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***CONSUMER ECOMMERCE: SCENARIO
ANALYSIS***

***A Report to the Retail & Consumer Services Foresight
Panel***

November 1999

***From the CRIC ECommerce Team
<http://les.man.ac.uk/cric>***

Executive Summary

This report is an output of a project undertaken by CRIC (the ESRC Centre for Research on Innovation and Competition, at the University of Manchester) on behalf of the Retail and Consumer Services Panel of the Foresight Programme. It presents four scenarios for the future of Business to Consumer ECommerce in the UK to 2005. These are not predictions, but rather are designed to highlight issues and possible choice points.

The four scenarios present distinctive accounts of the possible evolution of Consumer ECommerce under the influence of technological, business and political trends and choices. They illustrate a considerable range of alternative futures which need to be taken into account by decision-makers. Key issues of the scenarios are presented in the form of tables and figures so as to make comparisons easy. Assumptions and more problematic features are then discussed at some length.

Two of the scenarios are based on the standard market forecasts assumptions about ECommerce, which tend to portray it as a PC-based medium. Two are, in contrast, centred on the prospects for Digital TV and, to a lesser extent, other new media as vehicles for a wide range of interactive services. After outlining these four scenarios in some detail, the report poses a series of questions designed to provoke further discussion, and to help orient planners and decision-makers who might use them.

Consumer ECommerce Scenario Analysis

**Prepared for the Retail & Consumer Services Foresight Panel by
the CRIC ECommerce Team¹**

CRIC, University of Manchester and UMIST, Manchester, UK
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Preamble

This note presents a set of four scenarios for the development of Consumer ECommerce (EC)² in the UK over the next few years. The study draws upon the CRIC team's parallel report to the Retail and Consumer Services Panel, which reviews forecasts of EC.

The case for using scenarios is set out in Box 1 below. A first point to stress is that scenarios are **not** predictions. They are devices to demonstrate possible avenues of development. They display the possibility of alternative futures, the events which might give rise to them, the characteristics they could possess. The four scenarios depicted below are by no means exhaustive of possible development paths. The figures and events depicted are thus selected so as to be illustrative of the range of alternative futures set out. Efforts have been made to render them internally consistent, and to keep them in line both with "hard" demographic and economic forecasts, and with less reliable estimates of the EC market itself. The scenarios are not the results of sophisticated mathematical models.³ For this reason, figures are not provided in spuriously precise detail: the aim is to give an idea of the orders of magnitude that are plausible, not to predict the exact scale of development. Ideally, these scenarios will be "fleshed out" and enriched through more extensive dialogue than has been feasible in this exploratory study.

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² Unless otherwise specified, EC in this document will refer to business-consumer ECommerce, rather than business-business EC.

³ Elementary consistency between figures was achieved through a spreadsheet structure.

BOX 1 SCENARIO ANALYSIS

Scenarios are used here for a number of reasons:

- There is a wide range of different forecasts concerning the future development of EC. Many of these are presented as definitive, though they cannot all be – and almost certainly none is. Those thinking about and planning for the future should be aware of where their own assumptions and favoured forecasts fit within this debate. Scenarios help demonstrate the nature and scale of the debate, reminding us to look beyond our favoured perspectives.
- Comparison of alternative scenarios can illustrate the range of *contingencies* that one should be prepared to deal with. It can cast light on the underlying processes which may render one or other future more probable. Scenarios provide a succinct way of expounding arguments about the drivers of social change, differences in assumptions as to how the world operates, how important various influences are, etc.
- Similarly, Scenario Analysis can help to pinpoint policies and strategies. These may aim to move events towards a preferred scenario (or otherwise), or to minimise the negative consequences of an undesired scenario. In the event of dissensus as to the importance, likelihood, efficacy or feasibility of options, it provides a framework within which to debate these.
- The analysis provides a framework within which alternative forecasts can be assessed. It may also be used, as events unfold, to gain an idea of how close actual developments are to one or other trend line. In this way, we can gain a better assessment of the validity and viability of specific understandings and assumptions.

Introducing the Four Scenarios

Early work for this project identified three scenarios as particularly interesting in view of the policy goals of the Retail Panel, the Foresight Programme, and government in general. The three scenarios are profiled below, as Scenarios I to III in Table 1. Subsequently, a fourth scenario has been added to this set. This is intended to allow for the possibilities of a substantial break from past trends as a consequence of concerted public and private sector activity to hasten the advent of an information society. Such activity is already being planned and experimented with, and should it prove successful it could radically change the scene.

Table 1 Four Scenarios in Profile

Scenario for year 2005			
I	II	III	IV
Sluggish Scenario:	“Middle-of-the-road” Scenario:	“Take-off” Scenario:	Transformative Scenario:
Relatively low growth in the value of consumer ECommerce transactions.	Relatively high growth in the value of consumer ECommerce transactions.	High growth in the value of consumer ECommerce transactions.	Rapid growth in wide range of information society activities, including consumer ECommerce .
Obstacles to development predominate in UK (and elsewhere?)	High levels of social exclusion from EC, current differences persist or amplified, though some groups may defy the trend.	Low levels of social exclusion from EC. Many existing differences eroded, though some groups may defy the general trend.	Policy measures promote considerable social experimentation with Information and Communication Technologies, facilitating uptake of related services with low levels of social exclusion.

The primary distinguishing feature between the scenarios is the value of consumer ecommerce transactions. These alternative values are based on:

- The number of people using ecommerce (and who they are, demographically)
- The intensity of use and levels of expenditure
- The range of products and services available via ecommerce

These variables, in turn, will be predicated on a number of technological, social, commercial and political drivers.

We should be clear at this point that these scenarios have been developed primarily on the basis on UK consumer spending. We have not sought to consider the impact of consumers from other countries choosing UK based sites as their preferred locations for ecommerce transactions. To do this would require analysis of a number of additional factors, including nationally specific consumption behaviour and the effects of different forms of regulatory framework and consumer policy. (Thus, the EU is already actively seeking to resolve national differences regarding the right to complaint and refund, and varying rules governing the nature of advertising for certain products and services).

Rather than representing a substantial break with **scenario III** in terms of economic value, the additional scenario IV is transformative in the sense that it represents a significant shift in terms of the percentage of the population using ecommerce (and in particular, those currently 'socially excluded'). It does not necessarily imply a major increase in the value of EC.

More detailed outlines of the scenarios, contrasting them in terms of common parameters, are provided on the following pages. Tables 2 – 6 provide for immediate comparisons to be made among scenarios, and these are illustrated in part by Figure 1-8. Additionally, more detailed notes on the various elements involved in the scenarios are presented. These notes outline the assumptions that have been employed in arriving at the scenarios, and elaborate on some details that cannot readily be presented in succinct tabular form.

Notes on Scenarios, Parameters and Assumptions

1. Value of Consumer ECommerce

Current (1998) consumer expenditure is c£184bn per annum. In all four scenarios this is anticipated to grow. 2% per annum growth would lead to a 14% increase by 2005 (c£211bn in 1998 prices); 5% pa growth would lead to a dramatic 41% increase (to c£259bn). This would mean ample finance to acquire new domestic equipment, and to use such equipment in novel ways which might also involve expenditure. (Thus, already in 1999 the average family has begun to spend more on leisure than on food and housing. Continued development of this trend would result in more household equipment acquired for leisure purposes, and more expenditure on out-of-home leisure activities – which could be purchased or booked online. New in-home leisure activities – e.g. multiplayer online games, downloading music – could also become significant.) Even the lower growth rates imply a growth in disposable income, which would probably be substantial even for many poorer groups in the population.

When we talk of “retail” below, we include the whole range of high street services, such as retail banking, estate agents, betting shops, and restaurants. It is quite possible that services which are not readily available on the high street, such as the multi-player gaming mentioned above, will also grow in popularity. There is no obvious reason to exclude these from the category.

Estimates of current (1999) consumer EC range from less than .1% of consumer expenditure to something closer to .2%. It remains to be seen whether there is a boom in online shopping around the Christmas and New Year season, reflecting the considerable prominence awarded EC in the media in the last half of the year.

It is worth noting that in many studies presenting alternative trend lines for growth, the upper trend is roughly twice the value of the lower. However, even this may provide an overly cautious view of EC growth, as argued in Box 2 below. Thus two of the scenarios reflect rather more dramatic scales of change. Note that the higher estimates of spend, while startling if considered in terms of routine shopping, could easily be accounted for by the purchase of holidays, consumer durables, etc. For example, the average annual expenditure on holidays, across all households, is in excess of £500 (Office of National statistics, Family Spending, 1997-98).

Table 2 Detailed Comparison of Three Scenarios: Scale of EC

(Note: figures have been rounded off, thus will not add to 100%: such slight internal inconsistency is believed to be less problematic than consistent figures providing a spurious sense of precision.)

PARAMETERS	Scenario for year 2005			
	I	II	III	IV
Annual Value of consumer ECommerce :				
<i>£bn</i>	£5bn	£10bn	£ 25bn	£30bn
<i>% of retail expenditure</i>	2%	5%	11%	14%
<i>Average spend per EC-using household⁴</i>	£800	£1000	£1700	£1700
Levels of use:				
	<10%	20%	>33%	50%
<i>Proportion of adult population using occasionally</i>	30%	50%	75%	90%

⁴ Includes occasional users alongside frequent users.

