

**The Development of and
Competition between Internet
Service Providers in the United
Kingdom**

by

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Synopsis

This analysis is an examination of the Internet Service Provider industry in the United Kingdom, focusing not only on the rapid development of the industry in recent months and years, but also studying the effect that competition within the industry has had on the relevant business landscape.

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Chapter 1

Introduction

"Technology made large populations possible; large populations now make technology indispensable."¹

Until the birth of the World Wide Web in 1990, the Internet was almost entirely unknown outside universities and research departments in corporate environments. The Internet industry in recent times has substantially grown from an exciting innovation in the early 1980s to a global communication tool both now and in the future, affecting almost every task we perform and integrating itself into our culture. Businesses have recognised that the Internet is a powerful medium not only for the promotion of their services, but also for the *extension* of their services – the web has the capability to extend the abilities of each individual and company many times over. Individuals have developed the same recognition – that the information held on the Internet can not only help their daily lives, but also *extend* their knowledge of the outside world to a huge extent. Since 1990 it has grown to become an almost-ubiquitous aspect of modern information systems, becoming highly commercial and a widely accepted medium for all sort of customer relations such as advertising, brand-building, and online sales and services. Its original spirit of cooperation and freedom has, to a great extent, survived this explosive transformation with the result that the vast majority of information available on the Internet is free of charge.²

The enthusiasm for this medium is today so great that it's presence is unavoidable and inescapable; so pervading that we are now said to be in the 'Information Age', or 'Digital Age'. According to Neilson NetRatings³, in the month of March 2001, the Internet user population was approximately:

- 166.4 million people in the United States
- 24.6 million people in Germany
- 22 million people in the United Kingdom
- 8.9 million people in Australia
- 1.9 million people in Singapore

Given that the total United Kingdom population is only approximately 60 million, these statistics show that currently a third of the people in Britain are in some way connected to the Internet. This goes some way to explaining why, as the consumer gateway to the internet, Internet Service Providers seem in the last couple of years to have become so prolific as to have saturated the market; this in turn may explain why many fall by the wayside in the struggle to gain customers and revenue. Is the money that is thrown at these new ISP start-ups acceptable? The increasing prevalence of the

¹ Joseph Wood Krutch

² The Free Online Dictionary of Computing, 2001, Dennis Howe

³ <http://www.neilsonnetratings.com>, 2001

Internet in the United Kingdom has led to a demand for the lowering of access fees, to such an extent that many companies simply cannot cope with the low profit margins. Is this low income, high consumer base platform sustainable? Is the Internet likely in the future to become monopolistic, duopolistic, or at least stifled to competition, due to the high entry barriers and short-term financial losses? Has the increased competition led to a fall in the quality of their services?

Another aspect that this study will address is the social impact resulting from the success or failure of Internet Service Providers. The increasing use of the Internet is one that many people find disturbing.

*"The Internet is so big, so powerful and so pointless that for some people it is a complete substitute for life."*⁴

While access to the information and strata provided on the Internet is seen as a huge benefit, is the decline in real face-to-face communication a necessary trade-off?

In this study, I will try to answer many of the questions posed by the emergence of the Internet Service Provider's role in the UK's online landscape, including the queries posed above. The term 'Internet Service Provider' is taken to generically mean a company or organisation that provides access to the Internet. This may also include those companies that, in addition, provide business services in the Internet field. It is assumed that the reader has a basic understanding of the Internet. Consumer decision models will be briefly observed and commented on, and competitive analysis will be undertaken using Porter's Five Forces model (1979) to provide an overview of the environment in which Internet Service Providers operate.

⁴ Andrew Brown

Chapter 2

Research Methods

Several research methods have been introduced in this study to gain the results needed.

Primary Research

To get a healthy perspective on the issue discussed in this study, primary research consisted of informal discussions with not only the ISPs' IT departments, but also the customers and general commentators that have knowledge of the general business landscape. The author also spent a one-year Industrial Placement at Sun Microsystems as a Web Technologist, dealing with ISP's like Cable and Wireless and Demon Internet. Being in a position to gain details from contacts within the company, the author was able to gain useful information on both the workings of the companies involved and the outcomes and problems the ISPs have faced in the last couple of years.

In addition, several telephone interviews were conducted with relevant personnel within various Internet Service Providers. Email communication also played a part in gathering research findings.

There were some problems in collecting this data, however. Many of the emails sent out were unanswered – perhaps a nod to the pressure that ISPs are under to deliver, and the lack of customer support that they deliver. Also, while some interviewees were very forthcoming, nearly all were reluctant to delve too deep into their workings, both financial and technical, possibly because of the threat to their reputation and security. In addition, much of the data collected may now be slightly out of date, as the ISP market is a highly motivated and fast-moving one.

Secondary Research

Owing to the subject matter in this study being of a volatile, fast-moving and rapidly changing nature, the amount of printed publications and literature attributed to the topic is limited, and is less up-to-date than those resources on the internet. However, several industry journals and personal subscriptions to technological publications are used to form a practical background, and due to the nature of the topic, substantial Internet resources and commentators on the issue have been drawn upon. Additionally, resources from the City Library and the Frewen University Library in Portsmouth are used to back up the study's findings.

Chapter 3

Literature Review

Product Life Cycle

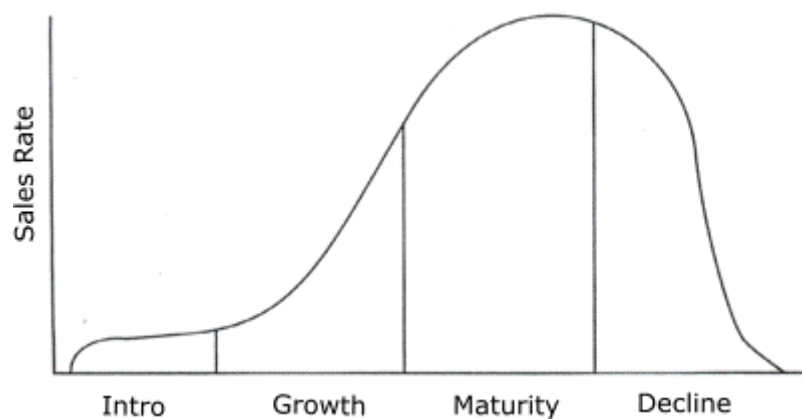
A product life cycle has the objective of finding the value and profitability of a product at various stages in time:

1. Introduction – Slow sales growth, profits nonexistent
2. Growth – High sales growth, high profit, marketing objectives aimed towards high market share, developing core product for needs of market
3. Maturity – Sales slower, focus on profit, increased competition, diversification
4. Decline – profits erode, services withdrawn.

