
Introduction

1 Aims and methodology

The most difficult task when writing a legal text is deciding what to leave out. This difficulty is compounded at least a hundred-fold when the subject of the book is Internet law. The reason for this becomes apparent when the so-called ‘Cyberspace fallacy’ is examined more closely.

The Cyberspace fallacy states that the Internet is a new jurisdiction, in which none of the existing rules and regulations apply. This jurisdiction has no physical existence; it is a virtual space which expands and contracts as the different networks and computers, which collectively make up the Internet, connect to and disconnect from each other. The geographical locations where activities occur are often purely fortuitous, dictated by the then current configuration of the Internet. The world-wide accessibility of the Internet means that no one legal jurisdiction has *de jure* or *de facto* control of these activities. From all this, it is concluded that no jurisdiction has *any* control.

A moment’s thought reveals the fallacy. All the actors involved in an Internet transaction¹ have a real-world existence, and are located in one or more legal jurisdictions. The computing and communications equipment through which the transaction takes place is also located in legal jurisdictions, even though it may be

1 Terminology will be a constant difficulty in this book. It is likely to be many years until there has been sufficient legislative and judicial activity to develop an internationally agreed terminology for Internet activities. It is therefore necessary to define terms as the book progresses – to assist the reader, these terms will be defined in footnotes where appropriate. A further problem is that many words carry with them a set of legal associations which may be inappropriate in the context of the Internet. I have therefore attempted to select terms which carry as few of these associations as possible. Thus far, there are three terms which require definition: ‘Internet’ means the then subsisting virtual network created by the internetworking of other networks, connected using the TCP/IP protocol or other means of open access to information. Readers must remember that the Internet has little or no fixed existence or infrastructure, and its configuration changes from second to second. ‘Actor’ means any person (legal or natural) who sends or receives information via the Internet. This includes intermediaries who receive and pass on information. Actors may not be acting consciously – in many instances the actor will be acting via one or more computers which are programmed to exchange information without any human intervention. ‘Transaction’ means an exchange of information between two actors. The legal effects of that exchange of information are a separate matter, and it should not be assumed that a transaction has any legal effects at all.

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difficult to identify precisely which equipment was in fact used. It is inconceivable that a real-world jurisdiction would deny that its laws potentially applied to the transaction. In fact, because the Internet is accessible from almost everywhere in the world,² transactions whose real-world analogues would have been restricted to only one or two jurisdictions may potentially be subject to *every* jurisdiction – this is particularly clear in the case of advertising via a Web site.³ It may be that the Internet, rather than being unregulated, is in fact the most heavily regulated ‘place’ in the world.

It follows that a definitive work on Internet law would need to expound all the laws of all the countries which might potentially have an impact on Internet transactions. Such a book would be almost impossible to produce, and would in any case be grossly repetitive of legal analysis already accessible in standard works. For example, a sale via the Internet of a music CD from a Ruritanian seller to a Ruritanian buyer, with all the electronic messages passing through a Ruritanian Internet service provider, is clearly a sale of goods subject to Ruritanian law. No useful purpose would be served by rehashing the standard work on the Ruritanian Commercial Code.

It also follows that a book which expounds the law of one jurisdiction, as it relates to the Internet, is likely to be of limited utility.⁴ An Internet transaction, even though it appears to take place between actors in the same jurisdiction, may in fact involve other jurisdictions.⁵ Furthermore, because the Internet provides the cheapest mechanism for dealing with customers outside one’s own jurisdiction, most Internet commerce enterprises will have a substantial number of foreign customers.

What then will this book leave out? The answer is, those elements of the law which are equally applicable to a real-world transaction. However, the difficulties of identifying which laws apply to the transaction and which states have jurisdiction over it must not be underestimated – these will be examined in Chapter 7. What the book will attempt to deal with is the law which is applicable only or mainly to the Internet, together with those aspects of the law which apply to Internet transactions in very different ways from their applicability to real-world activities. The aims of the book are thus:

- to analyse the fundamental issues which are raised by the advent of the Internet as a global communications mechanism;
- to identify the challenges to existing laws and regulations which this new communications mechanism poses, illustrating them by examples drawn from as wide a range of jurisdictions as possible;

2 Or even from outer space. 3 See in particular Chapter 7.1.3.4 and 7.2.1.3.

4 Inevitably, given the author’s physical location in the UK, the book refers to more UK legal materials than those from any other jurisdiction. The intention, however, is to give a fair picture of the state of the law on a global basis, even if there is some geographical bias in that picture.

