

E-Commerce and Its Implications for Competition Policy :
Guidance 21. A report compiled by the Frontier Economics
Group for the Office of Fair Trading.

Introduction

Electronic commerce (e-commerce) is growing rapidly. In September 1999 there were estimated to be over 200 million internet users worldwide, projected to increase by 74% to 350 million in 2005. In the USA, where e-commerce markets are at their most advanced stage of development, inter-business transactions of goods and services over the internet are expected to reach \$1.5 trillion (about £950 billion) by 2003, 14 times the size of total business-to-consumer transactions by the same date.

In the UK, there were an estimated 12.5 million internet users in September 1999 (about 21% of the population). Consumer spending at UK sites in 1999 was around £118 million, up from a meagre £9.7 million in 1997, and projected to increase tenfold by 2005. Total revenues from all forms of e-commerce in the UK in 1999 were estimated at £2.8 billion, rising to £29 billion by 2002. Out of a sample of 357 European companies with turnover over £300 million interviewed by KPMG in 1999, 85% had two-way electronic communication with their customers, and 33% had e-commerce facilities.

How internet technology is going to affect the structure and nature of markets is far from fully understood. This is reflected in the volatile stock market valuations of e-commerce companies - the FTSE techMARK 100 Index, which tracks high-tech stocks, plummeted by over 50% between March and May 2000, from about 5,740 to 2,864. This loss of confidence in high-tech companies came after a period of initial euphoria, as shown by the increase in the Index from its initial value of 2,000 when the Index was first launched in October 1999.

The uncertainties associated with the future developments of e-commerce make it difficult to predict its likely impact on market competition. Certain characteristics of e-commerce might be expected to facilitate entry and reduce costs, with the benefits of greater competition being passed on to consumers. On the other hand, first mover advantages, network externalities, switching costs and other barriers to entry may confer market power to a small number of large players and so reduce competition.

Competition authorities worldwide are faced with the task of ensuring that competitive forces are free to operate in the fast-changing e-commerce environment. The challenge is to protect consumers from companies' anti-competitive behaviour without stifling new and innovative forms of competition, the key drivers of growth in the e-commerce sector.

Overview

The dramatic growth in transactions over the internet will change the nature of commerce in a variety of ways. In some instances, e-commerce simply represents an additional distribution or marketing channel (in the same way that mail order represents a different sales channel from retailing). In others, it may create new

products (e.g. electronic information products), services (e.g. comparison-shopping search engines) or marketplaces (e.g. online exchanges and auctions).

Many characteristics of e-commerce might be expected to increase competition. For example, competition between sellers will tend to be more vigorous when search, menu and transaction costs are low, and when buyers have a wide choice of suppliers. Some characteristics of e-commerce, however, may encourage or facilitate certain types of anti-competitive behaviour, or affect the ability of the competition authorities to monitor such behaviour.

The Office of Fair Trading (OFT) asked Frontier Economics to undertake research into the possible competition policy implications arising from the growth in e-commerce. To do this, they have examined the nature of commercial transactions and how these may be affected by e-commerce. From this, they have identified competition concerns that could potentially arise, as well as implications for the OFT's ability to monitor and regulate such concerns.

In their view, e-commerce will not give rise to any entirely new forms of anti-competitive behaviour, nor will it raise any new issues that cannot be dealt with under the existing competition law framework. However, a number of areas will require careful monitoring, while there are other areas where detailed application of the rules may require some adjustment, or where further research may be useful.

This Guidance looks in turn at three key elements of the application of competition policy: market definition, assessment of market power and assessment of individual agreements and conduct. The key conclusions and recommendations under each of these headings are as follows.

Market definition

The emergence of e-commerce is unlikely to raise new conceptual issues in the context of market definition. In particular, the 'hypothetical monopolist' (or 'SSNIP') test remains an effective tool for market definition.

B This approach asks whether a hypothetical monopolist of a given set of products in a given geographical area could increase its profits through a small but significant non-transitory increase in prices (SSNIP). In some e-commerce markets, where prices are not set by the seller but rather through the interaction of supply and demand within an online marketplace, this test may need to be modified slightly. However, the test can be equally well applied by considering a small but significant restriction of supply by the hypothetical monopolist, rather than an increase in price.

The key market definition issues likely to be raised by e-commerce are threefold:

- Whether e-commerce creates new markets for the purposes of competition policy, or whether e-commerce simply constitutes a new sales channel which competes with traditional sales channels and lies within the same market.
- Whether product markets may be made more narrow or widened as a result of increased scope for price discrimination, or by the various changes in search costs,

switching costs and economies of scale that might be expected to obtain under e-commerce.