Philip Kotler⁵ states that a life cycle of a product must consist of four points:

1. Products have a limited life.
2. Product sales pass through distinct stages, each posing different challenges, opportunities and problems to the seller.
3. Profits rise and fall at different stages of the product life cycle.
4. Products require different marketing, financial, manufacturing, purchasing and human resource strategies in each stage of their life cycle.

Kotler also points out that a product is ‘one of many’ in a market, and from this the author also ascertains that the threat of substitute is present.



⁵ Kotler P. Marketing Management, Millennium Edition Chp 10, pp303, 304

While application of this concept is useful for analysing the results of this study, there are detractors, one of the most prominent being Doyle, who gives the opinion that “the product life cycle is not of much use for marketing strategy”. One criticism of the PLC is that there is no indication or definitions of when a phase may start or finish, and is generally vague in respect of how far to apply it.

Porter’s Five Forces Analysis

As will be seen, the Internet Service Provider landscape in the United Kingdom is one of intense rivalry and competition. Financial success is essential to survive, and Porter’s Five Forces model⁶ provides the theory that structure is the key to profitability, rather than the attributes of a product. It constructs analysis of competitive rivalry, the power of buyers, the power of sellers, the threat of entry and the threat of substitutes in a market.

As a company enters a market, it is essential that the competitive backdrop is taken into consideration and analysed thoroughly. If there are any powerful buyers or sellers in the market, this would be a negative aspect – the buyers would force down the prices by demanding a good or better service, and the suppliers would have a negative effect of the profitability of a market. If the threat to entry is considerable, then the market will be attractive to competitors, with low barriers to entry, and potentially substantial profits. The threat of substitution analyses what alternatives the consumers in the market have, and what may devalue the market’s positive aspects.

For high profitability, companies must be able to manage all forces to keep them low. Johnsson and Scholes⁷ maintain that the model should be more ‘dynamic’ and be applied to political, economic, social and technological environmental trends, also known as a PEST analysis. However, this model is a successful and widely used one, and is still relevant in the study’s analysis.

Cost leadership and differentiation

In addition to the Five Forces analysis that Porter puts forward, he identified cost leadership, focus, and differentiation as the three generic strategies that allows companies to cope with the Forces better than their rivals.

Cost leadership occurs when a company of organisation aims to become the most streamlined, smallest possible cost producer in the market. Inevitably, this strategy also delivers higher revenue and profit, and enables the company to develop within its

⁶ First published in the Harvard Business Review (March-April, 1979)

⁷ Johnsson G Scholes K. Exploring Corporate Strategy. Prentice Hall 1997

scope. Firms that follow this strategy need less skill in marketing and more in distribution, purchasing and manufacturing.

Cost differentiation implies that a service or product holds a niche, a unique position in the market that is valuable to a buyer. The firm must fix the price at a level sufficient to cover the greater costs sustained to differentiate the product. Porter argues that the buyer's value chain holds the answer to defining the differentiation in a product or service⁸.

Focus is where a firm follows one of the two previous strategies, but focusing on a restricted segment of the market

In order to achieve higher than average returns on their investment, companies have to differentiate or lead on cost. A run of the mill, ordinary company will only yield high performance if it is in an attractive and uncompetitive industry; the average market does not lend itself to 'easy money'. As Kotler states, "Differentiated marketing typically creates more total sales than undifferentiated marketing."⁹

A downside to differentiation is that it increases business costs - for example, the promotional costs of reaching different markets, administrative costs of different marketing plans, product modification costs.

Resource-based view

During the 1980s, the resource-based view was coming into prominence. This model analyses the strengths and weaknesses of a firm, its strategy and its resources. To understand this view, Barney tries to pitch the resource-based approach against the other features in models he names 'environmental models'. He states that the resource-based view removes the two main assumptions that other models base themselves on¹⁰:

- Homogeneity of resources and opportunities among firms operating in the same industry.
- Perfect resource mobility

In other models, uniform strategy behaviour becomes the condition for firms operating in the same market with the only choice for firms being which market they can occupy. The resource-based view gives the firm freedom to adopt a strategy in relation to its development.

Strategic Alliances

Many firms have found that they would yield better returns on their investment if they collaborate with strategic partners, either within or out of the market they are in. The new technology that is being developed today is requiring that standards are developed – this can only be done through agreement and alliance between major

⁸ Porter M. Competitive Advantage 1985 Macmillan Canada Chap 1 pp131-132

⁹ Kotler P. Marketing Management, Millennium Edition Chp 9, p276

¹⁰ Barney J. Firm resources and Sustained Competitive Advantage, Journal of Management, Vol. 17, No. 1, 1991, pp99-101

firms in the market.¹¹ Globalisation plays an important part in the growth of strategic alliances – companies operating in unknown countries need alliances with firms familiar with the territory.

¹¹ Kotler P. Marketing Management, Millennium Edition Chp 3, p81

Chapter 4

Historical Overview of the Internet landscape in the United Kingdom

While this study is focused on the development and competition of Internet Service Providers in the United Kingdom, it is important to lay out the background to the current Internet climate.