5 E.g. information exchanged between two subscribers to CompuServe (at least before its acquisition by AOL) always passed through computers located in the US, even if both subscribers were accessing the network from the UK.

- to identify trends in the development of the law in respect of each of these issues; and
- to analyse potential mechanisms for addressing the challenges.

How far these aims have been achieved, only the reader can judge.

So far as methodology is concerned, I have not adopted any jurisprudential, political or social theory as an aid to discussion. It seems to me far too early to attempt an analysis of Internet law based on a theory which predicates particular results as desirable. As the book will, I hope, demonstrate, some Internet activities are effected through mechanisms which are so different from those to which the law is designed to apply that achieving *any* result is difficult, let alone a particular, desired result.⁶ Instead, the book adopts a bottom-up method of analysis: first identifying the new types of activity which appear to fall outside existing categories of law, then assessing how far the existing law is extendable to cover those activities and what results it produces, and finally assessing the global consensus (if any) which appears to be emerging as to how those new activities should be addressed by the law. This is not to say that the book is entirely value free, or that it does not make suggestions as to the desirability of particular solutions; but to the extent that explicit values are used to assess the developing law, these are mainly those of consistency, effectiveness in achieving the law's aims, and enforceability.⁷ More perceptive readers will no doubt identify the implicit and unconscious value assumptions which inform the author's opinions.

So far as possible, the law is stated as at 1 January 2004. However, the law in this area continues to develop at such a pace that some of the materials discussed here may have been overtaken by later developments which escaped the author's notice. Readers should be warned that the legal materials examined in each chapter are not the only applicable materials on the topic, but have been selected as representative of the current state of global development in the area. The most that this book can claim to offer, therefore, is an overview of the current state of Internet law as seen from one commentator's perspective together with some predictions as to its future development.

2 The technical and economic context

Internet law needs to be understood in both its technical and economic context. Those new to the topic might be forgiven for thinking that the former is the most important – after all, the Internet is one of the most 'technical' phenomena around. In fact, the technical detail is often comparatively unimportant. The fundamental technical characteristic which affects the law, and which it is vitally important to

⁶ This is particularly apparent in the field of taxation of electronic commerce – see Chapters 7.2 and 8.1.

⁷ These assessments are made on the collective effects of the global set of laws under discussion, not on any one country's laws. Because of the global and undifferentiated reach of any Internet activity, a self-consistent system of national law may still be 'undesirable' if it is radically different from the other laws of the world, irrespective of its merits when examined in isolation.

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understand, is that the Internet is nothing more than a method of transporting digital information. The consequences of that transport usually have legal effects, but the precise mechanism used to transport the information will in many cases be legally irrelevant.

There are two consequences of this technical characteristic which have a far-reaching effect on the law, however. The first might be described as global equivalence – all computers which are connected to the Internet are equally close to, and accessible to, any Internet user. National boundaries may have some meaning at the level of the physical infrastructure of the Internet, but so far as users and service providers are concerned they hardly exist. Indeed, a service provider who wishes for some reason⁸ to customise that service for different jurisdictions may find it nearly impossible to do so. The second consequence arises from the fact that information is transported only in digital form. This makes it possible for actions to be taken as a result of a digital transmission of information, based on automated decision-making without any human intervention or thought (other than that necessary to set the parameters of the automated decision-making in advance). Much of our existing law is based on attributing consequences to human behaviour and decisions, and its application may prove difficult when the human element is absent.