Figure 1 Levels of ECommerce Expenditure

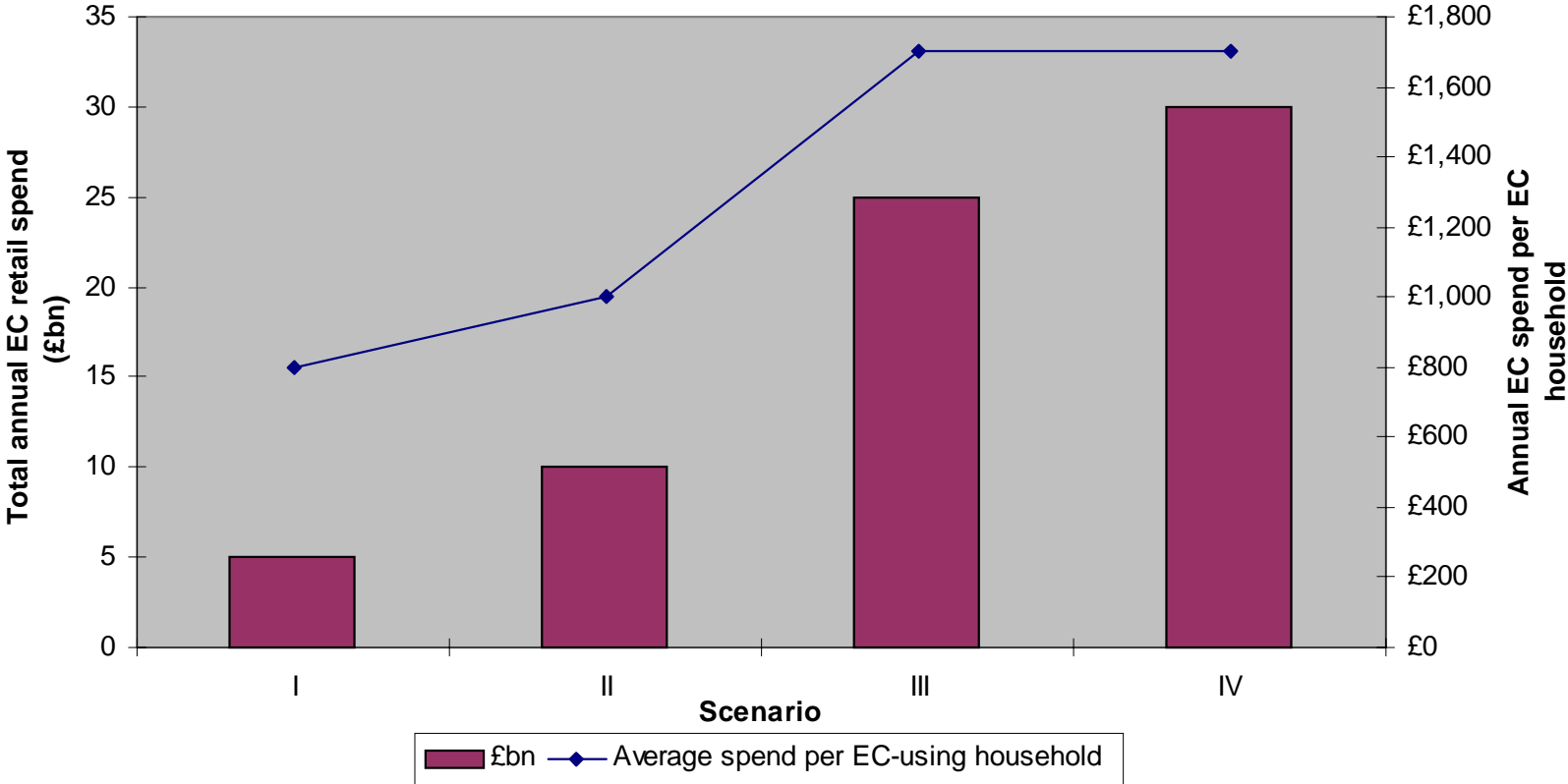
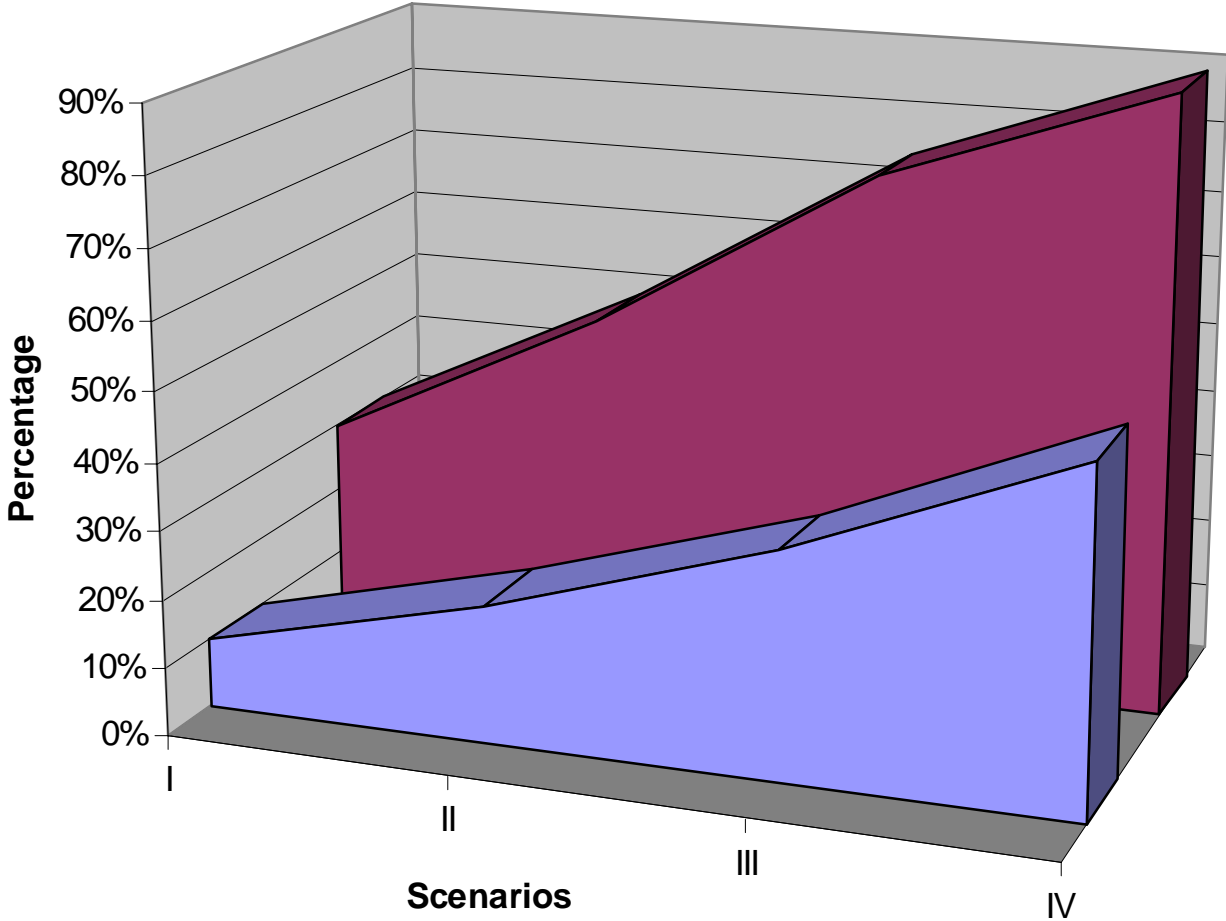


Figure 2 Level of ECommerce Use



■ Proportion of adult population using frequently ■ Proportion of adult population using occasionally

BOX 2 TRENDS AND DISCONTINUITIES

ECommerce demonstrates dramatic rates of growth in Scenarios III and IV. At first sight it might seem that this is extremely unlikely, given that the usual period of time for innovations to diffuse so extensively is measured in decades, not years. The case for the feasibility of these scenarios involves two major planks, each of which has a series of implications.

- **FIRST**, there is the introduction of Digital TV (DTV). This technology itself is being promoted heavily, and is targeted to replace analogue TV in the second decade of the next century, with 95% population coverage. DTV installs a platform for EC into the home, potentially reaching a broader audience of people deterred from buying PCs, because of the initial cost and the built-in obsolescence of the machines, and from using them for EC because of the costs of telecommunications and the complexities of Internet access. (However, it remains unclear how to reach the 5% of the population who will not have (or have been able to) convert by the time analogue transmission is turned off - "black spots" are not uncommon, especially in rural areas where access to EC might be especially beneficial.

As well as providing a platform for EC, DTV is liable to change the nature of EC. We might think of it as being more like another function performed on the TV, rather than as being seen as the major innovation it really is. Thus, the comparable reference points in thinking about diffusion might be more the uptake of new TV channels when they become available, rather than the acquisition of a new consumer good or service. Furthermore, some EC applications are very well suited to the medium, especially Video on Demand, Music on Demand, and related capabilities (with their implications for video rental and music shops). These forms of EC are liable to be seen more as a shift in the way in which the service is paid for than as a new sort of service.

- **SECOND**, there is the large-scale and wide-ranging set of initiatives from national and local government to promote, and facilitate social inclusion in, the information society. With the aim of making the UK the world's most advanced information society, **and** substantially limiting the threat of social exclusion from the new styles of production and consumption that this implies, government policies are rapidly being formulated, and experiments put in place (e.g. the DTI's "IT for All" initiative, which currently features around 3000 centres giving access to ICTs at low or no cost). Such major promotion of

(continued)

BOX 2 (continued)

new technologies and services is practically unknown outside of wartime and other crises such as large-scale health emergencies, and could well shift EC development far off the established trends.

Together these two factors suggest strongly that there is liable to be diminishing returns to extrapolation: the future will be sufficiently different from the past to demand new sorts of analysis. It is for this reason that alternative scenarios are developed and presented here.

But we should be even-handed, and also consider the possibility that developments which are more damaging to EC's prospects could also ensue. Government policy might radically change, or priorities be knocked off course by unforeseen political developments. The most likely of these are, of course, changes in government and major economic crises. The uptake of DTV could be less than anticipated – some commentators argue that this would be the impact of an additional DTV licence fee (though the BBC's case is that such a fee is necessary for the full range of social as well as entertainment programming which would encourage more general adoption of DTV). There may yet be consumer resistance to what may be seen as an enforced transition away from analogue TV. Other sorts of negative development could be associated with EC itself, for example:

- Perceptions that EC is not offering consumers a good deal, that any gains in convenience are outweighed by problems of cost, unreliable service, failures to organise delivery and product repair/replacement services adequately, etc.
- Reactions to perceived impacts on high streets and local shops leading to efforts to boycott EC.
- Bad publicity generated of misuse of EC systems (either real or perceived) – deliberate fraud (e.g. confidence tricksters exploiting elderly; people's uncertainties about using the systems); family conflicts (e.g. children gaining access to credit cards and PIN codes and running up huge bills at parents' expense), and use of the facilities for socially or morally dubious purposes (e.g. pornography and similar vices). Problems of these sorts had severe consequences on the Premium Rate Services offered by telecommunications companies, and while EC and platform suppliers will seek to guard against them, communications technologies do seem prone to being "reappropriated" by their users and a variety of third parties.