While connections to the Internet in the United Kingdom were formed in the 1970s (with the Advanced Research Networks Agency, or ARPA, connecting around 20 sites by the end of 1970¹²) and early eighties (with the Joint Academic Network, or JANET coming online in 1984¹³) it was only the big businesses and academic communities that could either afford the technology or benefit from its early advances. The individual could not see the benefits of an online presence – it simply did not make sense in any context. Even before the many technical problems were addressed (sluggish or lost connections, complicated setup procedures, lack of functionality), it was obvious that there was no need for the minor benefits it would offer them. If people wanted to talk to someone, they picked up the phone; if they wanted to share some hardcopy of information, they could meet up in a restaurant or a pub. But with the advent of major companies from the United States selling their connections in the UK, interest began to grow. The World Wide Web, a user-friendly ‘face’ of the Internet) was developed and in 1990, American ISP Compuserve introduced a package that allowed those with some spare income to gain access to their online services. Response was slow at first – not only did the consumer have to buy the service, but also the hardware (for example a modem) to allow the connection to be made. It wasn’t a cheap pleasure – the first online package retailed at around £50 a month. Also, the first few subscribers were part of a very small community (only 412 people in the first two months signed up), and many wondered what the purpose of the Internet was without the community to back it up. But as more subscribers signed up to the service, so the economies of scale brought the costs down. The computer manufacturers and online providers that would ultimately benefit from the services began to market the idea as a viable recreational tool, and the communities began to grow. By 1992, several UK-based competitors (for example, ClaraNet and Demon) entered the fray. The services offered were by no means extensive – email and access to information was made available, but an Internet gateway wasn’t established until 1995.

Since then, accessing the Internet has become consistently cheaper and easier. The increasing pace of developing technology made for a rapid increase in both the amount of customers and the changing landscape of the United Kingdom online

¹² Peter T. Kirstein, Early Experiences with the ARPANET and INTERNET in the UK

¹³ Hobbes’ Internet Timeline

consumer market. As more services are developed for the Internet, there is more incentive for users to be online. The Internet as a whole in the United Kingdom, as well as the rest of the world, cyclically promoted itself – the more uses and applications available, the more users came online; the more users online, the more applications were needed.

Recent Overview of the Internet Landscape in the United Kingdom

Following the development and foundation of the online community in the United Kingdom, the Internet has become the main source of connectivity and information in recent years. By 1999, non-subscription ISPs were surfacing, followed quickly by Screaming.Net, the first completely non-charging ISP. From June 1997 to November 2000, over 19 million people have ‘logged on’, amounting to over 33.5% of the population¹⁴. An independent survey conducted in April 2001 has shown that over 9 million households in the UK, or 37.2 percent of the total number of households, now have Internet access¹⁵.

Growth of Internet usage in the UK (June 1997 – November 2000)

<u>Date</u>	<u>Number of Users</u>	<u>% Population</u>	<u>Source</u>
November 2000	19.98 million	33.58	Nielsen NetRatings
July 2000	19.47 million	32.72	Nielsen NetRatings
May 2000	19.36 million	32.53	Nielsen NetRatings
January 2000	15.7 million	26.56	Fletcher Research
December 1999	13.98 million	23.65	Computer Industry Almanac
September 1999	12.5 million	21.15	CommerceNet/Nielsen Media
December 1998	10.6 million	18	NOP Research Group
October 1998	7.5 million	16	CNET
March 1998	4.3 million	9.0	NOP Research Group
June 1997	960,000	2.0	NOP Research Group

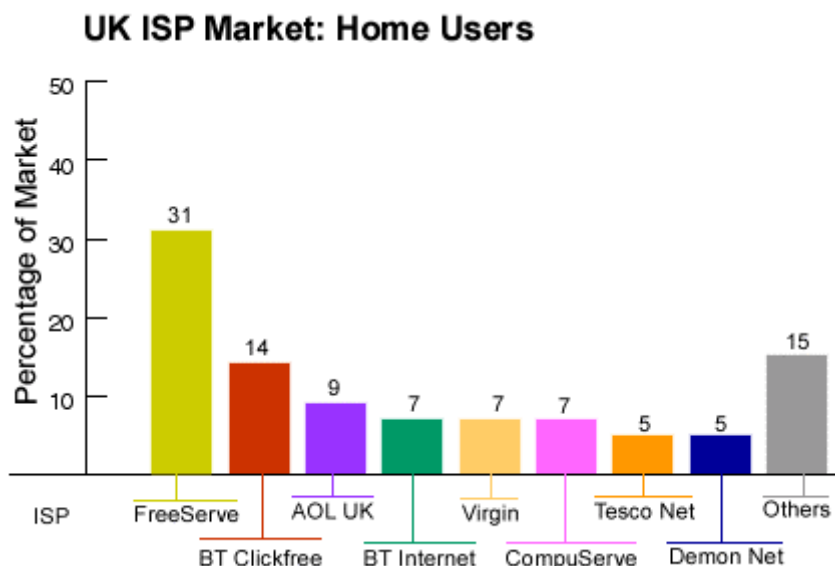
As is shown, in the 4 months from July 2000 to November 2000, 510,000 new UK users came online. In March 2001, the online population in the UK stood at 22 million¹⁶, an increase from November 2000 of 2.02 million. This in itself demonstrates a sharp rise in the number of online users, and one that has been fuelled by a lowering of both price and access barriers, more about which will be discussed later. The overriding impression currently is that the Internet is integral to our way of life – people have access to a whole range of services and opportunities that streamline their lives and enhance their standard of living. Demographically, it would

¹⁴ Neilson Netratings, 2001

¹⁵ NetValue.com, 2001 (http://www.nua.ie/surveys/index.cgi?f=VS&art_id=905356684&rel=true)

¹⁶ Neilson Netratings, 2001

seem prudent to assume that the internet attracted mainly men, but a recent survey¹⁷ in January 2001 concluded that women and girls constitute 40 percent of the UK's internet users. Sites like 'handbag.com' and the emergence of other health, shopping and beauty sites aimed at women have helped the female online population grow more rapidly than the male side of the equation.



Almost every task is now available on the Internet. Online shopping began to take off with the introduction of the successful Tesco Internet Shopping trial, which has now been copied around the country by other supermarket chains. It made a profit last year of £400million in March 2000 – March 2001, which, although dwarfed by the overall sales figure, shows the potential for this supermarket medium. Online banking is now available from almost every bank. Both these innovations not only make it easier for the consumer, but also ease the pressure at the high street stores the companies occupy. Online communication is a way of life – it is now customary to keep in contact with new and old friends through email.