This is not to say that the detailed technical operation of the Internet is always unimportant; in some instances, its effect on the law is dramatic. This occurs when the law's impact is based not on the mere fact of information interchange, but on the way in which the interchange took place. Contract formation⁹ is merely the most obvious example. In those circumstances a detailed understanding of the technical context of the transaction at issue can be vital, as the apparent flow of information (so far as the human user is concerned) may be very different from what is occurring at the hardware and software level. The technical issues are examined further in Chapter 1.

Finally, so far as the technical context is concerned, an important new characteristic of the Internet is that it makes far greater use of intermediaries for the communications process than previously. These intermediaries work in unexpected ways, and their relationships with the communicating parties are also new and often undefined in law. Chapter 2 examines this issue further.

However, the economic context is far more important to the current and future shape of Internet law. This economic context arises from the technical characteristics of global equivalence, digital transmission and automated decision-making, identified above. It is now generally recognised that the advent of the Internet is creating a fundamental change in the way that many commercial activities are, or will soon be, undertaken. The precise nature of that change is as yet unknowable – we

⁸ E.g. to remove the risk of non-compliance with, or subjection to, a particular country's laws – see Chapters 7 and 8.

⁹ See Chapter 6.2.

are only just now at the stage which the telephone reached about a century ago¹⁰ and the computer half a century back.¹¹ Some of the economic effects of these three technical characteristics can already be seen, however:

- Global equivalence means that any Internet business has access to a global marketplace. Previously, globalisation of a business was a slow and expensive process, which required the establishment of branches or agencies in each country where customers were to be solicited. Now, the costs of setting up a theoretically global business are almost identical to those of setting up a purely national one,¹² although the practical difficulties of establishing a global brand so as actually to reach customers are still substantial. From the customer's perspective, all Internet businesses are equally 'local', as the transaction costs of ordering from each are the same. As a result all Internet businesses have, or should have, global ambitions.
- The digital transmission of information has three main economic consequences. The first is that the costs of communication have been lowered very substantially. The cost of an international business letter, excluding staff costs, is likely to be in the region of US \$1, and international faxes longer than a single page will probably be even more costly. An individual email or Web page access is so cheap that its cost is almost impossible to quantify. The second consequence is that a digital communication from a customer can automatically be integrated into a business's other information systems, cutting out a large element of staff costs. For example, the customer becomes the business's data entry clerk, and the roles of bookkeeper, invoice issuer and stock controller also disappear. The third consequence is perhaps the most fundamental – because information can be transmitted in its 'pure' state, rather than recorded on some data carrier such as a book, a disk or a CD-ROM, it becomes economic to sell it in small packages, rather than as the larger bundle of information necessary to achieve the price which makes production and carriage of the data carrier economic. This opens up the possibility of a new type of economic good, the 'information product', and thus a brand new area of economic activity.
- Automated decision-making also has substantial economic effects. The most obvious of these is the reduction of staff costs – the minimum size for the sales and marketing staff of a business selling digitised music on-line via a website is precisely zero! Less obvious, though perhaps of more economic significance, is the saving to be made from integrating sales and marketing with all other facets of the business, such as stock control, purchasing, payment receipt and accounting. This is particularly relevant in business-to-business electronic commerce.

10 At the time, no-one seems to have envisaged that the telephone would become a mass communication device, and economic models for its use were predicated on particular types of service. For example, a Budapest telephone service was set up in 1893 whose main purpose was to provide on-line news and entertainment to subscribers; in the 1920s and 1930s it had over 10,000 subscribers – *Economist*, 31 December 1999, p. 85.

11 Around that time the chairman of IBM is reputed to have predicted that the world market for computers in the year 2000 could exceed 100. My university department, the Centre for Commercial Law Studies at Queen Mary University of London, owns about that many (not counting outdated computers which have not yet been disposed of).

12 Leaving aside legal and regulatory compliance costs, which are highly significant on a global scale.

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These economic drivers produce a very different business model from the traditional one, in which a business entering a new national market needed to establish local branches or agencies, engage staff, develop a local distribution system and engage in local advertising. All these were clearly subject to local law, and differences from the laws of the other places in which the business operated could be accommodated comparatively easily. The new business model for the Internet is of an enterprise which operates each of its functions from one locality only, servicing its global operations from that one place. In doing so, it bypasses the traditional mechanisms of dedicated staff and premises on which much of national law impacts.

