REPORT FOR
GUERNSEY TELECOMS

The Bailiwick of Guernsey and the Global Telecoms Revolution

Analysys

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Executive Summary

KEY RECOMMENDATIONS

The Bailiwick of Guernsey must open its telecoms market to the expertise and buying power of private telecoms operators, because only they can deliver the services necessary for ecommerce to flourish. Rapid progress to reach this goal creates the opportunity for the Bailiwick to thrive on ecommerce. Slow progress or compromise almost certainly sets the course for economic decline.

Within three years, the Bailiwick's physical network infrastructure needs to be run by a single licensed operator, whose owners and partners bring the necessary skills and buying power to offer a world-class service. This operator must be free from state ownership to ensure its long-term commitment, and yet controlled by independent regulation to guarantee sensitivity to local needs. The regulator will control the development of service competition delivered over the physical network, so that the Bailiwick's community gains access to the full range of future telecoms, IT and media offerings. This will be achieved by licensing a range of high-quality service and application providers.

Within one year, Guernsey Telecoms needs to answer the immediate needs of its customers by placing major contracts with international telecoms operators to bring broadband services, Internet hosting, and application service provision to the Bailiwick. Swift progress will rely on close cohesion between all of the public and private sector interest groups. All of the influential players need to be united behind an ecommerce strategy which drives the need for telecoms reform.

RATIONALE AND ACTIONS

The telecoms revolution is transforming the world

Technological change in computing and telecoms has triggered a whirlwind, which is transforming every economy in the world. The increasing capacity and falling costs of microprocessors and communications networks is combining with the ubiquity of the Internet Protocol to drive the convergence of three powerful industries: telecoms, information technology and media.

Ecommerce is emerging from this new order as the key driver of economic activity enabling efficient business-to-business and business-to-consumer transactions. The competitive advantages of ecommerce are so overwhelming that rapid adoption of this technology will be essential for survival in most business sectors. The financial sector will be among the first to experience this revolution. The businesses that survive will change beyond recognition, as customers discover their power to purchase anywhere in the global market, demanding new standards of responsiveness and value.

The Bailiwick can either embrace ecommerce or accept decline

If the Bailiwick fails to create an attractive environment for ecommerce, then businesses will migrate to locations where the telecoms infrastructure, ecommerce legislation and IT skills meet their requirements. The businesses that stay will struggle to compete. A vicious circle of falling revenues, skills migration and loss of confidence will send the Bailiwick spiralling down.

However, if the Bailiwick moves quickly, then it can use ecommerce to underpin its sustainable development. There is an opportunity to diversify the economy and improve productivity, breaking free of the tight constraints on its available workforce and business premises. Residents will use high-speed access to online resources to maintain and develop their skills and knowledge. The economy can enter a virtuous circle of increasing business innovation, revenue growth, and skills acquisition, as it builds a worldwide reputation for ecommerce.

Immediate action is necessary to grasp this opportunity for two reasons. Firstly, any delays risk pitching the Bailiwick into a vicious circle of decline, and recovery will be extremely difficult. Secondly, a rapid move into ecommerce is likely to win a leading position which will bring greater long-term advantage.

Guernsey Telecoms cannot meet the challenge

Historically, Guernsey Telecoms has kept pace with global developments, while ensuring that the unique needs of its business and residential customers are taken into consideration. However, Guernsey Telecoms, as it stands today, is too small and too constrained to meet the dramatic challenges presented by the global telecoms revolution. The pace and complexity of change is overwhelming, as telecoms companies are compelled to enter the unfamiliar worlds of IT and interactive media. If there is no shift in the current telecoms policy, then the business and residential community will experience a widening gap between the telecoms services available in the Bailiwick and those taken for granted in the rest of the world. The chance to seize the ecommerce opportunity will be destroyed without the cornerstone of world-class network connectivity and service provision.

The imperative for change prompts the following question: how can the Bailiwick of Guernsey stimulate the fast and flexible development of telecoms, while ensuring that the provision of services will be tailored to meet the Bailiwick's business, social and environmental needs?

The Bailiwick needs the resources of private telecoms operators

Cost-effective fixed infrastructure provision with international connectivity requires the expertise and buying power of consolidated global telecoms operators. The Bailiwick therefore needs to award a licence for operating its fixed network infrastructure on the basis of an open competition. It is expected that such a licence would be the subject of competition among consortia led by major multinational telecoms operators, and possibly including equipment suppliers, service and content providers and local businesses. The consortium must own the company, if it is to feel strong long-term commitment, but it may be a condition of the licence that a share offer is made to the residents of the Bailiwick. This would allow the people of the Bailiwick to share in the benefits of the new structure.

There should be just one fixed network operator in the Bailiwick given the limited size of the market, and the difficulty of gaining physical access to lay lines on the narrow and congested roads. However, additional licences may be granted for operators offering wireless access on condition that the visual impact of the equipment is acceptable.

The Bailiwick needs to encourage competition among service and application providers by licensing them to operate over the Bailiwick's network. This will provide customers with the latest innovative services at competitive prices without threatening the environment of the Bailiwick or the fundamental resilience of its network infrastructure.

Licensing of the monopoly network operator and the service providers needs to be completed within three years. There is no scope for delay. Commercialisation would be a reasonable stepping stone for this change, but progress is at too slow a pace. Telecoms must be separated from the commercialisation of the other utilities. Then the preparation of Guernsey Telecoms' assets for transfer to a licensee must be given the highest priority.

Guernsey Telecoms needs the freedom to take a new stance

In the meantime, Guernsey Telecoms needs to step back from the philosophy of trying to provide the full range of voice and data, fixed and mobile services. It should focus its limited resources on providing resilient modern local infrastructure for business and residential connectivity prior to the licensing of a new network operator. In pursuit of this aim and in order to meet pressing customer demands, Guernsey Telecoms urgently requires the freedom to let substantial contracts for infrastructure and service provision without political intervention.