- Whether geographical markets will be widened as a result of the reduced importance of geographical location for transactions between buyers and sellers.

Over the short term, application of the hypothetical monopolist test may be complicated by the lack of reliable sales and price data, and by the current speed of change in e-commerce markets. In particular, these rapid changes may affect the degree to which e-commerce services and traditional services compete, and thus the appropriate delineation of the product market, as buyers and sellers alter their behaviour. This will limit the relevance of using past data when analysing current (or future) market definitions. It will also limit the degree to which market participants and competition authorities can rely on precedent when assessing relevant markets.

Over the longer term, data may be more readily available to competition authorities, given that transactions are carried out electronically. These data may not, however, be preserved as a matter of course. The courts and government authorities might therefore wish to think further about procedures for keeping electronic business records for particular types of e-commerce operation (for example online marketplaces).

It is not just competition authorities that need to be able to define relevant markets. Interested parties also need to do so in order to assess in advance whether their conduct will contravene competition law. However, there may be risks associated with allowing these parties access to proprietary sales information on other companies, for example from online marketplaces. In particular, such information transfer could potentially facilitate collusion.

Finally, while some barriers to international trade remain, e-commerce could potentially widen geographical markets, as location may become less of an obstacle to trade between parties. Where this occurs, jurisdictional issues could become more complicated and increase the need for cooperation between competition authorities in different countries.

Assessment of market power

Many characteristics of e-commerce will tend to lower barriers to entry into both B2C and B2B e-commerce, reducing the potential for players to secure and exploit market power. These include, for example, lower search and selection costs on the buyer side, lower transactions costs, the reduced need for physical assets for many businesses, and the rapid expansion of the market.

There are, though, certain characteristics of e-commerce, and associated patterns of behaviour, that may tend to raise barriers to entry into e-commerce services. The most important of these are the following:

- Sunk costs of establishing customer loyalty. In the absence of a local customer base and physical sales outlets, and in the presence of potentially low buyer switching

costs, reputation, branding and customer loyalty may become increasingly important, especially at the B2C level where customers are relatively small and unsophisticated. These factors are known as 'neural real estate', as opposed to physical real estate. The sunk costs involved in developing such neural real estate may create significant first-mover advantages, and act as a barrier to later entrants.

- 'Tippy' markets. Online marketplaces are often characterised by 'network effects', which occur where a system becomes more useful to its participants, the more participants it has. In such markets, the strong players become stronger and the weak weaker as consumers refine their search for the technology that will ultimately prevail. Such markets are called 'tippy', meaning they can tip in favour of one particular firm, with a potential entrant facing large barriers to entry. These barriers will be particularly high in markets where liquidity is important and exacerbated where market participants are tied into the market via proprietary supply chain management systems.

There are a variety of ways in which these first-mover advantages can be reduced:

- Sunk costs of establishing customer loyalty. The ability of sellers to provide tailored offerings to long-term customers, based on information they have gained about these customers, could be reduced if customers were able to port their own database entries from site to site. At the same time, the importance of brand names for winning customer trust can to some extent be reduced by effective consumer protection legislation, or by other companies playing a quality assurance role.

- 'Tippy' markets. The tippiness of online marketplaces will be strongly affected by the ability of market participants to monitor different marketplaces and to switch easily between them. For example, in the C2C auction environment, [biddersedge.com](#) monitors a number of online auction houses on behalf of its users. This reduces the comparative advantage held by the larger auction houses (such as [eBay.com](#)) over smaller competitors and may help prevent the market tipping. Such intermediaries could potentially have a similar effect in B2B markets.

In order to carry out such a function, the intermediary will require access to the price information of all auction houses. However, this information is arguably proprietary and, in the US, [eBay.com](#) has successfully challenged the rights of [biddersedge.com](#) to use its proprietary price information. Such a ruling might be expected to serve to increase tippiness and market power.

Even where first-mover advantages persist, they need not imply market power. High barriers to entry for e-commerce operators will not confer market power on incumbents if e-commerce operators compete in a wide product market that includes traditional commerce, and if barriers to entry into the traditional service are low.

Likewise, even if the relevant market includes e-commerce operators only, high barriers relating to branding for 'pure-play' e-commerce operators (i.e. companies without any traditional market position) need not imply market power, so long as there are sufficient 'mix-play' operators (such as [Tesco Online](#)) that are willing to leverage their existing brand name into an e-commerce context.