¹⁷ NetValue.com, 2001 (http://uk.netvalue.com/presse/index_frame.htm?fichier=cp0041.htm)

United Kingdom – Online Statistics (March 2001)¹⁸

Number of Sessions per Month	12
Number of Unique Sites Visited	19
Time Spent per Site	19: 16
Time Spent per Month	5: 58: 12
Time Spent During Surfing Session	28: 57
Duration of a Page viewed	00: 45
Active Internet Universe	11,363,210
Current Internet Universe Estimate	22,012,162

¹⁸ Neilson/Netratings 2001

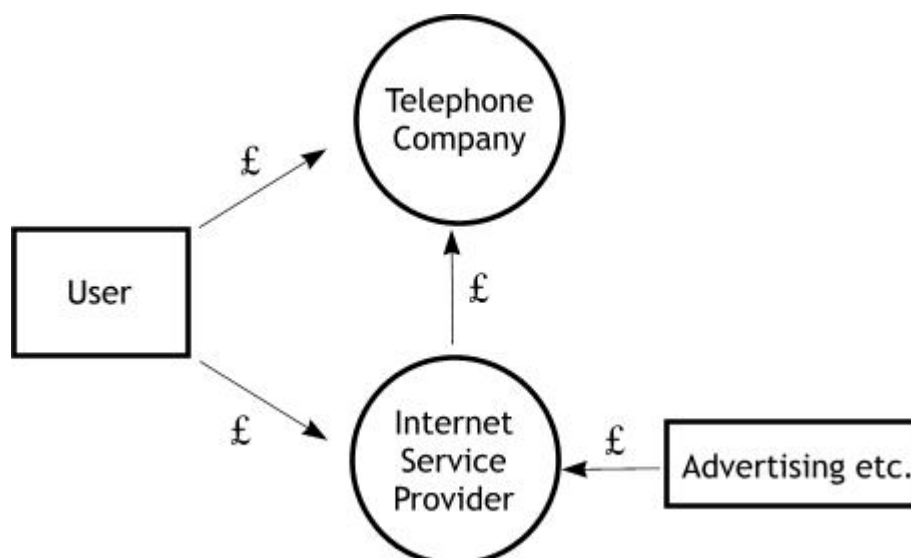
http://209.249.142.22/hot_off_the_net.asp?country=europe#united_kingdom

The Missing Link: The Internet Service Providers' role as the gateway to the Internet

While it is interesting to assess the online landscape of Internet usage in the United Kingdom, it would of course never exist without the companies that operate between the consumer and the technology. Due to the complex nature and high costs of maintaining a connection to the Internet, firms specialising in providing an Internet service act as an intermediary in the rush to get online. Compuserve was the first major ISP to actively focus on home users, tapping into the revenue that this would generate. However, the huge increase in popularity of Internet access has seen an influx of new ISP's, all clamouring to offer the general public a service in return for huge revenue.

The Development of ISP's in the United Kingdom

The ISP market in the United Kingdom was based for many successful years, on a tried-and-tested subscription-based model. This model has been proven to work in many fields of service, from magazine subscriptions to domestic services. A user paid the ISP for access to its services, and paid the telephone company for the calls to the ISP. This was a straightforward business model, which provided revenue for both the ISP and the telephone company, who got additional income from leasing the consumer dialup lines to the ISP. This model was copied for many years by other ISPs, and was justified at the time by the high cost of providing the service. The costs of the service varied from ISP to ISP, depending on their scope of business and the services they offered.



During the implementation of this business model, the technology become more widespread, prolific and therefore cheaper for the ISPs to provide. While the consumer was paying roughly the same price as they were when the technology was first available, the ISPs services were getting cheaper to provide. The ISPs began to

provide more and more services to appease the customers, and to some extent this paid off.

It became clear that while there was more choice than ever for the consumer, all the ISPs offered roughly the same services, for roughly the same price. There were several different groups of customer needs:

- Small businesses - required high quality capabilities such as increased webspace, impressive customer service, high reliability, no 'branded' services
- Professionals/Frequent Users – required high connectivity, high reliability
- Erratic/Infrequent Users – required connectivity

While the business side was catered for with the 'online solutions' of companies such as NicNames¹⁹, the overwhelming majority of users merely wanted a connection to the internet, without paying any extra for services that they wouldn't use. So, while the services couldn't change at that time, the pricing structure could. The various pricing structures are detailed below.

However, now that many ISPs and pricing structures have been established. The services that many ISPs offer is expanding. As less revenue is coming in directly from customers, especially in the case of non-subscriber ISPs, companies look to other services for income. When Freeserve launched, it offered no subscription charge, but instead offered many services like news, weather, sport updates, financial updates, and Desktop Lawyer, a law reference and advice service.

¹⁹ <http://www.nicnames.com>

Internet Service Provider – Overall Models

The author will now discuss the various options now available to the consumer.

Subscriber-based ISPs

This type of ISP is part of the original business model for ISPs to follow, and one that, although greatly reduced in numbers, still carries on today, but with a different emphasis. In the early stages of Internet Service Providers in the United Kingdom, all ISPs had a subscriber base, with the services being provided bundled in an all-in-one package. More recently, the focus has moved away from trying to be ‘all things to all people’, and is mainly now focused on the high-end business users, customers which need a good, solid and reliable base to form their online presence.

Typically, their services include:

- Subscription of £9.99 per month or more.
- 0845 lo-call access number
- Unlimited email addresses
- 20Mb webspace
- BT rate telephone support

From this brief list, you can see that while there is still a subscription fee, it is considerably smaller than the earlier pricing structures of subscription ISPs – this is due to the competition they have not only with companies in the same sector, but also with the so-called free ISPs. However, the subscriber-based ISPs tend to provide far better customer support, as they have the financial means to provide it.

On highly successful example of this is the American company America Online (or AOL) who offer the same Content-based all-in-one package that was offered initially to consumers (albeit with far more services). This has become particularly popular with what is termed as ‘newbies’ – consumers who have limited knowledge on the Internet, and need a ‘guiding hand’ to explore it

Free 0845 ISPs

During the late 1990s, it was apparent that the price of Internet access was becoming a barrier to the success of both the various companies and to the Internet as a whole. These ISPs offer a subscription-free service to consumers, leaving users only paying for the phone call to the provider. As an additional incentive, and by definition, all 0845 ISP’s use the BT lo-call rate 0845 tariff, thereby providing a cheap solution to accessing the Internet. One of the first of this category was Free-Online, and while many pioneers of this model have now vanished, the popularity of many of them suggest a strong need for this kind of ISP.