It is also worth noting a wide agreement in the market analysis literature that business-to-business EC will remain the bulk of the market – figures are usually in excess of 90%. Thus the wider EC market can be expected to be immense. However, we are not asserting that across our scenarios the business EC models will always be around nine times that of the consumer market – some factors promoting higher consumer EC growth (such as EC via DTV) would be less likely to promote growth in business-to-business EC transactions.⁵

In **Scenarios III** and **IV**, market size is well above the upper end of the estimates in the market forecasts we have reviewed, when these are extrapolated to 2005 from the usual end-points (2003). The rationale for this is the argument that these forecasts are underestimates of what significant growth could well be. There are two factors in this. The first is that most forecasts are based on a narrow view of consumer EC as PC/Web based. Even here we are talking about expenditure levels of around £1000 per annum per EC-using household – which can easily be accounted for by more affluent consumers exceeding this spend, which requires only a proportion of them to be buying holidays, white goods, hobbyist items, cars, etc. online. Once we take into account the scope for using digital TV and other media for transactions, the level and intensity of use both look more substantial. Second, there is the likelihood of major government policy initiatives to further move the UK toward being an information society. EC is among the key elements of this concept.

⁵ In general, since consumer goods and services are the end result of a whole chain of economic activities, there are many transactions which could be subjected to business-to-business EC behind every transaction that is the focus of consumer EC. But the relatively slow take-up of Electronic Data Interchange has demonstrated that the business case for using EDI has been often offset by interoperability problems. In particular, EDI requires bringing non-standardised corporate databases, developed in isolation from each other in order to meet internal requirements, into alignment so as to allow for intercommunication. In contrast, consumer EC does not impose needs for such a high level of standardisation. Though there may be learning effects, in general the consumer can be expected to make their own way round the data organisation provided by the retailer – as long as this is sufficiently user-friendly.

Table 3 Detailed Comparison of Three Scenarios: Gender and Social Class Patterns

PARAMETERS	Scenario for year 2005			
	I	II	III	IV
Demographics of use (distribution of occasional use)				
Proportional use within Gender:				
<i>Female</i>	40	60	75	90
<i>Male</i>	20	40	75	90
SES groups⁶:				
<i>Proportion of SES group using</i>				
<i>A,B</i>	40	80	85	95
<i>C1,C2</i>	30	40	75	92
<i>D,E</i>	10	25	60	75
<i>Proportion of user population from</i>				
<i>A,B</i>	50	55	40	35
<i>C1,C2</i>	45	35	40	45
<i>D,E</i>	5	10	20	20
<i>Proportion of EC spend from</i>				
<i>A,B</i>	57	64	49	47
<i>C1,C2</i>	38	29	38	40
<i>D,E</i>	5	7	13	13

⁶ Here we are taking no account of the individuals – about 12% of the working age population – who are coded as “Other”.

Figure 3 Participation of Social Groups in ECommerce

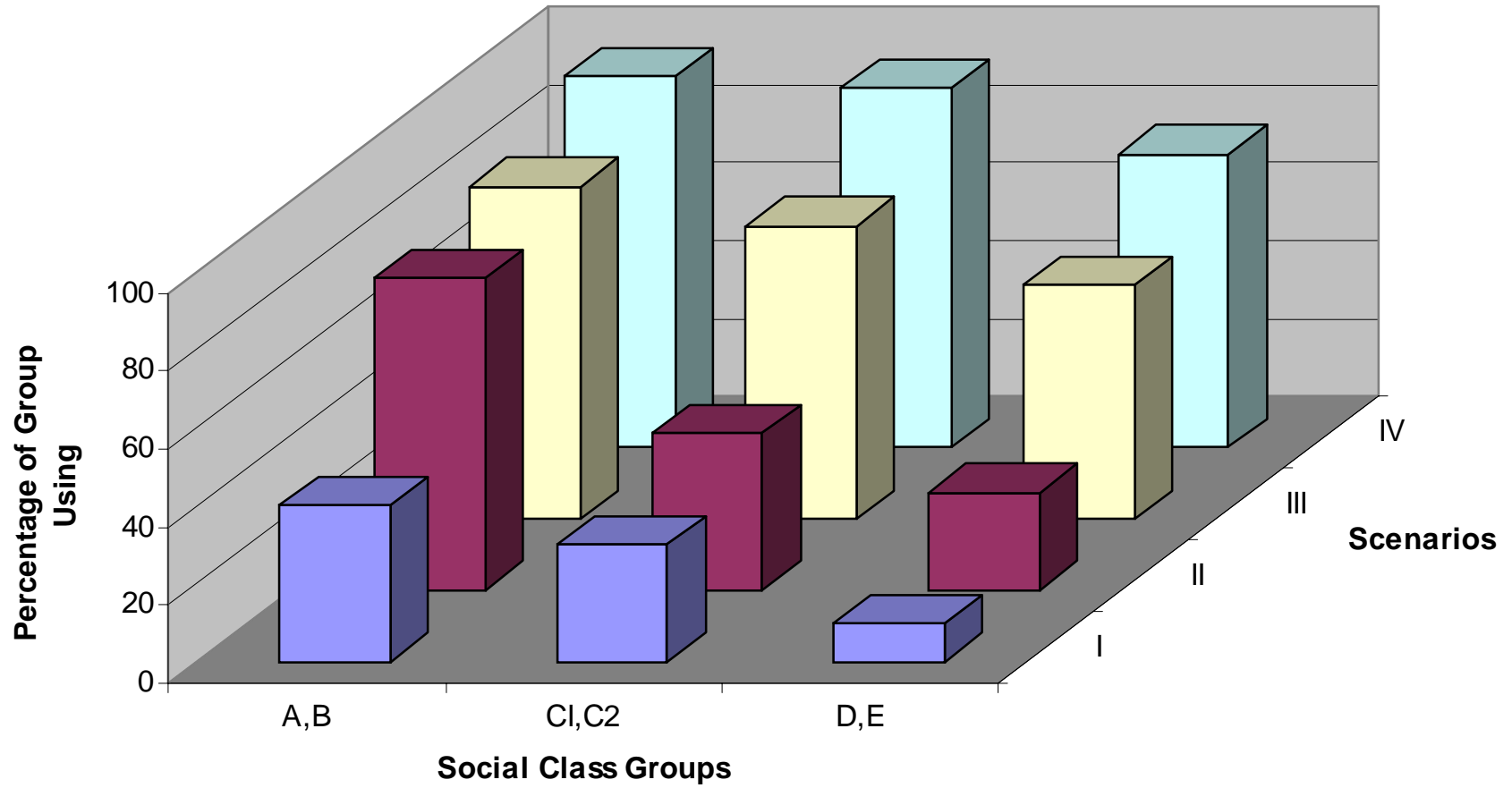
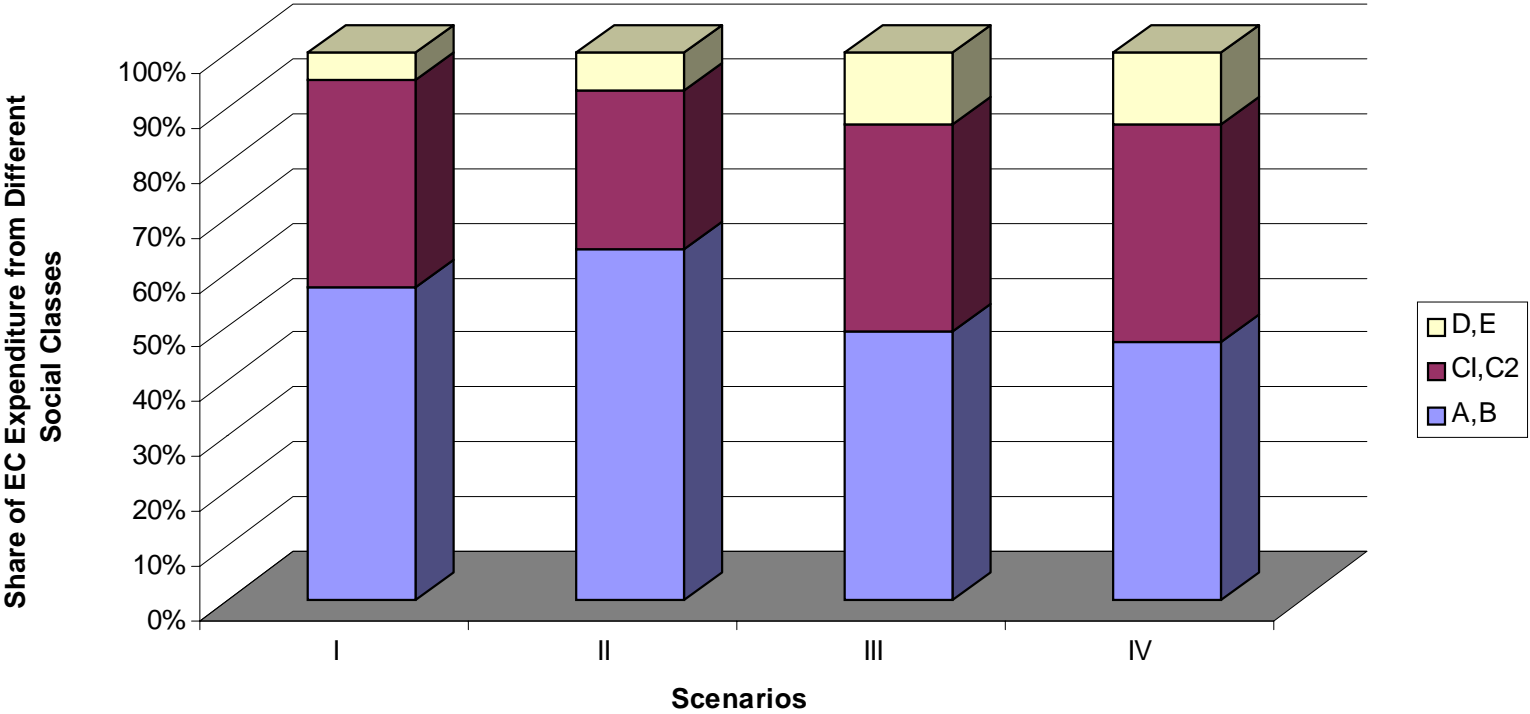


Figure 4 Social Class Breakdown of EC Expenditure



2. Demographics of use

The age structure of the population moves upward (as in all demographic projections) across the three scenarios, the proportion of dwellers in single-person households increases, etc. The disproportionate growth in older people may continue as the 50+ age group becomes less averse to EC as and the affluent elderly increasingly contain those with experience of IT in working life. No provision is made for dramatic changes in population structure, which might be resulting from political or natural disaster – such changes would have enough unpredictable social disruption to render speculation about EC dimensions trivial. More contentiously, perhaps, we have simply extrapolated the current population structure in terms of SES to 2005.