This requires an interim board to be appointed within six months and given the power to sanction subcontracts and investments within an agreed framework. It must be a compact team with strong international business, IT and telecoms experience.

Independent regulation is essential

There is no doubt that independent regulation will be vital as reforms take place. The regulator's remit will be to stimulate investment in the telecoms network infrastructure, ensure the delivery of world class competitive services and monitor pricing to guarantee that it remains in line with international benchmarks. This role will rely on the regulator developing fast and flexible mechanisms for licensing.

The telecoms regulator will have to manage more than just telecoms regulation. As convergence and ecommerce develop, the interfaces between telecoms regulation, broadcast regulation and taxation will become increasingly important and complex. The workload will require a full-time telecoms regulator, a small support team and access to specialist advisors under contract.

There must be consensus on the strategy

Success depends on establishing consensus on a goal for the Bailiwick's sustainable development centred on an ecommerce strategy. Any significant dissent has the

potential to create dangerous delays, so agreement is needed between everyone involved:

- Guernsey Telecoms, its staff, management and board
- business clients and residential customers
- interest groups such as the 'IT in Society' working party
- Board of Industry, Advisory and Finance Committee, and the States
- the regulator.

A campaign to build consensus by disseminating information, facilitating informed debates and demonstrating ecommerce in action is essential. Ideally, the campaign should feature leading-edge ecommerce implementations by Guernsey Telecoms, some of its major customers and the public sector.

If a high-level strategy is accepted by all parties within three months, then the Bailiwick has an excellent chance of becoming a leading centre for ecommerce, because its small size, commercial drive and history of expedient actions offer advantages over its larger competitors.

Schedule for action

The table below summarises the actions and sets out a schedule for their execution.

	1999	*2000*	*2001*	*2002*
Develop ecommerce strategy and build consensus				
Launch ecommerce strategy				
Implement ecommerce strategy				
Develop framework for independent regulation				
Establish independent regulator				
Develop licensing framework				
Implement licence application procedure				
Select winners and issue licences				
Separate telecoms from commercialisation of utilities				
Prepare Guernsey Telecoms' assets for transfer				
Select interim board for Guernsey Telecoms				
Empower interim board within a defined framework				
Subcontract network and service development projects				

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FINAL REPORT

CONTENTS

1/ Introduction

Analysys is pleased to present this final report to the States of Guernsey Telecommunications Board. The original brief was to evaluate long-term business models for Guernsey Telecoms. However, during the course of the project, we have extended the scope of work to answer the following question:

How can the Bailiwick of Guernsey stimulate the fast and flexible development of telecoms, while ensuring that the provision of services will be tailored to meet the Bailiwick's business, social and environmental needs?

In the course of answering this question, we have interviewed a number of key stakeholders:

- Guernsey Telecoms' management team, including two board members
- a selection of major customers
- chief executive of the Board of Industry and his deputy
- States Supervisor.

We also ran a scenario planning workshop with the management team and the two board members. This detailed consultation gave us the essential information to ensure that our recommendations are accurately tailored to the Bailiwick of Guernsey's unique situation.

This report represents our independent opinion based on our analysis of the facts. Chapter 2 describes the global telecoms revolution, with Chapter 3 focusing on the emergence of ecommerce and its potential impact. Chapter 4 then examines the ability of Guernsey Telecoms to meet this challenge. Finally, we present our recommendations for change in Chapter 5.

The annexes contain the case studies from the initial research and an appraisal of the original five options for Guernsey Telecoms.

2/ The Telecoms Revolution

Telecoms throughout the world is undergoing a period of revolution. A combination of technological advances, market liberalisation and restructuring is changing the world beyond recognition. No part of society is immune from this revolution, and the resulting effects on the way we live and conduct business are enormous and increasing. It is essential that the development of a telecoms strategy for the Bailiwick of Guernsey should take account of this rapidly changing global telecoms environment. This technology revolution offers a great opportunity if appropriate action is taken but, if ignored, it could become one of the most significant threats to the development of the Bailiwick's economy.

The rate of development is accelerating as the telecoms revolution gathers momentum to draw the IT and media industries into the whirlwind. One only needs look back to the mid-1980s to realise that the pace is set for our business and home environments to change beyond recognition in the next decade.

- In 1986, cellular mobile telephony had only just been launched in the UK. Mobile telephones were very expensive and the telephones themselves needed a battery pack the size of a car battery. The number of people using mobile telephones in 1986 was less than 60 000, compared with more than 16 million in July 1999.

- In 1986, the Internet was restricted to the academic community, and the World Wide Web ('the Web') had not yet been conceived. Email as a means of communication between business organisations was completely unknown.

- The world of IT was primitive compared with that of today – a state-of-the-art PC in 1986 had a 20Mbyte hard disk, whereas a PC today has 500 times that capacity. Software was also primitive, with most of the world's PCs using MS-DOS as their operating system. Microsoft Windows had not been launched as a commercial product.

This chapter comprises two main sections. The first discusses the two fundamental forces acting on the fast changing telecoms world:

- liberalisation and the emergence of competition
- technological advances in transmission, mobile telephony, and the Internet.

The second examines the impact of these forces on the telecoms world, in terms of:

- lower prices
- increased data traffic, demand for broadband and demand for mobility
- convergence of telecoms, IT and media.