One major success was Freeserve, an ISP set up by the Dixons Group. While this service initially didn't offer noticeably more than other ISPs, it was backed and funded by a huge and highly successful company, and this instilled consumer confidence. Its promotion was massive – every high street store advertised the ISP, and the company was highly prevalent in the media, through newspapers, magazines, television, radio, billboards – almost everywhere people looked, there was contact with the benefits of using this ISP. The hype worked – within 6 months, it had the largest subscriber base in the United Kingdom, beating even the mighty dinosaur AOL. Its success was a mixture of timing, (the service was launched at a time when the United Kingdom was waking up to the benefits of being online), innovation (it was one of the first successful non-subscriber ISPs) and consumer confidence.

However, there has been a small growth in recent months of ISPs using this model to the fullest degree – many now offer an anonymous dial-up to which anyone with a modem can gain access. While this is undoubtedly useful for many people, it has nevertheless given rise to anonymous threatening postings – ones that can only be traced back to the ISP and not the individual. This threat to online security is one which will be discussed later in this study.

Virtual ISPs (Affinity ISP)

During the growth of the ISP market in the United Kingdom, many users were supplied by large ISPs that attempted to cater for a broad spectrum of users, without targeting any specific group. A need for more specifically-targeted ISPs, whether catering by location, profession, language or other subject of common interest, was met by a plethora of 'virtual ISPs', which uses the facilities and services (servers, switches, backbone, etc.) of a large ISP, but retains its own branding for marketing and billing purposes. After obtaining a sufficient number of customers, a virtual ISP may decide to build its own facilities and operate independently.

Virtual ISPs had the added advantage of being easier to set up and launch – all the background work was already done. Therefore, the United Kingdom saw a huge increase in these types of ISP in the late 1990s. While the easy set up was a huge bonus for the management running the Virtual ISP, it also led to a lack of technical expertise in the field – when problems arose, many fell by the wayside, allowing to more established ISPs to flourish.

There have been many successes too, as shown by Madasafish²⁰, a youth and music-orientated virtual ISP boasting over 50000 users, and FreeUK²¹, a company running off the ClaraNet backbone.

²⁰ <http://www.madasafish.com>

²¹ <http://www.freeuk.com>

Broadband ISPs

Broadband ISPs, by definition, give services to customers with access to broadband capabilities. By 'broadband', the study uses the definition offered by TechEncyclopedia²²: 'High-speed transmission'. The broadband service providers typically consist of high-speed T1 lines (offering 1.5 Mb/second data transfer, as opposed to the standard modem speed of 56kb/second), DSL lines, ISDN lines and the increasingly popular cable modems. All offer permanent connections point-to-point, but require specialist equipment to function. This means a higher cost, and therefore excludes many users' online requirements.

More recently, with the rapid technological advances, the actual threshold of broadband has become very subjective, and is taken to mean anything that 'implies transmitting at higher speeds than what has been most common up to the current time'.

Unmetered ISPs

'Unmetered Internet Access' is defined as access to the Internet without a per-minute charge.²³ It therefore follows that an Unmetered ISP controls and gives access to the Internet without a per-minute charge. This extension of the increasingly cheaper (for the consumer) ISP models is based on three main structures:

- 24x7 access offering unmetered Internet at any time of day or night.
- Off-peak access offering unmetered Internet in the evenings and weekends.
- Weekend only access.

This model was started prematurely in 1997 with a service called FreeMail offered by two companies, TelMe and Scottish Widows. It provided free call access to special email software, for free, supported by adverts. While this was a boon for users, it was financially unviable in the telecommunicational economic climate of that year, and was soon shut down. The real pioneer of unmetered access was X-Stream, a company still successful today, which in 1999 offered advert-supported access at weekends using an 0800 dialup code. Naturally enough, the service was very oversubscribed, and one of their biggest downfalls was the quality of service.

Other companies consequently mooted the benefits of offering unmetered access, but there was a financial barrier for the companies. British Telecom own the telecoms network that the ISPs use to run their services, and are therefore seemingly running a

²² <http://www.techweb.com/encyclopedia/defineterm?term=broadband&Define=Define>

²³ <http://www.dictionary.com>

financially beneficial monopoly. BT charged the ISP not only for every time the 0800 access line was dialled, but also for using BT's network. The ISPs declared this as unfair, and in 1999 asked the OFTEL, the telecommunications watchdog, to intervene. British Telecom was forced to devise a pricing plan more in favour of competition, and in June 2000 introduced the Flat Rate Internet Access Call Origination model, or FRIACO. FRIACO, simply put, is BT's long-term, OfTel-enforced unmetered wholesale package for ISPs who can then resell Internet use to their consumers. More about this will be discussed later.

Due to this rate change, it became more viable for ISPs to offer a flat-rate service. Several major companies managed to offer a successful flat rate service, including AOL, FreeServe, and BT Internet. One company even offered completely free access, without charges or phone costs. CallNet0800, a company with backing from a major American telecommunication company launched in winter 1999. Because of this backing, it was felt that the company would be successful. Their main income was through advertising, but despite huge publicity and customer base, the costs proved too substantial, and within a year the company gave up its totally free service, and reverted to its original 'Pay as you go' 0845 system.

How is an unmetered ISP funded?

During discussions with the Information Technology department at X-Stream, the first truly free Internet Service Provider to appear in the United Kingdom, I have established several ways in which unmetered ISPs fund their services.

Subscription

Many highly regarded ISPs now use a subscription not only as a means of getting the main revenue back from the customer, but also to develop customer loyalty and improved service. A standard rate of around ten to twenty pounds a month is applied, and no other charges apply. This is beneficial to the consumer, as the fixed fee leaves no confusion or 'hidden' charges. A subscription can be levied in addition to modest marketing.

Per-minute billing

Some providers offer a freecall service but charge you per-minute of use, direct to your credit card. These, however, are not widely used, and seem less secure in customers' minds than a monthly tariff.

Advert sponsored

When the free ISP model first started, gaining revenue from advertising was seen as a major way of justifying the financial outlay. For example, X-Stream, the first ISP to

offer totally free online access, made the customer run a program that displayed advertisements while surfing. This proved successful, and X-Stream is still trading today.

Partial 0800

Some ISPs only offer free access at certain times, in order to advertise their service, and build consumer loyalty for when the service reverts back to a metered format. Currently, only two ISPs are practising this, IC:24 and X-Stream.