Figures have been rendered consistent using spreadsheet analysis, but rounded up to these headline figures in order to avoid a spurious sense of precision. The figures may at first seem to be anomalous, in that in scenarios of rapid uptake of EC, even with policy initiatives aimed at poorer SES groups, their shares in EC are relatively low. However, recall that the current distribution of retail expenditure is roughly as follows: AB 44%, C 40% and DE 16%. Only if uptake of EC is substantially higher in the less affluent groups, and/or the share of retail expenditure spent via EC is much higher for users in these groups, would there be substantial change in these ratios. Our scenarios assume that the more affluent groups do continue to spend more in general, and that the spending of all groups on EC is proportional to the levels of uptake of the groups (i.e. that it is roughly the same proportion of consumer expenditure for each group). Thus, we automatically arrive at figures like those of [Table 2](#).⁷ Recall that in the scenarios of rapid growth of EC, even as small a share of the total as 13% is a considerable volume of expenditure – well over £3bn per annum.

Scenarios III and IV assume relatively more rapid uptake among groups who are currently less likely to use EC, in particular though the new medium of DTV. There are also likely to be impacts on EC from promotion of PC systems at work, schools and libraries, etc., especially in **Scenario IV**. Despite much more policy

⁷ There are some data suggesting different intensities of expenditure via EC for different social groups, but this is so partial and time-bound that we do not consider it wise to extrapolate from it. It is possible to think of policy measures that might facilitate a greater shift of expenditures from those in receipt of pensions and welfare benefits to online means, but this needs to be offset against similar inducements from commercial organisations, like online banks, aimed at more affluent customers.

effort to facilitate social inclusion in the information society in **Scenario IV**, the forecast is for rather more participation in EC from middle class groups, on the grounds that such groups are often beneficiaries of policies aimed at the poorest groups in society. **Scenario IV** implies that extensive efforts are made to involve older people in use of EC, and quite possibly the forecast of 50% usage (even “occasional” usage) by over 75s is overly ambitious, given the housebound nature and limited disposable income of this group.⁸ (However, the small numbers and income levels mean that this group would account for a very low share of EC expenditure, even so.)

Scenario II assumes widespread uptake in more affluent sectors of population (social classes AB, and to a lesser extent C) and among young and better educated. Efforts to promote wider access are fragmented and only partly successful. Social exclusion remains marked, and many, especially less affluent people, see EC as totally irrelevant to their needs. In **Scenario I**, uptake is limited, and mainly restricted to more affluent, young and better-educated sectors of population. Speculatively: 30% of population have made occasional use of EC, less than 10% are frequent users (at least weekly).

⁸ It is not difficult to imagine social policy initiatives which could help actualise such high levels of use. In the 1980s, an EC launch which was aborted due to the economic crisis of the latter part of the decade, would have involved catalogue salespeople taking a small terminal (Keyline) to their clients on a door-to-door basis. It is not hard to think of analogues making use of “meals on wheels” and similar services. The challenge is really one of putting the social infrastructure into place.

Table 4 Detailed Comparison of Three Scenarios: Age Groups

PARAMETERS	Scenario for year 2005			
	I	II	III	IV
<i>Age Groups:</i>				
<i>Proportion of age group using</i>				
16 TO 24	54	70	95	98
25 TO 44	40	65	90	98
45 TO 64	30	50	80	90
65 TO 74	10	20	55	80
75 PLUS	5	10	30	50
<i>Proportion of user population from</i>				
16 TO 24	20	20	20	16
25 TO 44	50	45	40	38
45 TO 64	30	30	35	32
65 TO 74	<5	5	>5	10
75 PLUS	<5	<5	<5	5