2.1 FORCES ACTING ON THE TELECOMS WORLD

2.1.1 Liberalisation and the emergence of competition

Across Europe, new entrants have emerged to challenge incumbent operators. Whereas each country previously had one large, nationally-focused operator, these operators are now beginning to expand into each other's markets; the resulting new entrant is thus well financed and experienced. Incumbents need to seek expansion abroad in order to respond to the threat of competition in the home market – BT, for example, has investments in most western European economies, including France (Cegetel), Germany (VIAG Interkom), the Netherlands (Telfort) and Spain (BT Telecommunicaciones). Other types of new entrant include utilities expanding into telecoms provision, start-up companies using new technologies, and non-facilities-based operators. Pressure to liberalise will be brought to bear by prospective investors on closed markets as companies seek new regions to set up lucrative businesses.

In addition, numerous mergers are being initiated as telecoms operators attempt to form larger companies capable of competing on a global scale. The successful merger of MCI with WorldCom has shaken the market and, in response, BT has formed an alliance with AT&T. Deutsche Telekom lost out to Olivetti in its attempts to merge with Telecom Italia and is now seeking ways to carve out a global presence for itself. Such alliances are formed with the intention of offering end-to-end products with a guaranteed quality of service to large multinationals.

However, the emergence of worldwide alliances does not necessarily sound the death knell for smaller telecoms operators. Indeed, niche players can prosper, but they need to be flexible in order to respond to competition in their home markets. One potential area of growth for niche players is the expansion of their specialised services beyond

their home customer base. Smaller players can also align themselves to large companies while still maintaining substantial independence.

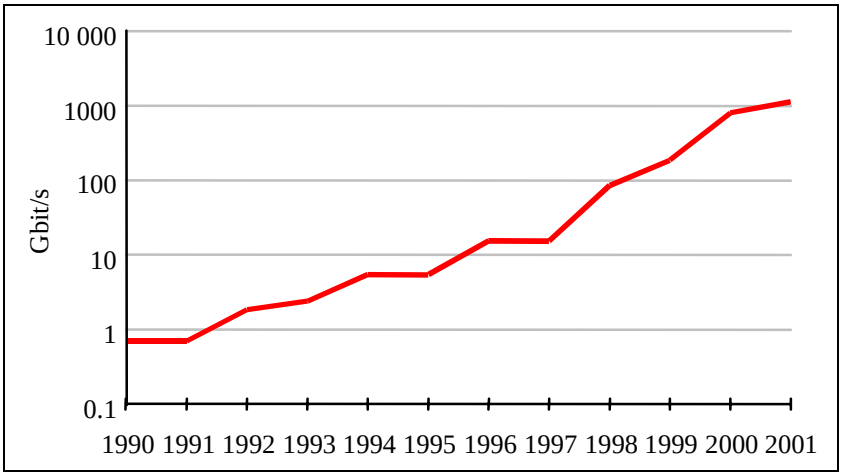
2.1.2 Technological advances

A whole variety of technological advances have occurred, particularly in terms of fibre-optic transmission, the Internet and Internet Protocol (IP), ecommerce, voice over IP, broadband access and mobile telephony.

Fibre-optic transmission

The rapid improvement in fibre-optic technologies means that the capacity per fibre and cost effectiveness of transmission has increased dramatically. The trend will continue with the introduction of technologies such as Dense Wave Division Multiplexing and, in the longer term, transmission using solitons. Exhibit 2.1 illustrates the spectacular growth in transatlantic cable capacity: the logarithmic axis shows that capacity has increased by a factor of one thousand in ten years. The same technologies also allow trunk transmission networks to be used as high capacity routes. A significant effect of these developments in transmission is the 'death of distance' – the progressive elimination of distance as the driving factor behind telecoms costs and prices.

Exhibit 2.1: Installed transatlantic cable capacity [Source: Analysys, 1999]



The Internet and Internet Protocol

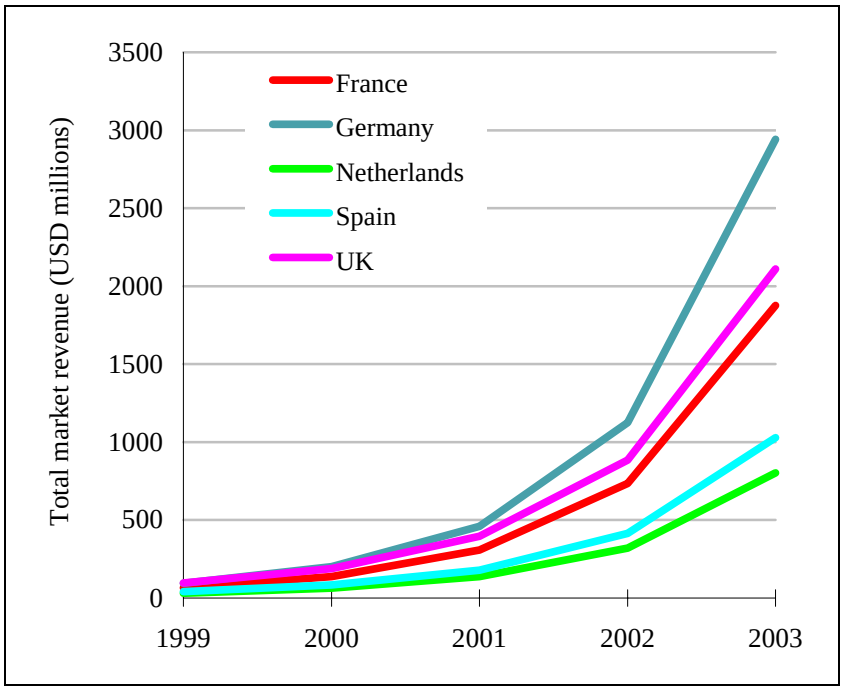
The Internet is possibly the most significant development in communications since the original deployment of telephone networks in the second half of the last century. For

the first time, a common platform for sharing data is accessible everywhere in the world.