Coupling with other services

One of the first 0800 access ISPs was Screaming.Net, which offered completely free access when the customer switched to their telecommunications network. Therefore, the revenue from its customers using their voice services counteracted the outlaying cost of the ISPs online service. This cross financing made the idea of succeeding while giving the online user total freedom a possible success. While the founding company LocalTel was taken over by World Online and the terms and conditions modified greatly so as to not give *too* much away, the company is now a successful ISP in its own right.

Start up Costs

When Callnet0800 first came into service, the consumer was made to buy a 'router' that routed all calls via their own voice network. This covered some of the cost of free online access.

Difficulties faced by Internet Service Providers in the current climate

The current Internet climate is one that has changed considerably during the period 1999-2001. Due to the competition between the many ISPs presently offering their services, the companies are being stretched to the limit financially. The continuing demand of consumers to be provided 'something for nothing' is taking its toll on the financial viability of running an online service. While the ISP would want to keep the services that attracted the consumers in the first place, it simply is not possible to maintain the same levels of service that a subscription-based ISP would have.

Service Levels

The general service that an ISP offers differs from company to company. The amount of downtime that an ISP suffers is usually the basis for an informed decision on the choice of ISP. Almost all of the free 0845 ISPs offer support that is charged by the minute. While the level of support may be the same, the fact that support calls are charged to the telephone company lowers the level of tolerance in the consumer. Also, the staff that mans the support lines may not have been sufficiently trained due to a lack of initial funds. Many ISPs have suffered criticism for their low standard of support. The main argument that the ISPs make is that of 'you get what you pay for', and to some extent this is true. The lacks of funds make it virtually impossible for non-subscription ISPs to compete consistently with subscription ISPs. However, subscription ISPs are by no means faultless. BTInternet, a subscription-based service that has only recently removed its ties with its old owner British Telecom, has suffered several problems since its launch. While many complaints can be attributed to the lack of current support for British Telecom among its customers, faulty technical service and poor telephone support are just two of the problems that have dogged the ISP since its launch. Even now, 3 years after it started, the ISP has failed to rebuild its poor newsgroup service, a problem pointed out within days of trading.

Security

Another problem that Internet Service Providers have faced is the continuing issue of security. Due to the complex nature of the Internet and its technical components, many people are naturally cautious about allowing themselves to be active online. As the online community grows, there have been increasingly frequent reports of security breaches, particularly in regard to financial services of the web, and these stories can only harm the image of the Internet as a secure environment. The ease with which ISPs can now start up (for example, virtual ISPs have their technical backbone already in place) means that their staff are not as highly technical as they could be. When Callnet0800 first launched, they advertised how easy it was to sign up with them online. Their potential consumers had to enter their details online, including their credit card details. There was one major problem with this setup – Callnet0800 had forgotten to put the payment form on a secure web server. Without a secure server, even modest hackers could intercept the information being sent, and later use the details for criminal activities. A secure web server would have encrypted the order form data from your browser before being sent (uploaded) to the Web site, making it extremely difficult for a third party to decipher credit card numbers and other sensitive data that it may receive.

Consumer base

A big problem currently for ISPs is gaining a suitable consumer base. During the period January 1999 – January 2001, the Internet consumer base in the United Kingdom grew 26.5%, but the number of available connections rose 52%²⁴. Due to

²⁴ <http://www.ispplanet.com>

this rapid expansion, and the obvious shortfall in consumer numbers, it has been a struggle to survive for some of the less well-prepared and less well-funded ISPs available, with many ISPs withdrawing their service (for example, Callnet0800) or modifying their service (for example Screaming.Net).

A large consumer base is not only beneficial to cover the costs of the ISP – it can also bring in revenue for other services that the ISP, or parent company, may offer. For example, Totalise, a British ISP, has diversified into many non-technical areas (for example car imports, flower selling etc.) and cross subsidises each of their services.

Finance

The constant demand for cheaper net access has prompted many of the big companies to offer better and better deals to the consumer, in the hope of drawing in the big consumer base this study deals with above. Once the base is established, consumers are more likely to stick with and trust the company, which can only be beneficial. However, currently the ISPs' finances are being stretched more than ever with the introduction of unmetered access. This cost, and its effect on the ISP will be discussed below.

Censorship

Due to the increase in usage, many families are now concerned over the material found on the internet. In theory, anyone can put any information, however subversive, on the internet, and anyone, however young, can access and read it. To address these problems, several companies including NetPatrol and CyberNanny have developed software that attempts to block information of a dubious nature to those that do not wish to see it. However, this is proving a little hit and miss, with most software merely searching for words that indicate a subversive nature, regardless of what context it might be in.

The Cost of Unmetered Access to the Internet Service Provider

Several of the big unmetered ISPs (LineOne, CallNet0800, AltaVista etc.) have fallen by the wayside in recent months. Upon their downfall each made surprisingly similar claims; blaming the impossible economics involved in offering a free call (unmetered) ISP service. Blame ended up being focused on British Telecom for not providing a suitable service and the telecommunications watchdog Oftel for not pushing the company hard enough to achieve the result. While both issues are correct it may be correct to say that the ISPs themselves are partly responsible for their inability to predict the market correctly.

Even before the service changes forced on British Telecom, several ISPs had managed to offer their own unmetered service. Screaming.Net offered their first package in 1999, and it took over six months for other companies (for example ClaraNet) to follow suit. Just under a year later, British Telecom introduced

BTSurfTime, a standard set specifically for ISPs wanting to offer unmetered access. This scheme, however, had many detractors, mainly because it ended up costing far more for irregular users to access the Internet.

British Telecom then offered FRIACO - an acronym for Flat Rate Internet Access Call Origination, introduced in June 2000 to develop a more level playing field for ISPs to develop and compete.

OFTEL, the telecommunications regulatory watchdog, introduced three key developments²⁵:

- British Telecom leases an access port for your Internet Service Provider to use, which will typically accommodate six to twelve dialup users, for just over £400 a year.
- To give your ISP access to the wider Internet, British Telecom buys into a number of competing bandwidth operators offering wholesale access through FRIACO.
- The ISPs connect the bandwidth operators together.