Figure 5 Proportions of Different Age Groups using EC

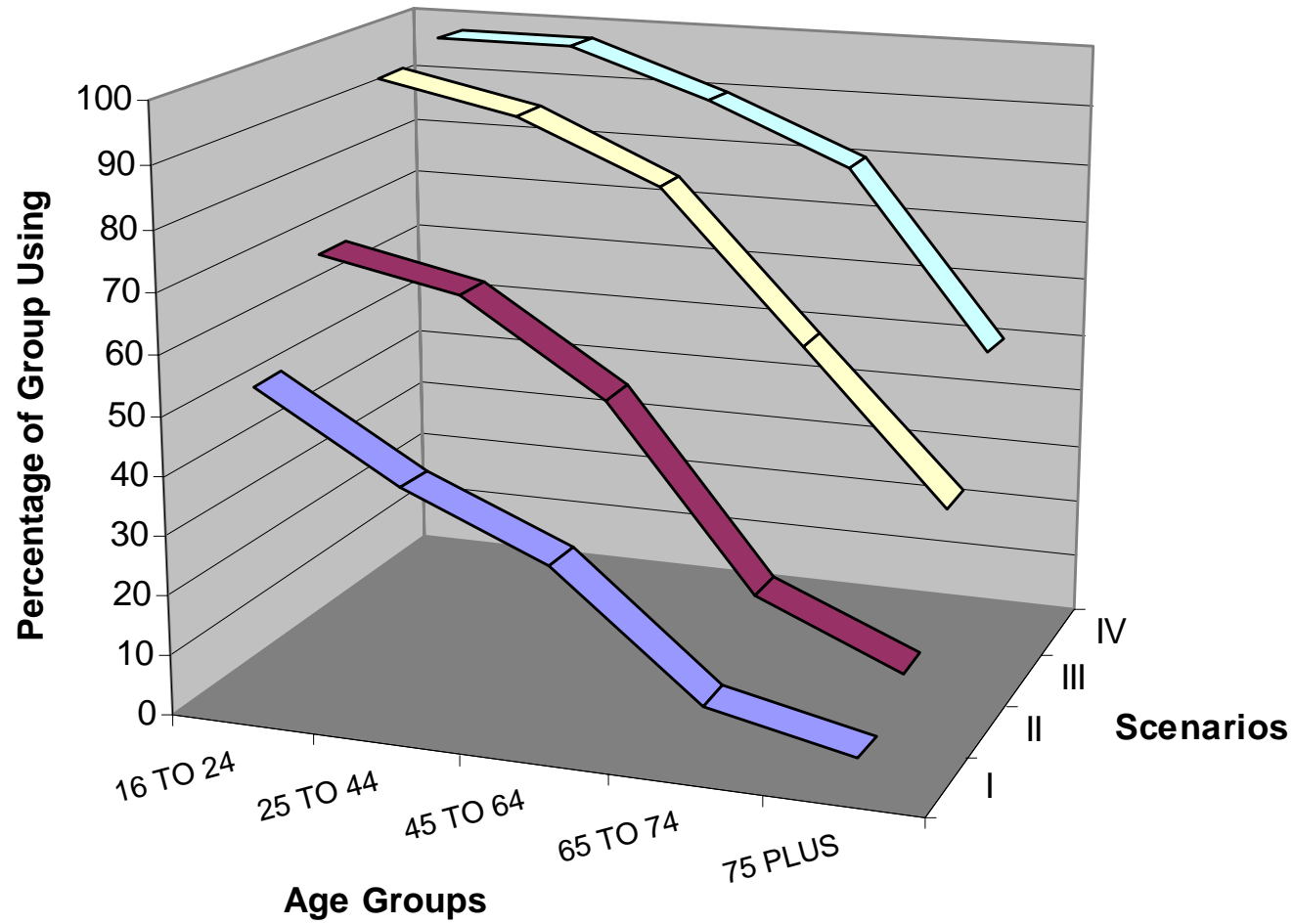


Figure 6 Age Composition of EC User Population

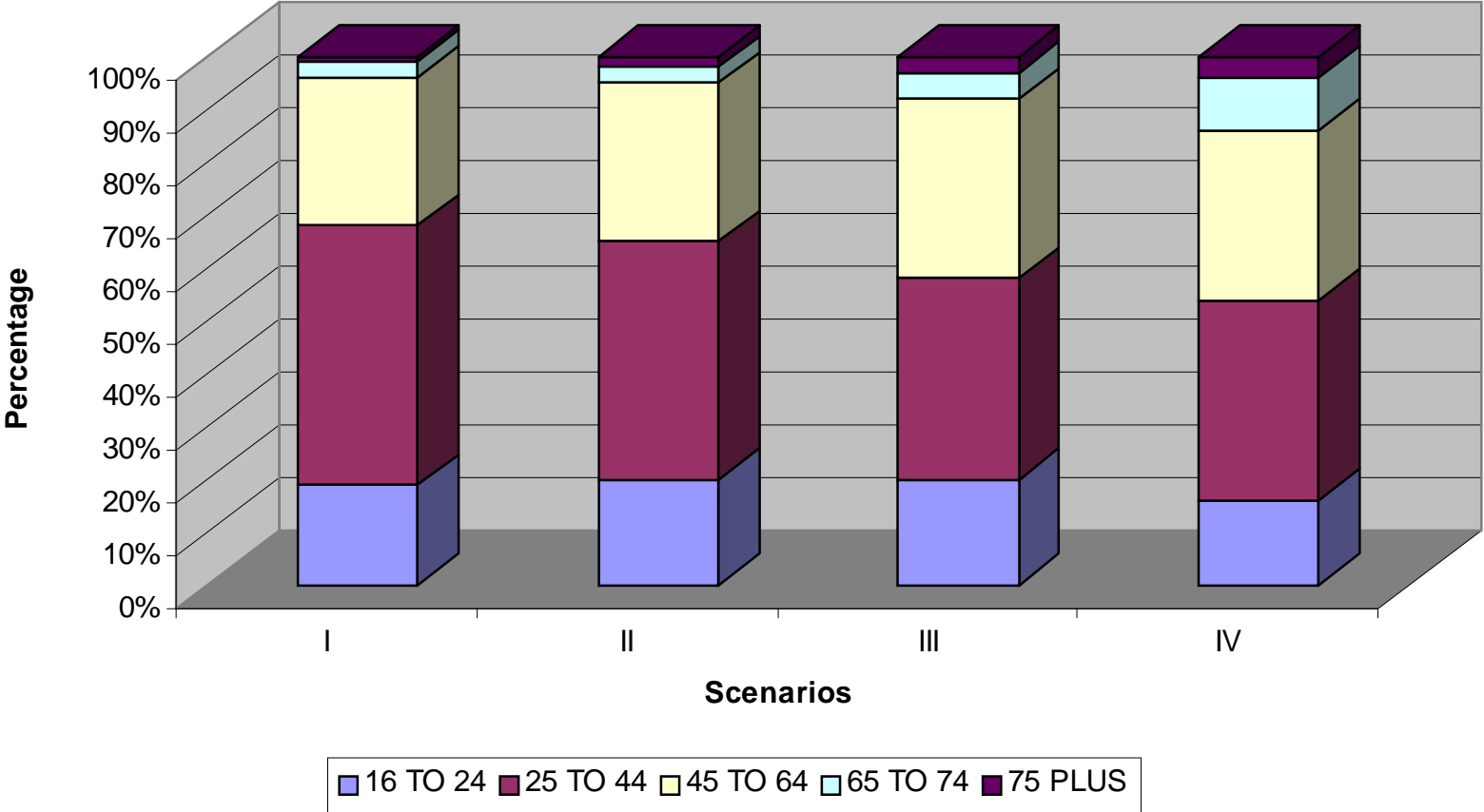


Table 5 Detailed Comparison of Three Scenarios: Platforms

PARAMETERS	Scenario for year 2005			
	I	II	III	IV
Platforms: <i>Consumer electronics able to access EC:</i>				
<i>Levels of penetration (into households) of</i>				
<i>PC</i>	35	40	45	50
<i>DTV</i>	40	40	90	95
<i>Other</i>	20	20	30	30
<i>Share of consumer EC accessed via:</i>				
<i>PC</i>	45	35	20	25
<i>DTV</i>	35	50	70	65
<i>Other</i>	15	15	10	10
<i>Consumer EC spend (£mn) via:</i>				
<i>PC</i>	2300	3500	5000	7500
<i>DTV</i>	1800	5000	17500	19500
<i>Other</i>	800	1500	2500	3000
For discussion of <i>Interfaces, Online services, Retail services, Delivery Systems and Payment Systems</i> , see the notes that follow this Table.				

Figure 7 Uptake of Different EC Platforms

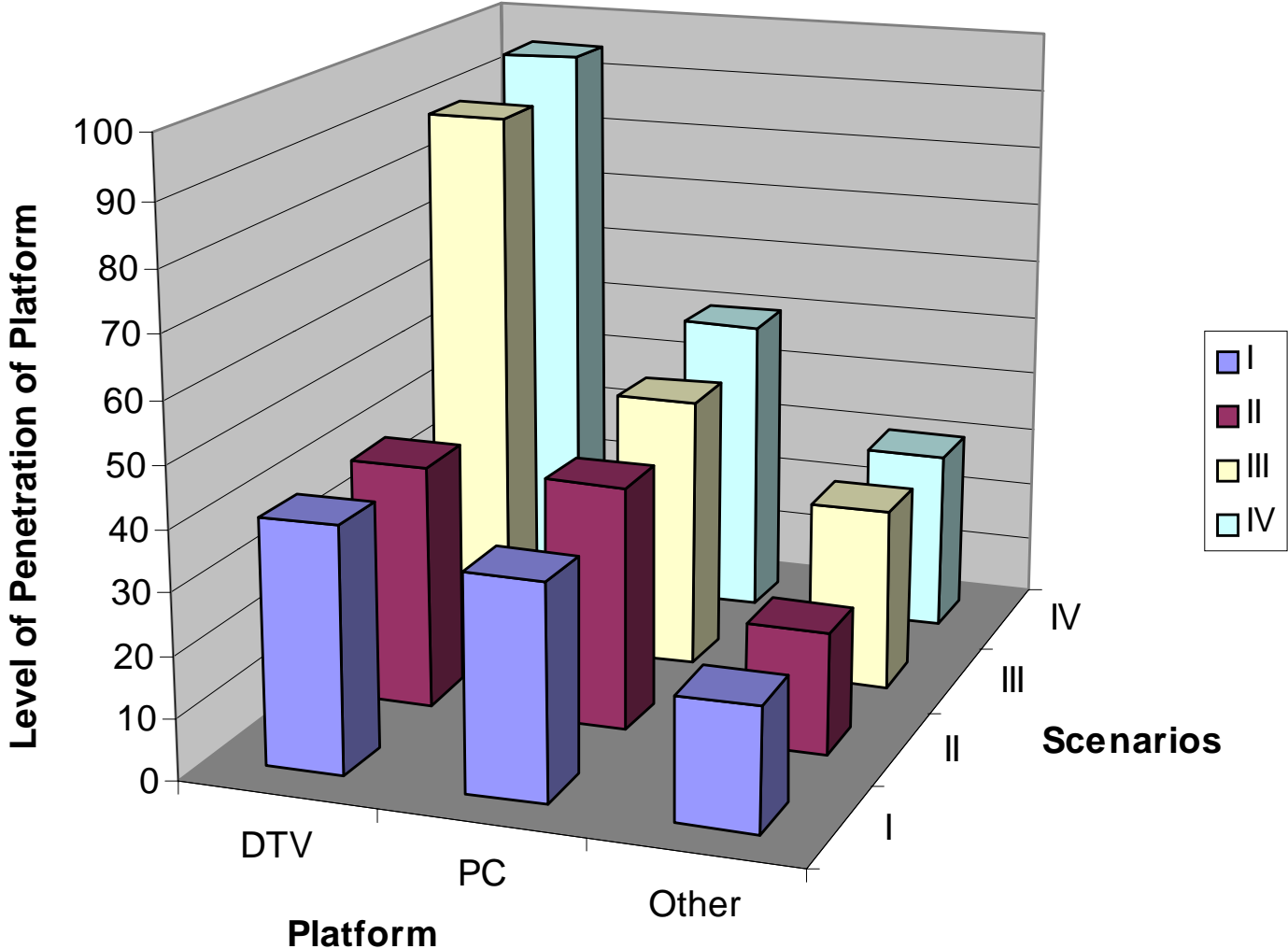
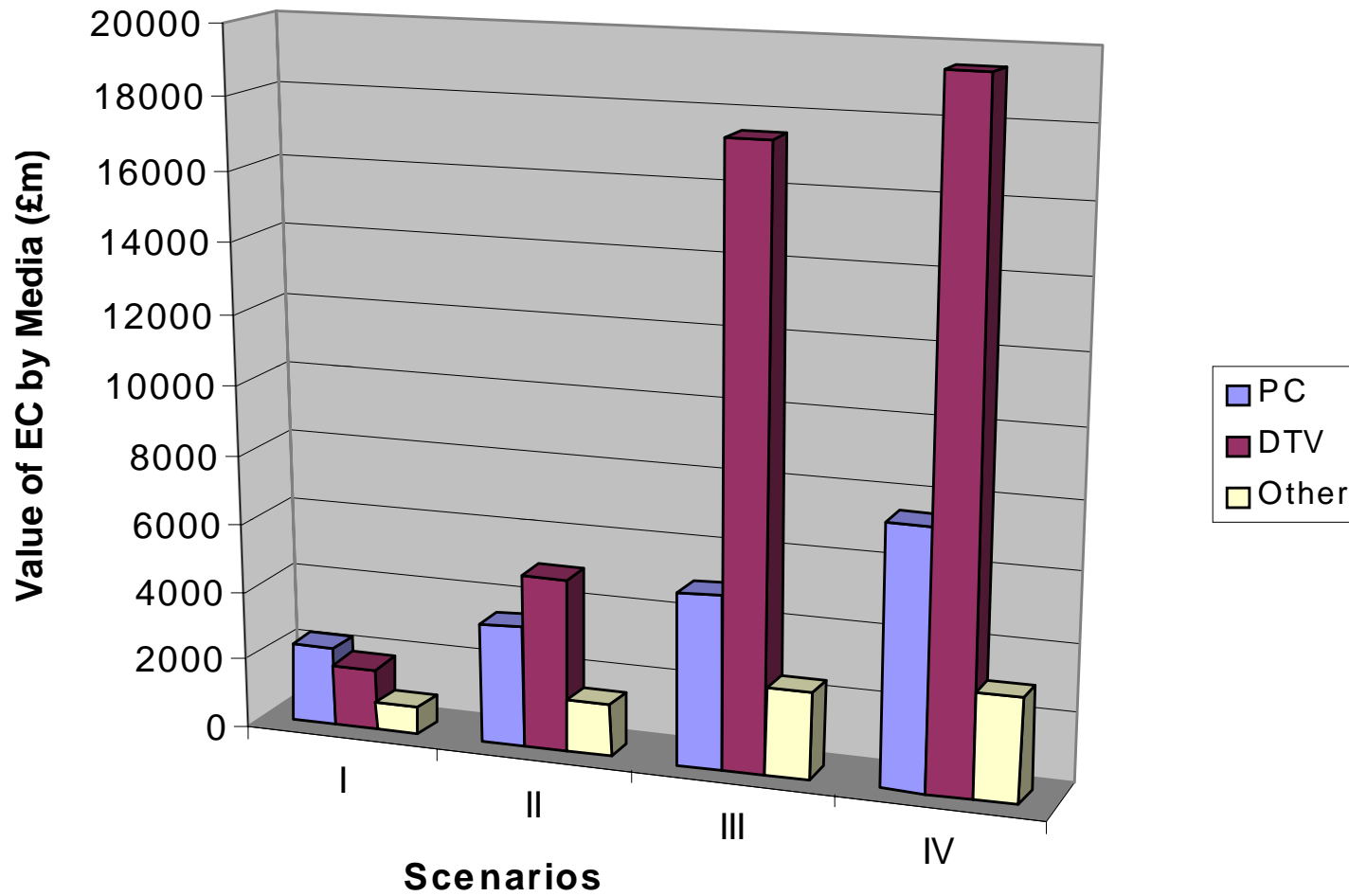


Figure 8 ECommerce via Different Platforms



3. Platforms

With competition between substantially different devices and services, it is unlikely that a single platform or configuration of platforms will be in place in any scenario in 2005. However, one or other combination may well be numerically dominant, and convergence across platforms at one or other of the points below is likely.