Underlying the Internet is the Internet Protocol, which enables the sharing of text, pictures, sound and video over a decentralised network. IP is an internationally managed open standard, which has prompted the development of an extraordinary range of software tools and applications in a short time. The most famous of these applications is the World Wide Web. However, there are other applications for managing transactions and the interactive sharing of data, which will have an immense impact on the world. Many of these come under the umbrella of ecommerce, which is discussed in the next section.

Web hosting revenues are an indicator of the rise in IP-based information management systems. Exhibit 2.2 shows the rapid rate at which Web-server-hosting is taking off in several key European countries.

Exhibit 2.2: Growth in European Web-hosting revenues, 1999–2003 [Source: Analysys, 1999]



Ecommerce

The universal access provided by the Internet makes it the natural platform for ecommerce. Ecommerce is the generic term for the process of 'doing business' remotely by computer. The term includes business-to-customer, business-to-business and intra-business transactions. These transactions might involve marketing, selling, signing contracts or sharing information.

In the past, computer networking for Electronic Data Interchange (EDI) transaction systems was available. However, it was prohibitively expensive for smaller companies, because it required the use of company-specific technology. The widespread use of IP-based systems has dramatically lowered the costs and opened a global market, so that it is now possible to extend ecommerce to all companies.

Ecommerce development is at the beginning of an exponential growth curve, and there are a number of issues which are still in the process of being resolved, such as:

- security of credit card payments made over the Internet and the development of electronic cash
- encryption laws which protect the state, the individual and business enterprises
- the development of contract law for transactions and the development of electronic signatures.

There is little doubt that these barriers will be overcome, given the intense application of so many powerful global resources to developing solutions. Even before these issues have been completely resolved, there have been some significant ecommerce-based business successes, most notably the US-based company Amazon.com. Amazon.com uses the Internet as a means of selling books, CDs, computer games and gifts to a global audience. It is now the largest bookshop in the world in terms of revenue, despite having no retail premises, no direct sales force and very little marketing outside the Web.

The implications for business of this new world, where the size of the company and its assets are irrelevant, are enormous – with a well-constructed Web site and a first-class supply chain, anyone can become a world-renowned business. According to an article in the *Financial Times* (6 July 1999) the UK ecommerce market is forecast to grow from approximately GBP250 million in 1999 to approximately GBP2.2 billion in 2004. The scale of this development is indicative of a rapidly growing market.

In the words of Alan Greenspan, Chairman US Federal Reserve Board, in May this year, "The newest innovations, which we label information technologies, have begun to alter the manner in which we do business and create value, often in ways not readily foreseeable even five years ago."

Voice over IP

It is technologically feasible to use Internet technology for voice transmission, and this is commonly known as voice over IP (VoIP). VoIP now has a similar quality to ordinary phone calls transmitted via the public switched telephone network (PSTN) as

a result of rapid improvements in voice compression technologies. The continuing growth of the Internet will ensure that VoIP will increasingly gain acceptance. Many technologies are currently being developed for VoIP users, such as PABXs that integrate traditional and VoIP functionality, making it possible for calls to be routed from a PABX over the Internet while still maintaining useful facilities such as voicemail and call queuing. As international call rates are still high, many corporations will find routeing call traffic over the Internet an attractive and economical option.

Broadband access

Until now, Internet services have been accessed mainly via dial-up on the traditional (PSTN) telephone network. However, dial-up services will not be able to support the interactive multimedia applications that will be run over the Internet in the future. The maximum dial-up speed on the PSTN is currently 56kbit/s, and this is insufficient for video data content, which typically requires speeds in excess of 2Mbit/s.

High-speed access technologies such as asymmetric digital subscriber line (ADSL) can deliver this level of performance to customers along the copper lines currently used by the PSTN network. It requires the installation of a special modem at the customer's premises and another at the local exchange to split the data traffic out onto operator's data network.

The city states of Hong Kong and Singapore both have high-speed capacity which allows services such as video data content to be offered over IP platforms using ADSL and other high-speed access technologies. BT is currently running ADSL trials in London, offering not only high-speed Internet access, but also video-on-demand. BT's services will be available to service providers and corporate customers from up to 400 exchanges by March 2000, which will cover about 6 million homes.

The cable operators are developing cable modems, so that they use their existing high-bandwidth networks to offer Internet access in addition to their existing television and telephony services. The advent of cable modems and ADSL means that the cable companies and telecoms operators are becoming harder to distinguish in terms of their service offerings. Telia, for example, is pushing forward on all fronts – it offered direct Ethernet connections to residential customers in Stockholm, Sweden, in the first half of 1998, having invested extensively in ADSL and cable modem technology.

Advanced fixed wireless technology is available for broadband access, offering an alternative to ADSL and cable modems. HighwayOne in the UK is offering speeds of either 64kbit/s or 128kbit/s as standard, with options for higher speeds if required.

Tele2 currently offers speeds of 128, 256 and 384kbit/s and expects to run at up to 2Mbit/s in the future. These two companies are operating with limited coverage picking off customers in targeted towns and cities.

In the future, satellite systems will become increasingly important for delivering broadband services. The broadband satellite market is likely to see competition among many players, with more than 50 systems having filed for licensing in the Ku, Ka and Q/V band. At present, however, it remains very unclear how many of these systems will eventually be successful. Primarily as a result of the problems faced by Iridium, it is possible that many proposed broadband systems may struggle to secure adequate financing to turn their plans into reality. The main potential operators are listed Exhibit 2.3.