These steps will ultimately cost the ISP between sixty and eighty percent less than previous models. As it will cost the ISP about £60 per user to support, it has been calculated by organisations such as CUT²⁶ that it should be possible to have economically viable Internet access at minimal (or nil) cost, assuming the service is supported by advertising. This scenario, of course, does not take into account external economical and social factors. In reality, as services like RedHotAnt have shown, other factors tend to affect the financial outcome, with the prospect of failure for many.

FRIACO was mainly developed to provide a complete solution to the problem of delivering unmetered Internet access at a reasonable cost in the United Kingdom.

The main sticking point with previous attempts was that British Telecom controlled both directions: also, British Telecom was selling it as a retail product, with a complex interaction between your ISP and BT and confusing billing.

Being a standard that is adopted by the main telecommunications company in the United Kingdom, it is hoped that FRIACO will take off substantially. Many previous

²⁵ <http://www.unmetered.org.uk>

²⁶ <http://www.unmetered.org.uk>

schemes have falling behind and consisted of poor service, and these may now breathe their last and make way for the new, cross-partisan approach.

The ISPs are understandably shy about giving the details of their costs, but OFTEL details that "the price of FRIACO will be £424.25 per year for each 64kb of capacity." While this phrase is technologically worded, it implies that each port has 64kb of capacity, and each port can handle up to twelve users, a ratio of 1:12. However, any ISP delivered this ratio would give very poor service, and for any ISP to succeed, it would have to deliver a ratio of between 1:3 and 1:5. This means extra cost to the provider. True unmetered service (1:1) would cost the user around £50 a month, a price which only a few would be willing to pay.

Without using the FRIACO option, each ISP would have to use the 0800/0808 freecall option. A charge of 0.9p a minute is levied to British Telecom, which is charge to the ISP. Therefore the monthly fee is based on the amount of time the ISP thinks the consumer will be online. Initially it was thought that the average user would only spend an hour or two online per day, a theory that has been shot down by statistics. Higher-priced services (for example, 247freecalls' £19.99 a month fee) seem the only way for ISP to get profit for service.

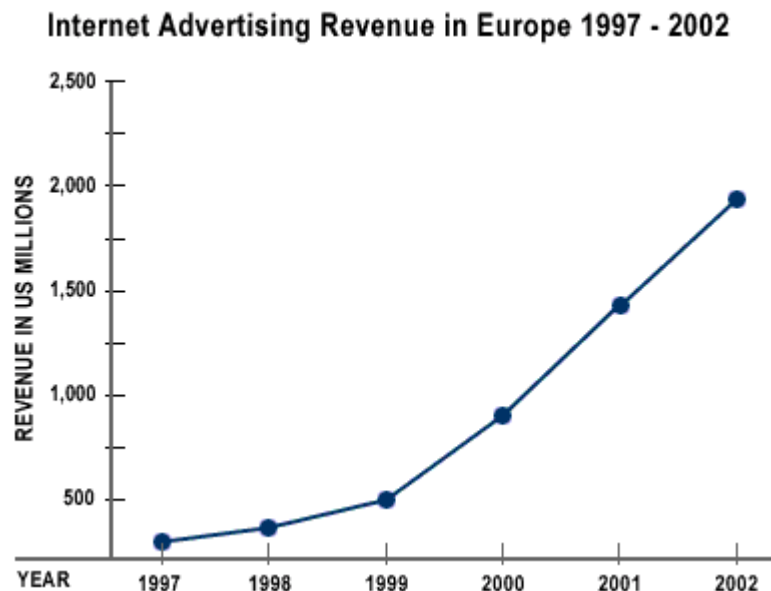
The author believes that the price of access will now remain the same, with quality and service improving steadily over time.

Chapter 5

Application of Key Concepts

Product Life Cycle

Utilising a technology that is still considered fresh and 'new', Internet provision can be said to be at the tail end of the 'growth' phase of the product life cycle. The ISPs whose revenue is based mainly on advertising revenue can take comfort from the fact that support is gleaned from the NUA statistical research conducted in the past few months and years :



The graph predicts that far from faltering, the Internet is still a prime source for revenue, and will almost double its 2000 revenue figure by 2002. This shows a huge growth that is in fact gaining speed as the Internet becomes ubiquitous. A survey by Euromonitor shows that by the end on January 1999, 4.3 million people used the internet in the United Kingdom, and predicted that this number is likely to increase to nine million by the end of 2002, more than doubling.

According to this model, services at the growth stage should be looking to sustain their growth for the longest period possible. They lower prices 'to attract the next layer of price-sensitive buyers', and 'enters new market segments'.²⁷ Marketing could shift from product awareness to product specific advertising.

²⁷ Kotler P. Marketing Management, Millennium Edition Chp 10, p309

However, the companies also should be experiencing ‘substantial profit improvement’ according to Kotler²⁸. This, however, does not fit with the current economic climate of the Internet Service Provider industry, so there may be a case for stating that the ISP market has entered the ‘Maturity’ phase. The growing number of ‘dotcom’ failures and ISP withdrawals in the United Kingdom backs up this theory. It is ‘simply not viable’, said Richard Branson, owner of Virgin.Net, ‘to achieve profitability to support your business when the marketplace is as crowded as it is.’ The saturation experienced by ISPs is beginning to tell, and while the growth of the online community continues, the growth of ISPs cannot. Also, users are beginning to show signs of awareness of the opportunities and choices on offer, further backing up the ‘Maturity’ phase.

Porter’s Five Forces Analysis

Threat of Entry

As described above, the barriers to entry have lowered recently, with the introduction of not only cheaper technology, but also the loaning of backbone technology to virtual Internet Service Providers. Therefore, start-up costs are minimal, providing the basis for the saturation of the market at present.

The Dixons-funded Freeserve ISP was an industry-changing company, one which rendered the previous business plans of ISPs useless. It offered its services to all potential internet users without exception – this economy of scale enabled Freeserve to sustain its business model. Other ISPs followed suit, such as Virgin.Net, while many companies jumped on the bandwagon (for example Tesco.com and IC24). Firms aiming their services at business users have not seen such a huge rise, mainly due to the cost of the services that businesses demand.

Power of the Supplier

The telecommunications firms, such as British Telecom, are the suppliers in this study, and it has been shown that the company has been delaying changes and fighting quite successfully to keep their profit margins, and squeeze any competition out of the market. The deregulation of the industry has achieved a more level playing field for Internet Service Providers, as OFTEL now oversees the price British Telecom charge. While this has limited British Telecom’s scope of power, it nevertheless seems to be able to control the industry somewhat.