Consumer electronics

EC access can be by numerous devices, including *Personal Computers* (PCs), *digital TVs* (DTV – which may involve telephone or cable modem), or *other media*. Among the latter are:

- videogame consoles attached to analogue or digital TVs (there is an immense market for these consoles, the new machines are Internet capable, and the manufacturers of one leading model have announced stockbroking applications),
- Personal Digital Assistants (PDAs – which may be more like handheld PCs, or more like mobile phones equipped with text facilities),
- PCN-type mobile phones (possibly enhanced with web and even DTV access),
- and specialised email and Web terminals.

Scenario III assumes that there is some uptake through publicly supported institutions (e.g. libraries, schools, community centres, post offices). **Scenario IV** involves much more emphasis on such measures, with major initiatives being rapidly implemented and adopted in the new millennium. Access at home might be facilitated by voluntary or public social services. In both cases, social exclusion along lines of income and lack of access to interfaces and finance persists, but is reduced by such initiatives, together with reforms in social security and related systems (e.g. funds/credit provisions for school leavers? Use of smart cards for welfare payments? Low-cost leasing of equipment?)

In both scenarios, DTV allows for entry of many elderly and otherwise IT-unfamiliar consumers, but fears of online commitment are liable to persist (especially once the inevitable cases of people shouldering high debts through reckless or ill-informed use of EC become publicised). DTV would be numerically dominant in terms of users and value of trade, but much high-value EC will still be through PC and mobile links, which have established affluent user base. (Further, in scenario IV we presume there will be a high extent of public access use of PC and similar media, as a result of policy interventions.) The issue of reducing social exclusion from ECommerce is, however, more complicated than simply providing *physical* access to technologies. The government initiatives will

also need to address the skills required to use the technologies, and address issues of confidence and trust amongst these groups.

Scenarios I and II correspond more closely to the lower and upper levels of most forecasts (with their PC/Internet bias). It is assumed that in each of these cases, policies are either not aimed forcefully at reducing social inequalities in EC use, or that the implementation of such policies is largely unsuccessful. (Possibly the timescale for success would be considerably longer than the 5 years involved here.)

In **Scenario II** there would be a mixture of DTV, PC and PCN platforms, as in **Scenarios III and IV**, but DTV's numerical dominance is less marked. Much high-value EC would still be through PC and mobile links, which have established affluent user base. Possibly DTV sales are pushed in this direction, too, by lack of interest from more routine consumers. PCN access might be a status symbol. **Scenario I** sees relatively low and slow uptake of DTV, and of DTV services offering EC. Additionally, there is reluctance to use these new media for EC, which remains far more oriented to PC/Internet models.

Interfaces

There are numerous possible "entry points" to EC (and to new interactive services more generally). The Internet may be the primary backbone to the services, or there may be a "walled garden" – a specialised infrastructure which may be more or less modelled on the Internet and offer more or less in the ways of break outs or gateways into the wider Internet. It is probably safe to assume that the framework for Internet presentation will be Web pages – perhaps redesigned to permit more convenient and attractive display and use over DTV and PDA screens. Other types of "storefront" may be designed to support voice-based, PCN and DTV devices. Equal diversity is confronted in the access systems that permit consumers to locate services and suppliers.

Extrapolations of present systems suggests we can differentiate between more or less reliance on:

- "electronic malls" (virtual high streets in which a sequence of storefronts can be inspected),
- "portals" (combining the features of, and positioned somewhere between, broadcast channels, advertising and news supplements, and search engines)
- and "intelligent agents" (which simplify the tasks of searching through large volumes of (mostly irrelevant and uncertain quality) material, customising

searches according to known user requirements and informed assessment of alternative offers).

- For high-value transactions, there is also liable to be a role for brokerage services, with more or less real-time input by human agents.

The types of interface employed in the future are still in the melting pot, with the mass-market determinants of choice yet to be clarified. However, it is reasonable to assume that both user and device characteristics will play a role here. Our assumptions are simple ones: We anticipate that mass markets will require simplified and user friendly interfaces, whereas markets that are more oriented to hobbyists and highly educated groups are liable to be less demanding in this respect (and correspondingly probably more demanding in terms of design of intelligent agents able to accept sophisticated input, etc.) DTV will be more conducive for “walled garden” and equivalents to Web hyperlinks accompanying apparently conventional advertising and programming and direct marketing using variations of push technology. More simplified email-based EC would be supported for small portable displays.

In all scenarios, the mixture of interfaces will follow the different device platforms. Thus in **Scenario III** and **Scenario IV**, we expect a mixture of new DTV-based and Web platforms (some delivered via DTV and PCNs), with certain services using other formats tailored to small PCN displays. DTV and Web “malls” and “portals” will be significant. In **Scenario II**, as in these scenarios, there will be a mixture of new DTV-based and Web platforms (perhaps these would be more likely to be delivered via DTV and PCNs), with certain services using other formats tailored to small PCN displays. The more predominant technology-enthusiastic consumers, prepared to undertake own searches, etc., might imply less reliance on infomediaries and more on high quality portals, tailored to national markets, will develop, possibly with some online mall models proving successful. **Scenario I** would take these emphases even further, with a smaller market size supporting less innovation – but also, perhaps, more variety and niche interfaces.

Online and Retail services

As noted, links may point directly to individual retailers (and local branches of retailers) or to intermediate services; the route to the retailer may be through portals, brokers, electronic shopping malls, etc., or in response to advertisements (on the Web or DTV). There seems to be considerable scope for specialist “portals” or “malls” organised around small geographical areas (e.g. for visitors to particular towns or shopping centres) or consumer interests (e.g. specific hobbies, ethical concerns or cultural differences).

Additionally, as well as conventional high-street services, there may be several important developments. Probably most significant in the short term are direct links to manufacturers (e.g. to automobile companies, who may do the selling themselves, leaving the conventional high-street dealers only such tasks as valeting and delivery). Also significant may be relatively new, customer centred services such as online auctions. We anticipate much-expanded versions of consumer-to-consumer retail (*a la* Exchange and Mart and Loot). From a smaller initial base, there could be significant developments in innovative arrangements such as Local Economy Trading Schemes (LETS – which provide alternatives to conventional money transactions).

In general, we expect virtuous circles to exist between innovative forms of EC and the expansion of EC in general. Thus, innovative developments make EC more attractive and provide more competitive pressure on various service suppliers. Conversely, the larger markets provide more scope for innovative offerings (unless development is severely restricted within “walled gardens”, etc.)

Thus in **Scenario III**, there might well be serious efforts by some manufacturers and other suppliers to bypass conventional retail in forging customer links. Services designed to appeal to nonaffluent and marginal consumers might also be promoted, with much innovation in consumer-to-consumer-type services. Such developments would be less marked, and more oriented toward high-value goods and affluent consumers, in **Scenarios I and II**.

Delivery Systems

Some products may be delivered electronically – the most obvious cases being software, music and video. Substantial changes might be in the offing not only for high street retailers and rental services, but also for the current publishing and production industries. While this is the hope of some artists, particularly in the music sector, advertising and marketing systems, and the challenges of high production quality (especially in video), are liable to limit such industrial restructuring in at least the short term. Piracy is, however, liable to remain a problem on the Internet.

But most products cannot be delivered electronically, and require physical transport. One of the greatest uncertainties in the EC field is the structure of distribution and delivery systems that will emerge as EC takes off. Evidently there are economies of scale and environmental benefits from a good degree of co-ordinated activity; the challenge will be to reconcile this with commercial competition and the need to capitalise on the perceived benefits of EC in terms of flexibility and speed. Additionally, different types of delivery mechanism may be important for different types of products – at the very least we could distinguish between perishables (which might require refrigeration), time-urgent products, large and bulky products, and very high-value products.

Some established delivery systems like conventional mail and parcel delivery services have a place to play, but the future is liable to see an expansion of other forms. “White vans” (non-polluting?) and other new delivery services, and possibly use of community buses, milk rounds or mobile library services to reach particular social groups. In the scenarios of more rapid growth of EC, we would anticipate both more effort at co-operation among retailers and distribution services in co-ordinating the logistics of multiple deliveries, and more innovation in terms of systems to permit wider outreach.

The point of delivery may be to the consumer’s home, workplace, or to a convenient local pick-up point, such as a local shop, post office, or community centre. Further, evening and weekend deliveries would need to be more common in order to cater for domestic users who are not at home during office hours. Whatever the case there may be more or less “smartness” built into the system. This may include, for example, with alert functions (e.g. informing delivery service that the consumer is at home and ready for delivery, informing consumer that the goods are waiting to be picked up or due to be delivered at a particular time). Such systems may be facilitated by the advent of home automation more generally. There may be use of ID functions to govern entry to

the home (or boot of the car?) or access to the store. Novel devices (e.g. “high-tech coal holes”) may appeal to more affluent and time-pressed consumers, and perhaps to occupants of apartment blocks, etc.

Scenario III is likely to see the greatest mixture of systems, with high-tech solutions for affluent and local and community services for many others; co-operation in flexible and personal delivery across suppliers. **Scenario IV** would require rapid development of public or public-private partnership-based infrastructure, whose rapid roll-out would probably involve fairly uniform standards on a large scale (though room for value-added systems at a premium.) Possibly **Scenario II** would be more characterised by high-tech solutions being predominant, with emphasis on ways of making delivery flexible to requirements of time-pressed consumers (e.g. delivery to workplace, or to the home in response to signals that consumer will be there for the next hour). In **Scenario I**, systems are liable to be more fragmented, expensive and poorly co-ordinated, with increasing emphasis on streamlining these – perhaps by involving consumers more in pick-up or use of storage depots.