If we combine this new business model with new ways of operation, in particular making use of new types of intermediary service which do not fit easily into existing legal categories, and add to it the global reach and new products and services made possible by digital information, we should not be surprised if new laws and applications of existing laws are found necessary to regulate the relationships between those involved.

1

The Internet as a distributed environment

1.1 Introduction

One of the great dangers when examining a technical subject is misuse of the collective noun. For example, for many years some biologists argued that evolution worked, in part at least, through natural selection at the level of the species. ‘Species’, however, is a collective noun for the whole set of individual members of that species, and it is now clear that the evolutionary mechanism works only at the level of individual species members, or even at the lower level of the individual genes which have determined that individual’s characteristics.¹ For the purposes of evolutionary study, treating a species as a discrete entity is simply incorrect.

The word ‘Internet’ is, perhaps surprisingly, also a collective noun. This fact is obscured because we tend to speak of ‘the’ Internet; as a result it is very difficult not to think of it as a single entity.² For the purposes of legal analysis, however, this single entity perspective is almost always misleading. It leads to a number of assumptions, all of which are false:

- that there is a recognisable controller of the Internet, who might ultimately be responsible for it;
- that the Internet has a fixed, definable infrastructure; and
- that the information and services obtainable via the Internet are provided by that entity called ‘the Internet’.

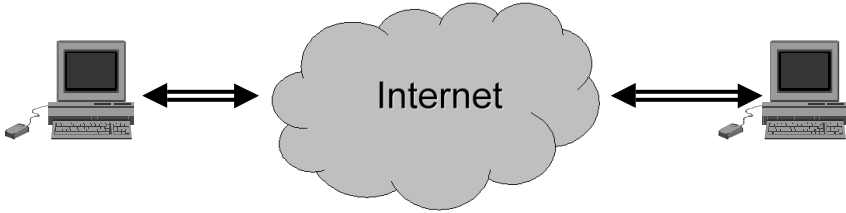
This perspective leads to the following picture of the Internet,³ in which users interact via a mysterious mechanism which is nonetheless self-contained:

1 Dawkins *The Extended Phenotype* (Oxford: Oxford University Press, 1982) p 99 ff.

2 In about 1997, rumours circulated that the senior partner in a City of London law firm (unnamed) had inquired in all seriousness ‘I’ve been reading a lot about something called the Internet; should we get one?’.

3 In an attempt to avoid confusion, ‘Internet’ will be used when reference is made to the internet-working infrastructure, while the adjective ‘internet’ will be used when describing technology and services relating to the Internet.

8 The Internet as a distributed environment



To understand the legal implications of the Internet we must step back from this perception of it as a single entity and ask ourselves three questions:

- What functions does the Internet perform?
- How does it perform them?
- Which legal or natural persons are involved, and what is their role?

1.1.1 The functions of the Internet⁴

The basic function performed by the Internet is extremely simple – it transports digital information from one computer to another, and nothing more. In other words, at the functional level the Internet is no more than a communications technology. The meaning of the information communicated via the Internet is completely irrelevant to its transport; that meaning is determined by the software which receives the information. Any type of information which can be translated to digital form can be transported – the most common types of information are text, numerical data, images, sounds and video.

Any additional functions which are effected via the Internet are not performed by the Internet itself. They are *services* which are provided by one or more of the players involved. All these services are performed by the exchange of digital information.

1.1.2 Performance of those functions

The transport function is performed by copying the digital information from one computer to another until a copy reaches the receiving computer. The information, however, is not sent in a continuous stream. Instead, the sending computer splits the information into discrete packets or datagrams, each addressed to the receiving computer, which reassembles the information once the packets have arrived. The intermediate computers work simply on the addresses of each packet, forwarding it to another computer until it reaches its destination. There is no need for these packets to follow the same route, or to arrive at the same time or in any particular order.

