

out to be, exhaustively to assess such futures. However, we might usefully close by contrasting two possible views which consider the implications for conventional “bricks and mortar” retailing and which come to rather different conclusions.

I eCommerce 2010

You had to go a long way these days to find a big collection of good quality shops. With the growth of online trading – even to only around 15 per cent of business – most bricks-and-mortar retailers tended to cluster together for warmth near the largest towns. The costs of doing something really spectacular to attract customers away from their screens meant that upscale retailers could only afford to do it in a few places and anyway, investors and developers were still very wary of putting money into marginal retail property. This was especially so given the introduction of road pricing the previous summer. The only exceptions were the big general merchandisers who were using cheap warehousing space on the edge of town, sharing the space with their online distribution and fulfilment centres. Retail parks, which had largely been offering bulky commodities, had been reinvented as sharespace enterprise parks for business start-ups. Smaller towns, which had something to offer in the way of historic attractions, were doing well; but other places had lots of shop-in-the-boxes, collection points, markets and temporary lets to discounters. If you weren't plugged in, in some way, thought Alex, you really lost out these days (from Reynolds, 2000c).

II sCommerce – the “new business-to-consumer retail craze”

They're calling it shops or “S-Commerce” and it's being rolled out in cities and towns nationwide.

“It's a real revelation”, according to Malcolm Fosbury, a middleware engineer from Hillingdon. “You just walk into one of these shops and they have all sorts of things for sale”.

Fosbury was particularly impressed by a clothes shop he discovered while browsing in central London.

“Shops seem to be the ideal medium for transactions of this type. I can actually try out a jacket and see if it fits me. Then I can visualize the way I would look if I was wearing the clothing”. This is possible using a high definition 2D viewing system, or “mirror” as it has become known.

Shops, which are frequently aggregated into shopping portals or “high streets”, are becoming increasingly popular with the cash-rich time-poor generation of new consumers. Often located in densely populated areas people can find them extremely convenient. And Malcolm is not alone in being impressed by shops. “Some days I just don't have the time to download huge Flash animations of rotating trainers and then wait five days for them to be delivered in the hope that they will actually fit”, says Sandra Bailey, a systems analyst from Chelsea. “This way I can actually complete the transaction in real time and walk away with the goods”. Being able to see whether or not shoes and clothing fit has been a real bonus for Bailey, “I used to spend my evenings boxing up gear to return. Sometimes the clothes didn't fit, sometimes they just sent the wrong stuff”.

Shops have a compelling commercial story to tell too, according to Gartner Group retail analyst Carl Baker. “There are massive efficiencies in the supply chain. By concentrating distribution to a series of high volume outlets in urban centres – typically close to where people live and work – businesses can make dramatic savings in fulfilment costs. Just compare this with the wasteful practise of delivering items piecemeal to people's homes.”

Furthermore, allowing consumers to receive goods when they actually want them could mean an end to the frustration of returning home to find a despatch notice telling you that your goods are waiting in a delivery depot the other side of town.

But it's not just the convenience and time-saving that appeals to Fosbury, “Visiting a shop is real relief for me. I mean as it is I spend all day in front of a bloody computer”.

(Source: anonymous e-mail in widespread circulation June 2000)

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