Payment Systems

Payment may involve smart cards, entry of conventional credit card details, use of online banking and financial services, or other means. A notable restriction on EC use by some social groups is their exclusion from ready sources of credit and/or electronic cash. **Scenarios III** and especially **IV** presuppose more action with respect to easing access to payment systems than do the others.

Means to allow more of these groups to utilise novel payment systems will need to be introduced in order to allow their use of EC as a transactional medium. (They may be able to search for information or make C.O.D.-type orders, of course.) Social policy may have a role to play here – e.g. speculative plans to make some social security payments in the form of “smart (electronic) money” (that could only be used for certain sorts of payment) or to present school-leavers with an electronic “dowry” on a smart card. These policy measures may be seen as rather radical steps for the next few years, though there has been some serious discussion of such initiatives in policy circles and the media. An inhibiting factor may be the civil liberties position against the large-scale introduction of anything resembling a national ID card.

Private sector initiatives, building on current loyalty cards and credit cards, may be more likely in the short term. The challenge here is always liable to be that of fostering social inclusion. Smart cards or debit cards associated with DTV

systems, and designed to support small payments, are one means of payment which could in principle offer fairly wide outreach – though here safeguards against misuse by family members (e.g. the children who discover the PIN number written down beside the TV set) and theft/confidence tricksters will be required.

4. Regulatory and policy context

Two scenarios - **Scenarios III** and **IV** presume a range of policies that are conducive to the rapid expansion of consumer EC. The other two scenarios are characterised by policy failures that inhibit this expansion in one or other way.

The decision as to when analogue TV will be phased out will crucially affect the uptake of digital TV. **Scenario III** (and also **Scenario IV**) assumes rapid shift to DTV, consistent with the mooted 2006 date for phase-out of analogue broadcasting. (It is interesting to speculate that an “analogue underground” might persist for some time, sustained by VCRs and cassettes, and possibly pirate broadcasting). The other scenarios anticipate a much less rapid shift – which is more in line with the historical diffusion paths of relatively expensive consumer electronic products, and with that of pay-TV services such as those, which subsidise set-top boxes.

Decisions affecting BT’s roll-out of ADSN and similar high-capacity services may also be significant here, along with policies intended to enhance the levels of computer literacy, use of PCs in the general public, and involvement of business (especially SMEs) in EC.

Competition policy is likely to become an important issue if DTV-based EC takes off rapidly. The question of who enters “walled gardens” and at what cost has serious implications in the light of cross-media ownership, strategic alliances between media, retail and financial companies, and the participation of smaller enterprises in consumer EC. Competition policy may also affect retailers’ use of EC to provide special offers, etc. As configurations of content and service provision emerge around the various platforms (especially in the event of further mergers and acquisitions, e.g. in cable): there are liable to be pressures for common standards, rules governing access to competing services (and the prices that may be charged for such access), etc.

Table 6 Detailed Comparison of Three Scenarios: Wider Context

PARAMETERS	Scenario for year 2005			
	I	II	III	IV
Regulatory and policy context				
<i>Competition Policy</i>	-	?	+	+
<i>Consumer Policy</i>	-	+	+	+
<i>Media/telecomms Policy</i>	-	?	+	+
<i>Social Policy</i>	-	-	?	+
Main sectors/products involved – share of EC spend (%)				
Routine household shopping	5	5	8	10
Major consumer appliances (cars, electronics, etc)	30	30	28	26
Information products (books, music, etc.)	13	10	8	6
Travel, holidays, etc.	30	30	28	25
Financial and real estate, etc.	17	15	8	8
Effectively new markets	5	10	20	25
For discussion of <i>Supply-side, Ways of life, High street, & Other Issues</i> , see notes that follow this Table.				

Such issues may overlap with some of those involving social policy – for example, the provision of “open government” and “online public services”, or efforts to make services more accessible and useful to less affluent groups. (One possible innovation would be a digital equivalent to public service broadcasting, but offering “hyperlinks” to citizen’s advice, discount stores, voluntary organisations, etc.)

A balance will have to be struck between regulations that discourage service provision and an unregulated market that is anything but a level playing field. The debate has already become very lively, with fears on the one hand that the BBC’s demands for a digital licence fee will inhibit DTV uptake, and on the other that “walled gardens” may be set up which deliberately or inadvertently fail to give access to wide-ranging and socially inclusive services; on the one hand that public service responsibilities will be required if EC is to be part of a portfolio of socially useful services, on the other hand that commercial initiative could be undermined by noncommercial services (whether these are merely worthy-but-dull, or really innovative).

While these issues are yet to be confronted, there is already much concern that proposed policies over privacy, encryption and escrow, while designed to allay fears of fraud and intrusion into civil liberties, may actually retard use of new media. Certainly such fears are predominant in opinion poll studies of worries about EC, and it is by no means unlikely that there will be some high-profile cases that excite public alarm. On the other hand, the use of credit and debit cards has grown in spite of similar concerns about phantom withdrawals and the like, and experience with convenient and reliable EC may have a similar impact. There may be consumer policy interventions, similar to those currently in place for some financial arrangements, but tailored to the features of the new media – cooling-off periods, confirmations, clear rules about who bears the cost of failed transactions, misleading advertisements, and other sources of consumer dissatisfaction.

Finally, social consequences of EC – traffic congestion associated with home deliveries rather than shopping trips, perceived negative effects on high-street outlets, social exclusion – are also liable to provoke policy debate and possibly action at local and national levels.

In summary, and by definition, **Scenario III** implies policies that are highly supportive of market growth, promoting rollout of DTV, telecommunications infrastructure, and computer literacy. This would involve regulators working with industry bodies to ensure that streamlined competition policy and public support for peripheral groups does not impede innovation.

Scenario IV adds to these major public policy efforts, involving concerted media and social policy, to stimulate rapid expansion of, and wide inclusion in, the information society. **Scenario II** implies insufficient promotion of DTV, meaning

that its uptake remains well below the threshold for analogue switch-off, and equipment prices remain high. (This of course is not solely the responsibility of government.) Policies aimed at reducing social exclusion from EC would remain fragmented and inadequate. In **Scenario I**, these features would be more pronounced, perhaps with restrictions imposed on DTV-mediated EC (on grounds of competition and lock-in fears?). Efforts to promote Internet usage would be at best only moderately successful. This is a scenario in which there are likely to be much more general difficulties in policies aimed at combating social exclusion.

5. Main sectors/products involved

Current consumer EC is heavily weighted toward certain types of good and service. These reflect the interests and resources of early adopters of PC and Web technology – thus the prominence of audio CDs, computer equipment and software, late-availability flights, etc. Wider uptake of computers, and the emergence of PCN and DTV EC, are liable to change this pattern significantly – as perhaps foreshadowed by the involvement of high street banks in DTV experiments. We also suggest that quite new types of service are liable to take off: these are extremely unpredictable in terms of nature and market. Examples might include involving entertainment (e.g. multi-player games, participation in music and other events), gambling, stock market speculation, etc.

We assume that such novel developments are most likely in scenarios with more rapid uptake of EC – **Scenario III** and particularly **Scenario IV**. Other forms of retail are not much more easy to forecast, however, because current EC activity is unlikely to be more than a marginal guide to future development.

In **Scenario III** and **Scenario IV**, in addition to current popular EC purchases, DTV advertising is liable to mean rapid growth of sales of leisure, fashion, small household appliances and other high-value items online. Also a major expansion of use of online services for information-seeking activities, which will link into subsequent (often offline) transactions in, for example, legal services, estate agents, purchase of large consumer durables. There would possibly be a development of sophisticated consumer search systems, allowing for easy identification of the cheapest availability of bundles of routine household purchases. This might favour discount stores, or other retailers offering “smart” packages – perhaps customised down to individual consumers.

In **Scenario II**, EC would probably be mainly restricted to two types of market: high value goods for affluent consumers, and routine shopping for the very time-short consumers. The latter may involve a degree of premium pricing in order to ensure convenience, with brand names and other signifiers of quality playing an important role. Another market may involve hobbyist and nonroutine purchases across conventional income groups. This latter group would probably be relatively more visible in **Scenario I**.

Otherwise, as in Scenario II, EC would here be mainly restricted to two types of market: high value goods for affluent consumers, and routine shopping for the very time-short consumers. The latter may involve a degree of premium pricing in order to ensure convenience, with brand names and other signifiers of quality playing an important role.

6. Supply-side issues

The supply-side (retailers and service suppliers) has substantial influence on the shape and speed of expansion of the EC market. One set of issues concerns the extent to which there is agreement on common standards, interoperability of systems, and similar “Look and Feel” in interfaces, so that consumers do not face repeated learning curves, and do not feel locked-in to particular restrictions through their use of service providers. A second set of issues, also hinted at above, concerns the extent of innovation and co-operation in delivery systems, with possible impacts on costs and on accessibility to EC services in some areas.

The scope for SME entry into EC is extremely significant, since some local retailers and service providers may be able to extend their markets and enhance services at low cost using new technology if the entry costs are low and the technical skills not too daunting. There may be a role here for local intermediaries who offer support services so that SMEs are not required to input much time learning how to design attractive sites, monitor incoming emails and orders, etc. It is plausible that major increases in SME EC could be facilitated by such services; but at present most consultants and IT services are more oriented to larger businesses. It is also likely that the role of ‘infomediaries’ (service providers that build profiles of consumer behaviour to sell to retailers and provide consumers with information comparing the offerings of different retailers) will be significant and have differing implications for each of the scenarios. The extent to which these are successful will impact on the ways that retailers target different social groups.

In **Scenario III** we suggest that entry of SMEs into EC would be substantial, but still very patchy. It is likely that a few notable success stories would encourage many others to enter – helping their survival as regional and local stores, perhaps, but without achieving similar revolutions.⁹ There would be a substantial role for discount stores and for suppliers offering “price erosion” – i.e. substantially cheaper goods and services (especially those like financial services and travel) online. In addition to these, **Scenario IV** suggests a necessity for small scale (public and/or private) service providers that cater for the elderly and geographically isolated.

⁹ If SMEs are to participate extensively in EC, it will be necessary to substantially and rapidly institute a range of business services that ease their transition into the new economy. For example, a service might be offered to local businesses to maintain their websites, check their email, and so on; this could even be compatible with DTV-based EC.