Increased buyer power (particularly of businesses) will also tend to limit the extent to which high market shares and barriers to entry will confer market power. E-commerce might be expected to increase buyer power for a number of reasons. Firstly, it facilitates searching by buyers, and thus increases the credibility of threats to switch suppliers. Secondly, it facilitates the creation of buying clubs, often run by an intermediary, whereby purchasers combine their buying needs in order to increase their total buying power with suppliers. Thirdly, buyers may be able to design auctions (and specifically reverse auctions) to their own advantage.

On the other hand, where first-mover advantages do confer market power, they may be of particular concern in rapidly expanding e-commerce markets, since they will tend to result in current market power being maintained and enhanced into the future rather than being transient, as might be expected within such dynamic markets.

Individual agreements and conduct

E-commerce may have implications for the nature, prevalence, and monitoring of a variety of forms of anti-competitive agreements and conduct, including excessive pricing, collusion, price discrimination, predation, vertical restraints, and refusal to supply essential facilities.

Our key conclusions and recommendations in each of these areas are set out below. In investigating such behaviour, the competition authorities will need to evaluate the pros and cons of intervention with great care. On the one hand, where there are likely to be

first-mover advantages, anti-competitive behaviour over the short term can deliver significant long-term effects. Any delayed reaction to foreclosure by competition authorities could therefore have substantial and prolonged implications. On the other hand, the area of e-commerce is highly innovative. Premature intervention by competition authorities could in some cases inhibit innovation and the development of new markets.

One potential approach to this problem might be to apply competition law with a light hand for the present, but to raise awareness of the large fines and risk of structural break-up that might occur at a later date if competition law is found to have been breached. However, threats of future penalties could equally well inhibit the development of markets unless the competition authorities provide explicit and detailed guidelines about the types of agreement and behaviour that may be found abusive

ex post. Moreover, where a market exhibits strong network externalities (which may be the case for online marketplaces), structural break-up may not necessarily be an appropriate response, since it will reduce the value of that market to its participants.

Excessive pricing

The fact that few online operations are currently making any profits is perhaps the most well-known aspect of e-commerce. Over the longer term, however, the possible 'first-mover' advantages held by some existing online marketplaces may place them in

a relatively entrenched market position and confer upon them significant market power.

The emergence of e-commerce is likely to increase the number of competition cases alleging:

- excessive pricing resulting from distortions to market design;
- excessive returns to intellectual property rights; or
- excessively low prices achieved through buying power.

While there has been a recent OFT research paper on the third of these issues, there may be a role for further analysis of the competition implications of different forms of market design and some revision of intellectual property laws. With respect to the latter, the US Patent and Trademark Office has responded to criticism over the role of patents in cyberspace by saying it will overhaul its procedures for granting 'business method' patents.

In addition, certain characteristics of e-commerce businesses, such as the uncertainty of future profits, high risk of failure and high sunk investments in intangible assets, may create difficulties for the empirical assessment of excessive pricing or profitability. The competition authorities will need to ensure that a proper ex ante analysis of profitability is undertaken. Further research into these issues may be valuable.

Collusion

Collusion may be facilitated where parties are able to communicate with each other, interact repeatedly, monitor and detect cheating, and put in place punishment mechanisms.

Internet technology might seem to offer the ideal micro-climate for collusion, due to increased communication and transparency in the market, as well as the potential for more frequent market interactions. In particular, collusion concerns may well arise with respect to market design and ownership within both online marketplaces and joint internet sales ventures.

Three aspects of collusion are likely to create the highest uncertainty for businesses and may thus warrant further investigation.

- Information-sharing. There are many benefits to interested parties from accessing market data. As such, it would be inappropriate for competition authorities to prevent information-sharing unless it raised a serious risk of collusion. A better approach may be to provide guidance to businesses on the degree and types of information that may be shared. Such guidance might take into account the fact that the provision of historical sales data can have less impact on the potential for collusion than the sharing of current sales data.

- Market design. The way in which online marketplaces are designed, and their ownership structure, can have important implications for the ability of participants to collude. This is also an area in which further research would be worthwhile, given the rapid emergence of online marketplaces in a number of different industries.
- Horizontal agreements. More generally, guidance may be useful on which forms of horizontal agreement between competitors will generally be permitted, and a detailed description of how collusion will be assessed.

In order to improve the monitoring of collusion, the competition authorities might wish to develop their own market-monitoring search engine software, which might be used to track prices, sales and conversations in chatrooms, with the aim of detecting evidence of collusive behaviour.