1.1.3 The players

From all this, it follows that there will be more persons involved in any transmission of information than simply the sender and receiver. The packets containing

⁴ The definitive set of specifications for the Internet and its operations is the 'Requests for Comment' (RFC) series of documents maintained by the Internet Engineering Task Force – www.ietf.org/rfc.html.

the information transmitted will have been copied by one or more intermediary computers, which may not be the same computers for each packet. At this stage, for the purposes of legal analysis it is simplest to divide the players in an internet information exchange into two groups:

- The parties to the exchange, ie the computers of sender and recipient which are at either end of the transmission.
- Intermediaries, ie all the other computers which receive and pass on packets.

A more detailed analysis of the players is attempted in Chapter 2.

1.1.4 Types of connection

All the intermediaries mentioned above are (for the time being) connected to other intermediaries and are passing addressed packets back and forth.⁵ The parties to the exchange, however, may have different types of access:

Crocker To Be 'On' the Internet (March 1995) Network Working Group, RFC 1775, p 2⁶

2. LABELS FOR INTERNET ACCESS

The following definitions move from 'most' to 'least' Internet access, from the perspective of the user (consumer). The first term is primarily applicable to Internet service providers. The remaining terms are primarily applicable to consumers of Internet service.

Full access

This is a permanent (full-time) Internet attachment running TCP/IP, primarily appropriate for allowing the Internet community to access application servers, operated by Internet service providers. Machines with Full access are directly visible to others

5 In internet technical language the sending and receiving organisations (or more accurately the software applications they are using to communicate) are known as 'hosts', whilst the intermediary organisations are known as 'routers' or 'gateways'. It is important not to confuse this usage of the word 'host' with the hosting of a website, where one organisation provides space to store the files which make up another's website and provides access to it.

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attached to the Internet, such as through the Internet Protocol's ICMP Echo (ping) facility. The core of the Internet comprises those machines with Full access.

Client access

The user runs applications that employ Internet application protocols directly on their own computer platform, but might not be running underlying Internet protocols (TCP/IP), might not have full-time access, such as through dial-up, or might have constrained access, such as through a firewall. When active, Client users might be visible to the general Internet, but such visibility cannot be predicted. For example, this means that most Client access users will not be detected during an empirical probing of systems 'on' the Internet at any given moment, such as through the ICMP Echo facility.

Mediated access

The user runs no Internet applications on their own platform. An Internet service provider runs applications that use Internet protocols on the provider's platform, for the user. User has simplified access to the provider, such as dial-up terminal connectivity. For Mediated access, the user is on the Internet, but their computer platform is not. Instead, it is the computer of the mediating service (provider) which is on the Internet.

Messaging access

The user has no Internet access, except through electronic mail and through netnews, such as Usenet or a bulletin board service. Since messaging services can be used as a high-latency—i.e., slow—transport service, the use of this level of access for mail-enabled services can be quite powerful, though not interactive.

1.1.5 A revised perspective of the Internet

From all this we can see that the Internet is not an entity, but a communications infrastructure. To the extent that it *is* a thing, it is a network of networks, all inter-networking with each other by passing data packets.⁷ The internetwork expands and contracts as connections are made and broken.

Users communicate with each other across this infrastructure using client/server technology. This means that one communicating party runs client software, which requests information, and the other runs server software which meets that request. A clear example of this is viewing a Web page. The user enters the address (URL)⁸ of the page into his browser software (eg Netscape Navigator or Internet Explorer). This is the client software. It generates a request for the page, which is sent via the Internet to the computer on which the page is stored. Web server software running on that computer responds to the request by sending the packets which make up the page to the browser software. The browser then reassembles them and displays the page.

Thus a more accurate model of the Internet, and the one which lawyers must adopt is as follows:

⁷ See Lars Davies 'The Internet and the Elephant' (1996) *International Business Lawyer* 151, April.

⁸ Uniform Resource Locator, made up of the domain name + directory structure + filename – eg www.ccls.edu/itlaw/index.html.