Exhibit 2.3: Major competing satellite systems [Source: Analysys]

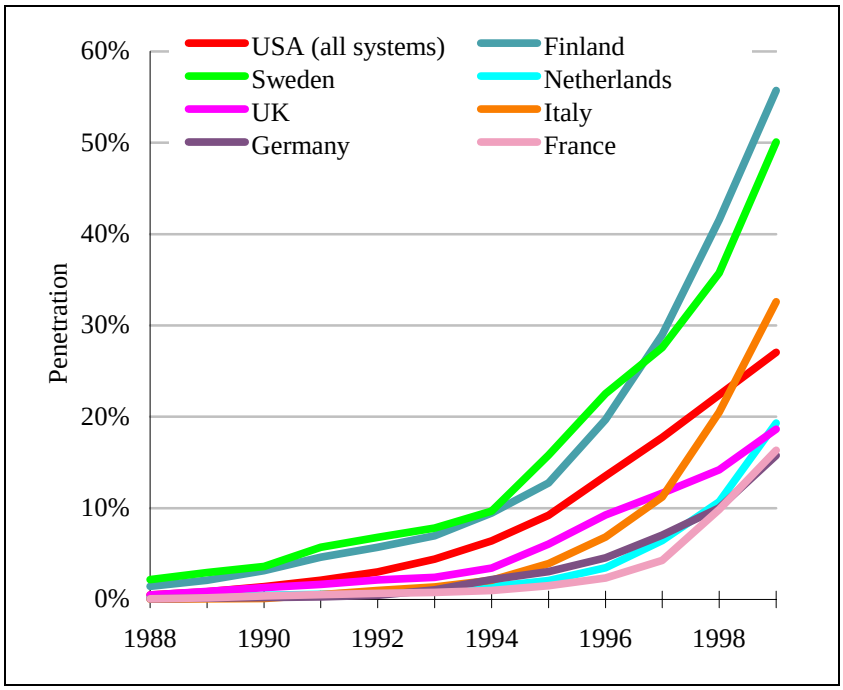
System Name	*Orbit Type*	*Service Region*	*Service Launch*
Astrolink	GEO	Global	2003
Cyberstar	GEO	Global	2001
SkyBridge	LEO	Global	2001
Spaceway	GEO(/MEO)	Continental USA then global	2003
ASTRA/AsiaSat	GEO	Europe/Asia	1999
EuroSkyWay	GEO	Europe then global	2001
Teledesic	LEO	Global	2003

Some systems such as ASTRA will offer services with only up to 2Mbit/s available on the return link. The target market will be confined to the lower half of small office/home office and consumer market. Others, including Spaceway, are planning for 20Mbit/s services. Astrolink is targeting larger offices with data rates from 384kbit/s to 155Mbit/s.

Mobile telephony

Telecoms is undergoing enormous changes in terms of customer mobility. Traditionally, services were offered to customers via fixed terminals (telephones and other terminal equipment), but since the mid-1980s there has been an enormous growth in mobile terminals. Exhibit 2.4 demonstrates the rapidity of this change in recent years as technological developments and competitive markets have led to mobile telephones becoming mass-market products. It is likely that fixed telephony in the future will be used mainly for data transmission, whereas mobile telephony will become the main means of voice communication.

Exhibit 2.4: Cellular subscribers per 100 population [Source: FT Mobile Communications, various years]



Until now, mobile services have been largely confined to voice, because the rates at which data can be transferred using existing GSM technologies is very low at only 9.6kbit/s. However, the new mobile standard, universal mobile telecommunications system (UMTS), is expected to offer rates from 384kbit/s outdoors to a possible 2Mbit/s in-building, depending on the number of simultaneous users. Such speeds will enable the mobile phone to be used for high-value applications like accessing email, the Internet and company systems while on the move. It will enable multimedia applications to be performed over a UMTS mobile phone. The UMTS system as a whole will have at least two to three times the overall capacity of existing GSM 900 and GSM 1800 systems. UMTS will be introduced into Europe within the next few years and even earlier in the UK, with licences expected to be auctioned in 2001.

In addition, new systems are enabling fixed–mobile convergence. This is the process by which the functionality of mobility is extended to fixed-line services. The result is services such as personal numbering which allow customers to be contacted on the phone of their choice using a single number, regardless of whether the phone is mobile or fixed. Another aspect of fixed–mobile convergence is the possibility of receiving an integrated bill for fixed and mobile services.