In **Scenario II** there would be more limited entry of SMEs into EC, except where purveying luxury goods or highly specialised services appealing most to affluent or highly educated groups. There would be a more limited role for discount stores, unless they develop strategies aimed more at the upmarket social base of EC use. Finally, in **Scenario I** there would be very limited entry of SMEs and discount stores into EC. Conflicts over standards and interoperability across different operators might prevail, with efforts to establish proprietary interfaces.

7. Ways of life

The main issues discussed in this context include the nature of the shopping experience (both in-home and traditional shopping – how far are these experiences that are enjoyable, sources of social status, etc.), implications for domestic relations in the home (who gets to control the PC or DTV?). And impacts on other household activities (like leisure). Social meanings and routines associated with consumption are often very hard to shift, once established, and the scenarios may be differentiated, in part, by EC having acquired different meanings – in terms of what sort of person is believed to be using the new media for what purpose. Is it seen, or portrayed in the media, as an activity for nerds, simpletons, the super-rich, the go-ahead? Is it something that parents instruct their children in, or vice versa?

There is debate as to how far shopping has become a leisure experience rather than another domestic chore. The answer probably depends both upon the social groups involved and the specific types of goods and service being acquired. If EC reduces the need to physically travel to shops, or to certain shops, then there is liable to be search for new outlets for out-of-home leisure, status differentiation and display, and the like. The social meaning of shopping trips may thus change in positive or negative ways – e.g. to become pure leisure, or a chore for those lacking access to the new services.

In **Scenarios III** and **IV**, home shopping is liable to become a new part of family life, with scope for new joint pursuits – and new conflicts. Leisure shopping would have become more sharply demarcated from domestic work-type shopping – and possibly itself a means of status display. In **Scenario II**, EC would be more likely to be seen as a status symbol, so ways of demonstrating its use would be significant. (Workplace orders, ostentatious use of PDAs, wearing clothes or displaying car stickers that imply the use of EC?) Finally, **Scenario I** would probably be a more muted version of Scenario II, with some popular perception of EC users as technophiles.

8. High street issues

EC will only be one ingredient in the mixture of social, demographic, and economic forces that are reshaping the high street. It is quite possible that the ongoing rationalisation and shift to unstaffed premises in financial services will continue, and will be emulated in some other sectors (estate agents, travel agents?). It is also possible that EC will be seen as responsible for trends that were in any case impacting upon the make-up of high street. In any case, EC should not be seen as simple substitution of existing retail: it may be complementary or involve novel transactions and services.

In considering the possible impacts of widespread EC use on the high street, several points should be borne in mind. First, even without online transactions, the information flows associated with consumer EC may be such as to change the role of high-street outlets. (Thus it is already possible to get a better online service from certain estate agents than can be achieved by visiting some local offices.)

Second, the impact on local high street outlets may not always be to render them redundant. Other strategies and trends may develop. Local outlets might offer enhanced services in order to survive (e.g. adding coffee bars or a much higher quotient of personal service). The depletion of high streets (and shopping malls) is not a given, as new functions such as community facilities, cafes and play areas may be added to existing or new outlets. The make-up of the high street might change, too, with a shift from retail to personal services like hairdressing and catering. Another possibility is that the local outlets may survive, but with their main functions altered, to emphasise delivery, storage, repair, etc. But in other cases the main transactions and physical inspection of goods may remain a local function, while much of the background search and decision-making is undertaken online. Some products may be "browsed" online and then purchased (or picked up) in the high street, while in other cases the reverse may happen.

Third, there may be strong and specific impacts on particular classes of product. For instance, music may be delivered via the Internet to the detriment of record shops, as already noted; but also some newspaper and magazine sales may be undermined by the shift of advertisers (of jobs, of hobbyist goods, etc.) online.

In **Scenarios III** and **IV**, the rapid uptake of EC suggests that substantial impacts on high street would be beginning to become apparent, at least in certain sectors. The pace of change may be hard for retailers and town planners to keep up with. Results might include: increased emphasis on personal service in existing retail and/or move downmarket to cater for nonEC users whose disposable income has still grown; addition of facilities like cafes etc in retail outlets; displacement of some retail outlets by services like cafes and hairdressers.

In **Scenario II**, the direct impacts would probably mainly centre on high value shops and in affluent communities. Retailers' shifts in strategy to deal with such developments may impact other areas. As in Scenario III, a demarcation is possible between outlets dealing with EC-enhanced affluent consumers and others. Retailers' strategies might mean moving upmarket, to cater to those consumers/markets that are less easily satisfied via EC, or downmarket, to benefit from the increasing affluence of those still not likely to use EC. (For example, we might expect more people in lower SES groups to take longer holidays as their disposable income grows, and travel agents could seek to cater to such groups; or they could stress the sort of personal service for high-value holidays that is hard to supply completely online.)

Finally, **Scenario I** is naturally liable to see more limited impacts. However, in this scenario, there may well be implications for the overseas competitiveness of UK retail, and for the entry of overseas retailers into UK.

9. Other Issues

There may well be impacts of particular events – negative impacts such as Y2K disasters or high-profile cases involving insecurity of transactions, positive ones such as EC being successfully tied to major public events – which we might consider. Examples of such events, if not too far-fetched, can help provide a more concrete feel to scenarios.

One such set of events can be described as **technological/economic**. The release of a particularly cheap and effective interface device, for example, might be a catalyst to wide uptake of EC. Better filters to allow parents to screen out porn and limit children's access to various services might be another step (though "walled gardens" would be attractive on these grounds too). Less probably, a shortage of relevant components or skills may inhibit development.

Other events are more **social/political**. It is, for example, very likely that EC will encounter its share of the sorts of problems encountered in the cases of credit cards, premium line services, and computer use more generally – e.g. teenagers running up huge bills on their parents' accounts, confused elderly people squandering or being swindled out of their savings, moral panics about porn and/or free speech. The extent to which such developments inhibit or shape the development of EC will very much depend on the interaction between their treatment of the media and the responses by promoters of EC services. The three scenarios are likely to differ in this respect in predictable ways.

Perhaps less predictable are the effects of international developments. Evolution of the UK EC market – and the suppliers active in it and the regulatory structures that emerge – is likely to be shaped by developments in the USA and the rest of Europe (and hardware platforms are also liable to reflect Japanese firms' strategies). To date there has been a good deal of agreement between governments as to the desirability of rapid expansion of both business and

consumer EC, though disagreements have surfaced over privacy protection and other issues. It is quite possible that as EC becomes more of an established reality, we will see more international friction, with unforeseeable implications for market development.

Questions to Explore Further

For each scenario there are:

- Several ways we could arrive at this sort of future, and several factors which would make such a future more likely
- Several possible ways in which EC might be carried out, possibly coexisting with or without a dominant model. This applies to practically all aspects of EC: hardware platform, interface, service providers, retailer strategies, delivery mechanisms, etc.

Many of the key features of the scenarios are open-ended, and the fleshing-out of the profiles provided above is largely speculative. Some of these open questions could in principle be addressed by further research – for example, considering propensities for different social groups to engage in different types of retail transaction online. The issues can also be illuminated by further Brainstorming, Discussion, and Consensus-Building: workshops for this purpose could help establish where the key points of agreement and disagreement lie. Other methods, such as Delphi, could also be brought into play.

A number of key points to explore further are listed below in Box 3, in the form of questions that might be asked of participants in a workshop. Such questions should also prove useful for decision-makers attempting to determine the importance of EC for their business and areas of responsibility. They can be used to provoke thought, to help consider relevant contingencies and responses, and to facilitate discussion. As with all discussion of EC to date, these are far from exhaustive, and can be related to other scenarios and studies of future trends.¹⁰

¹⁰ A particularly helpful overview of UK trends is the report by Richard Scase, Britain towards 2010: the changing business environment, (London, DTI: available on the ESRC web site at <http://www.esrc.ac.uk/> which reviews a wide range of social and demographic developments.

BOX 3 QUESTIONS FOR GROUP DISCUSSION AND SCENARIO ANALYSIS

Whether to proceed scenario-by-scenario, or issue-by-issue, depends upon the group make-up and agenda. “Break-out” subgroups on specific issues/scenarios may be effective.

For each scenario:

- Do you agree with the *Value of the UK ECommerce market* as set out above? If not reasonable for this scenario, why not, and what should it be? If so, what can we add about this?
- Do you agree with the picture of the *Demographics of use* as set out above? If not reasonable for this scenario, why not, and what should it be? If so, what can we add about this?
- What are the main *trends and choices* which are liable to lead to this scenario – brainstorming, voting to select key factors, consistency analysis to determine whether this is one scenario or more being discussed, consolidation around one or two agreed scenarios (vote if necessary)
- What are the main *Platforms* liable to be in this scenario? How far are there dominant platforms/combinations of platforms in:
 - ❖ *Consumer electronics*
 - ❖ *Interfaces*
 - ❖ *Online services*
 - ❖ *Retail services*
 - ❖ *Delivery Systems*
- If the first impressions given above are not reasonable for this scenario, why not, and what should they be? If roughly accurate, what can we add about them?
- What are the main features of the Regulatory and policy context of this scenario? If the first impressions given above are not reasonable for this scenario, why not, and what should they be? If roughly accurate, what can we add about them?

(continued)

BOX 3 (continued)

- What are the main sectors/products involved in EC in this scenario? If the first impressions given above are not reasonable for this scenario, why not, and what should they be? If roughly accurate, what can we add about them?
- What are the *Supply-side issues* this scenario? (i.e. the role of small retailers and other good/service providers, the role of the media industries)? If the first impressions given above are not reasonable for this scenario, why not, and what should they be? If roughly accurate, what can we add about them?
- What are the implications for *Ways of life* of this scenario? (i.e. patterns of time and space use, family life, community relations) If the first impressions given above are not reasonable for this scenario, why not, and what should they be? If roughly accurate, what can we add about them?
- What are the main *High street issues* arising in this scenario? If the first impressions given above are not reasonable for this scenario, why not, and what should they be? If roughly accurate, what can we add about them?
- Are there significant *events* or *strategic choices* that might exemplify the above developments? How can we best illustrate these?
- Are there other issues we should be considering in these scenarios? What are they, what are the likely developments in them?