Finally, the competition authorities need to be aware of some of these issues when imposing remedies on parties which relate to making prices publicly available on the internet, even when the investigation relates to 'traditional' markets.

Price discrimination

E-commerce has a number of characteristics that might be expected to facilitate price discrimination, both in the B2C and the B2B arena:

- First-degree price discrimination, which involves a seller pricing to each individual customer at that customer's maximum willingness to pay, may be facilitated by the growing use of auctions and exchanges within online marketplaces.
- Second-degree price discrimination, which involves self-selection by customers amongst a variety of different product offerings, may be facilitated through the use of yield management pricing systems and increased 'versioning'.
- Third-degree price discrimination, which involves offering different prices to identifiable customer subgroups, may be facilitated by the use of 'cookies' alongside detailed customer databases, which enable companies to tailor their offerings to different categories of customers.

Price discrimination can often be efficient and beneficial for welfare. However, it can also both distort competition and facilitate excessive pricing.

Whilst price discrimination may become more widespread, the existing competition framework and tools would appear largely sufficient to deal with these various issues. There may, however, be benefits to be gained from preventing companies from sharing sensitive information about customers' shopping habits and giving customers rights to greater access to the information held about them in suppliers' databases. This might allow customers to make more sophisticated and informed choices between suppliers and would also reduce problems associated with 'weblining' (the internet equivalent of 'redlining'), whereby companies are able to mark out some types of customers as being unattractive.

Predation

It can often be difficult to distinguish predatory behaviour from vigorous competition, and this problem may well arise in e-commerce markets. Many e-commerce players are currently incurring short-term losses, with the expectation of profits over the longer term as weaker players drop out of the market and the survivors gain stronger market positions.

As such, their behaviour might appear to satisfy all of the key steps of a predation test. The applicability of the usual predation test may, however, be compromised in this situation, due to the importance of sunk investments in intangible assets, economies of scale and uncertainty of future profits.

Vertical restraints

E-commerce may change the prevalence and nature of vertical restraints. This is because the characteristics of the internet may result in more integration by suppliers into retailing their own products, the development of new intermediaries, increased buyer power for downstream firms, wider geographic markets and increased ability for suppliers to monitor directly the behaviour of their retailers.

Such changes, and their implications, can all be assessed under the current competition policy framework. However, there are two key issues raised by vertical restraints within e-commerce:

- Implications of first-mover advantages. Short-term foreclosure, achieved through exclusive vertical agreements, can potentially have significant long-term effects if first-mover advantages are important.
- Evaluation of selective distribution systems. The most common competition complaint in the e-commerce area currently relates to e-commerce operators being refused supply of products when they are readily available to distributors in traditional sales channels. Under EC competition law, selective distribution is usually exempted from Article 81 so long as the criteria adopted for choosing distributors are objective and qualitative, and there is no restriction placed upon passive sales by distributors within the system to other distributors' customers. By contrast, restrictions on active sales are considered acceptable.
- Differences between e-commerce and traditional commerce raises difficulties for applying the same qualitative criteria to both traditional and e-commerce retailers. In addition, it is far from clear how one would distinguish an 'active' from a 'passive' sale in the context of e-commerce. The conditions employed for assessing selective distribution may therefore require refinement as e-commerce develops as a sales channel.

Access to essential facilities

The conditions that must be met for a finding of abuse in essential facilities cases, as set out in the case of *Oscar Bronner v Mediaprint and others* (1998), are very strict. As such, they are unlikely to be met in many cases.

Refusal to supply access will often have important implications on competition in e-commerce markets:

- Access to online marketplaces. Where an online marketplace is owned by a number of the major buyers or sellers in a market, there is a risk of third-party buyers or sellers being denied access to the market, or alternatively being given access only on such bad terms that they are unable to compete effectively.
- Access to portals. Links from portals can play an important role in bringing customers to a given e-commerce site and in encouraging trust in that site. Fair and non-discriminatory access to portals may thus play an important role in the success of e-commerce companies in certain B2C markets.
- Access to software design. For example, Amazon.com is currently engaged in a patent infringement case with BarnesandNoble.com for its 'one-click' software. If successful, Amazon may be able to preclude its competitors from using this feature, which could in turn limit their ability to compete.

As such, there may be a role for a more stringent treatment of those cases than is suggested by existing EC precedent.

Refer to website:www.offt.gov.uk/html/rsearch/reports/oft308.htm

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