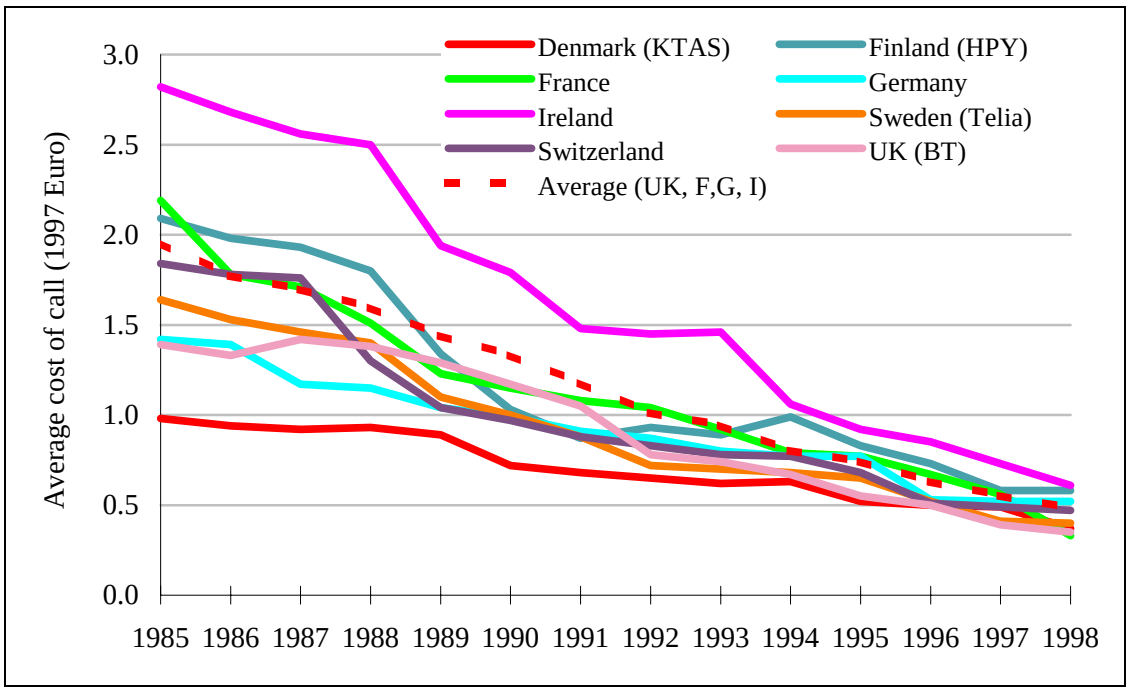
2.2 THE IMPACT ON THE TELECOMS WORLD

2.2.1 Liberalisation and falling prices

The effects of competition

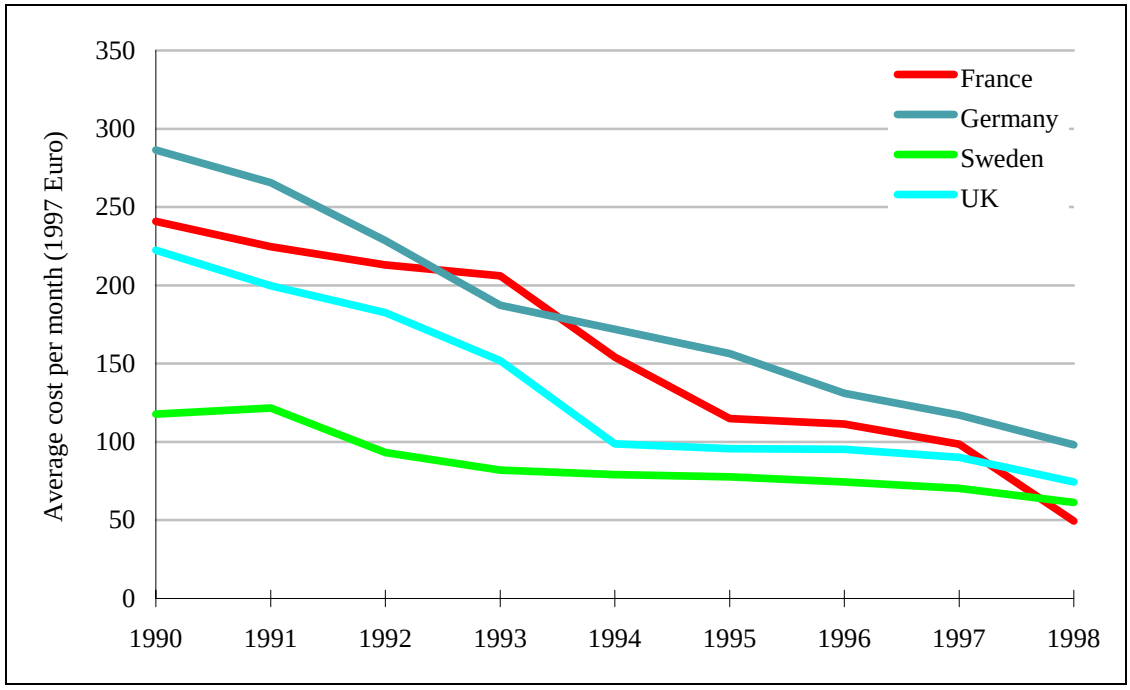
Increased competition results in declining prices paid by the customer. The most substantial reductions have occurred in areas where profits margins were traditionally high, such as international call tariffs; Exhibit 2.5 shows that, in the majority of cases, the average price of international calls across Western Europe for businesses with a single line has fallen by more than half.

Exhibit 2.5: *The average cost of international calls for a single line business user [Source:* Cutting the Cost, *Analysys Publications, 1999]*



The price decline in mobile telephony has been equally dramatic, with the average medium business user's bill being approximately half that of eight years ago, as shown in Exhibit 2.6 (overleaf).

Exhibit 2.6: *The average cost of mobile calls for a medium business user [Source:* Cutting the Cost, *Analysys Publications, 1999]*



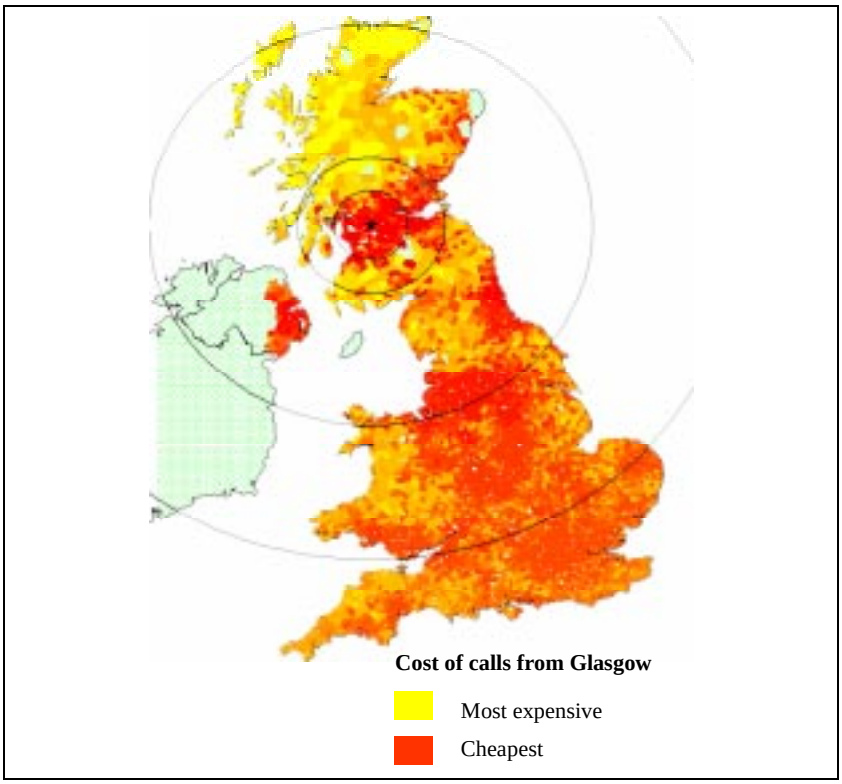
These trends are expected to continue with intense global competition among telecoms operators, cable companies and mobile operators for the same traffic.