To some extent, the ISPs are the supplier to the consumer, but as this study deals with the development of ISPs, that is the focus the author is concentrating on.

Power of the Buyer

The power of the buyer has become increasingly prominent in recent times. Because many ISPs are now using non-subscription business models, the buyer can ‘vote with

²⁸ Kotler P. Marketing Management, Millennium Edition Chp 10, p304

their feet' and abandon an ISP that doesn't deliver. The focus on service is now more than ever, and an ISP that is seen to be failing will not survive. This is an example of Porter's belief that if the product does not benefit the buyer financially, its success will become price-sensitive. Business users are seen to have less power, because the services that are implemented are harder to remove or change.

Threat of Substitute

The threat of substitution could be taken to mean the general competition of ISPs in the marketplace – each ISP competes with roughly the same services for the same market, but with different strategies. But the threat of substitution could also refer to the changing demand for technology in the market. Current technology (using modems to connect to the Internet) has reached its potential, and it is now threatened by alternative connections, for example ISDN, ADSL, cable modems and Digital TV. These innovations have dropped in price so much that the social and technological benefits may now outweigh the financial costs. The watchdog OFTEL has encouraged the threat of substitution in this case by telling British Telecom to speed up its rollout of ADSL lines, which produce faster connections for a relatively low hike in price. A threat from cable modems in the last year seems to have subsided, due to the length of time taken to adopt them in the marketplace.

Competitive Rivalry

This force is an obviously prominent one in the ISP industry. The competition and rivalry between the ISPs is intense, and is genuinely a fight for financial survival. Over the past 2 years, from January 1999 to January 2001, over 500 ISPs have joined the fray, some with different ambitions, but all ultimately wanting a share of the online community. Obviously, this cannot be sustained, and many ISPs are now failing in the business models. Breathe.com became a headline case in late 2000, when it suddenly stopped providing its flat-rate service, despite massive publicity and a previously successful company mission. Some ISPs run at a loss, only being made available to advertise their parent company's product or service. Others need profit to survive, and have been plagued by financial difficulty, with many now focusing on the business customers for revenue.

Cost Leadership and Differentiation

As stated above, the offerings from ISPs have been relatively similar, leaving the consumer with little real choice. Many ISPs now offer a basic free package of internet access, and this is consumed by many casual internet users. A lack of the basic needs of the consumer, be it support, access or peripheral needs like email addresses and webspace, may lead to bad publicity, bad word-of-mouth and ultimately a failed business plan. Freeserve's cost leadership ultimately provided a very popular model for the consumer, one which other providers felt compelled to follow. While Freeserve gained a substantial consumer base and consumer loyalty, other later entrants found little leeway to gain consumer confidence in their package, as Freeserve had taken the consumers already.

Some providers include features like online content as a way to market themselves differently. One major success in this field is America Online, or AOL, who have built an enormous community out of their consumers, by only allowing connections using their special software. While they offer an above-average price, their service is attractive to new Internet users, and ones that do not want to delve too deep into the technological backwaters.

ISPs also differentiate on levels of support. Some are marketed as all-encompassing and user friendly, as AOL manage to do, but others (for example UK2.net) offer minimal support, aiming themselves at users with a technological knowledge.

Chapter 6

Conclusion: What is the future for Internet Service Providers in the United Kingdom?

As stated above, the Internet Service Provider market is currently at the end of the Growth phase of the Product Life Cycle, and is now moving into the Maturity phase. The rapid growth in the number of ISPs in the market has had a detrimental effect on both the image of the ISPs and on their financial well being. The 'free' business model reflects the demand that ISPs have to meet: the 'free lunch' analogy. Ever since the start of non-subscription ISPs, the public have been hankering for cheaper and cheaper access, with ISPs struggling to provide. While the Internet Service Providers have had a hard time in the last couple of years, the real beneficiaries of this power struggle are the consumers, who have been offered better and better deals.

The last year has seen a huge growth in the choice for the consumer. Providers have been offering many different levels of pricing, and levels of service. However, many have had to differentiate their services in order to justify their models, and gain much needed revenue. Serious, traditional ISPs have been left with little option but to diversify, after big name companies, who are diversifying *themselves*, enter the scene, bringing with them their reputation and considerably loyal customer base. For example, Tesco.com launched in early 1999, and had 150,000 customers sign up in the first 4 months – customers that must have been lured by the supermarket brand. Some have been evolving into an Application Service Provider, or ASP, which offers software applications for rent – typically over a network – to multiple customers. An ASP can provide almost any packaged application. The author talked to Sun Microsystems' head of ASP strategy about the need for ASPs.

“People tend to do things because pain or glory. The applications giving pain today are areas around e-commerce and email; the complexity of what's on the desktop; and trying to build new technologies into the business.”

Datamonitor²⁹ conducted a survey which found that the applications most likely to be outsourced by British businesses were outward-facing ecommerce solutions (systems used by customers or trading partners) at 63%, followed by business process support at 54%.

This change is obviously more geared towards business customers, and this seems generally to be where the profit is to be made. Businesses need IT companies to build solutions for them – not only do they not have the time, but also they are without the expertise and knowledge needed to implement the systems. Because of the complexity of the systems, many businesses also require round the clock support, and this is big business for ISPs.

²⁹ <http://www.datamonitor.com>

The current flat-rate pricing structure is one that, at first, seems unsustainable. Now, with the backing down of British Telecom in the face of OFTEL, the consumers and the ISPs, the ISPs can continue to offer users the flat-rate charge for a profit, with the aid of advertising.

However, many analysts predict that once the existing ISPs have, through a natural process of selection, been whittled down to several well-managed ISPs, the benefits for both the consumer and the service providers will be fruitful. This may lead to an unhealthy situation where only a few companies control the entire UK access, but hopefully the watchdog OFTEL, as well as the government, will be able to avoid that situation. The differentiation experienced so far has enabled several niches in the market to open up. Analysis suggests that telecommunications and cable companies are capable of exploiting the market profitably, and the continued success of Internet Service Providers can help the United Kingdom to be not only a well-connected community, but also a powerful force in the world economy.