The death of distance

Traditionally, distance has been the determining factor in the cost of communication – the price differences between local, national long-distance, and international calls are familiar to all. However, the development of very high-capacity trunk transmission technologies is removing capacity constraints on national and international routes and providing enormous additional capacity for very little extra expenditure. As a result, the cost per unit of capacity is falling rapidly towards zero, reducing the driving effect of distance on cost. This is true wherever there is high demand for capacity and, in this case, unit costs will reflect the capacity of use more than distance.

This point is illustrated by Exhibit 2.7 which shows the cost of delivering calls from Glasgow to the rest of Britain. It is often substantially more expensive to deliver a call to the Scottish Highlands than it is to transmit calls to London or the Midlands.

Exhibit 2.7: The cost of call delivery from Glasgow [Source: Analysys, 1999]



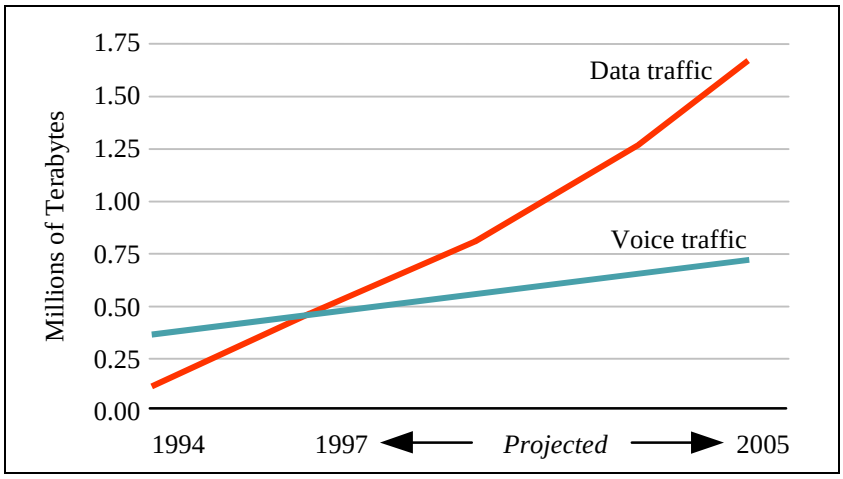
The current increased reliance in Britain on call centres for dealing with customer services is proof that distance is no longer the main cost driver. All calls can be handled by a centre on an economical basis, irrespective of where a customer is dialling from in the UK.

Distance is also starting to be less important on a European scale as companies begin to roll out services linking the countries. GTS Carrier Services (formerly Hermes Euro Railtel), for example, now has over 4500km of network linking 14 key cities including Amsterdam, Frankfurt, London and Paris, and by so doing has become the wholesale market leader in Europe with the ability to offer high-speed networks.

2.2.2 Data wave

The rise of the Internet and IP-based applications for business and entertainment combined with falling prices will continue to drive rapid growth in data volumes on telecoms networks. Global data traffic is expected to approach global voice traffic volumes soon. Countries in the vanguard, such as the USA, have already passed this point, with data traffic still growing exponentially, as illustrated in Exhibit 2.8 (overleaf).

Exhibit 2.8: Long-distance voice and data traffic in the USA [Source: Northern Telecom, 1998]



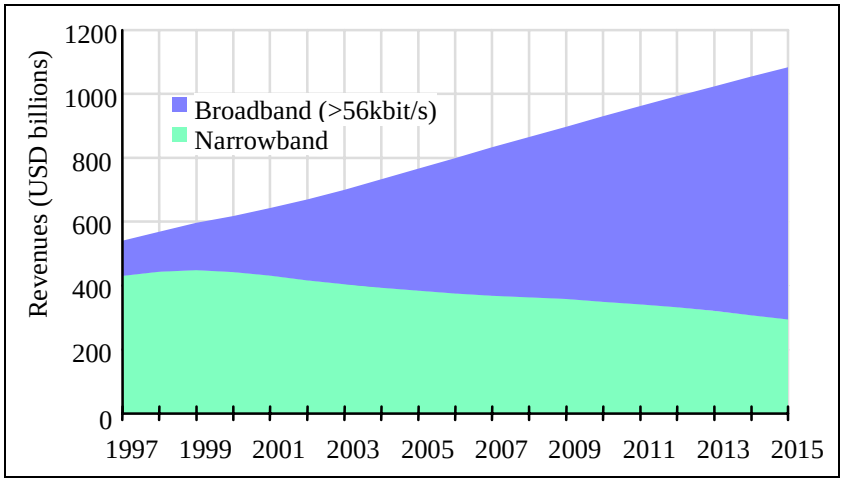
2.2.3 Demand for broadband

Not only do people want to send and receive more data, but they also want to do so more quickly. This demand for higher bandwidth is fundamentally driven by:

- file sizes for applications becoming larger, e.g. a single Excel workbook from today could fill the entire hard drive of a personal computer from the mid-1980s
- applications requiring greater interactivity as people need to work together when distributed in different locations across the world, e.g. Microsoft Netmeeting allows two or more people to work on the same Excel workbook simultaneously.

Exhibit 2.9 shows a forecast for dramatic shift in revenue from narrowband services to rapidly growing broadband services, such as ADSL. Telecoms operators will have to deploy these new services quickly to avoid their customers either complaining to the regulator or migrating to cable operators.

Exhibit 2.9: Global fixed broadband and narrowband revenues [Source: Analysys, 1999]



2.2.4 Demand for mobility

Improvements in the performance and costs of mobile telephony will drive its increasing substitution for fixed telephony. Even now, many users choose to make a call using their mobile, because the mobile phone is closest to hand and contact numbers are saved in its memory. They also prefer to receive calls on the mobile to avoid missing urgent messages. Mobile telephony will therefore grow to dominate the voice market.

As regards data, as customers become used to broadband at home and in the office, so they will come to expect high-speed access while on the move. The resultant improvement in business productivity will drive the demand for UMTS mobile data services. Mobile handsets could become the preferred means for individuals not only to make voice calls, but also to conduct ecommerce transactions. This is because the Web-enabled mobile handset could hold the addresses of the customer's most frequently used Web sites, electronic signatures, passwords and electronic cash.

The advantages of being able to book airline tickets directly, order supplies and make other transactions are immediately apparent for the business sector. Strong demand may also arise from the residential market. Similar arguments apply: cinema tickets, pizza or a taxi could be ordered and paid for without the need to read credit card details over the phone. The recent Economist report, 'The world in your pocket' quotes Colin Myers of Symbian, who "predicts that the current Internet gold rush will be dwarfed by what is about to happen with wireless Internet access". However, it is important to temper the enthusiasm for mobile with the understanding that relatively few users will be able to afford UMTS at full bandwidth for multimedia applications given the unavoidable high price of consuming spectrum at 2Mbit/s.

UMTS could also lead to a massive extension of networking, by allowing new classes of equipment to communicate by IP. For example, car systems might use UMTS to notify security firms of vandalism or attempted theft. They might also receive detailed traffic information for efficient navigation. A domestic boiler's management system might call to request a maintenance check directly or inform the emergency services of a gas leak. There are no end of possibilities given the potential for falling costs in mobile telecoms and computing.

A recent article in the *Financial Times* reviewed a session from Geneva '99: "Bill Gates, the Microsoft chairman, acknowledged the Internet was going wireless and that people would no longer need PCs to get online. He said that Microsoft had, for the

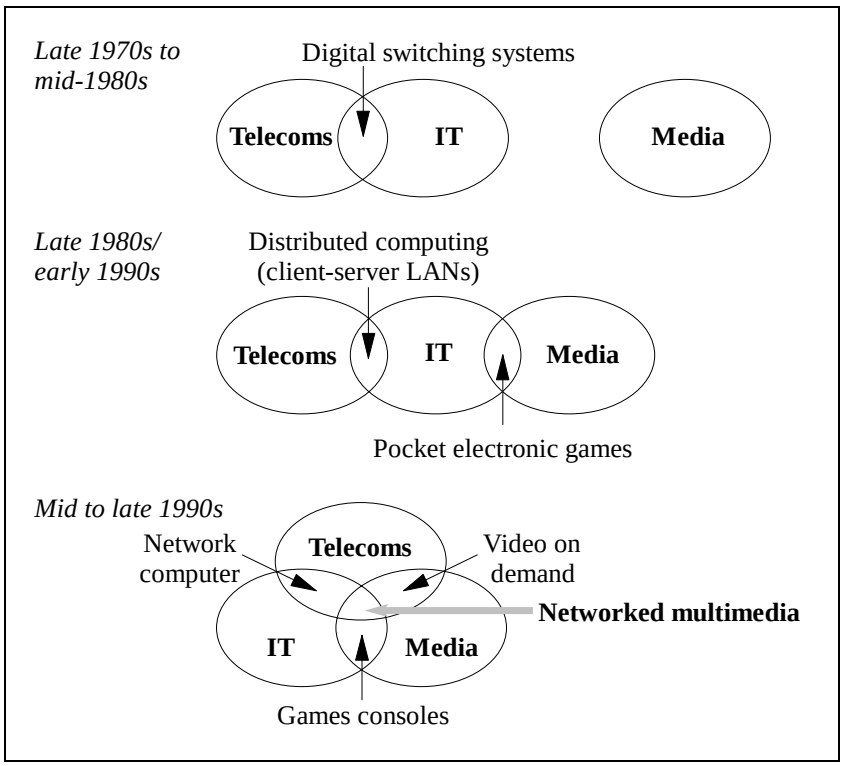
first time, changed its mission statement to include the wireless mandate – any time, any place, on any device."[1]

In conclusion, the mobile communications will dominate the voice market, it will play an important role in business data applications, and it may become the preferred terminal for ecommerce transactions that do not require full broadband access.

2.2.5 Convergence of telecoms, IT and media

The increasing use of digital technologies is bringing about the convergence of three previously distinct industry sectors (see Exhibit 2.10). Whereas the IT industry has been based on digital technologies for some time, telecoms has been somewhat slower in developing; the move towards digital technologies started in the trunk networks ten years ago, and is only now spreading throughout the access networks. The media sector is also beginning to embrace digital technologies such as satellite, terrestrial and cable TV.

Exhibit 2.10: Convergence of the telecoms, IT and media sectors [Source: Analysys, 1999]



1 Clifford, L.: 'The era of the PC is over', *Financial Times* http://www.ft.com/ftsurveys/sp6fde.htm

Convergence leads to interchangeability of content between the three sectors. Digital processors in TVs will be able to offer some PC-like functionality including Web browsers; PCs will be able to show broadcast TV via the Internet; music might be stored on the PC's hard drive or played directly through a Web-enabled hi-fi. For example, in the UK, operators such as NTL allow customers to access the Internet from their TVs. Microsoft has bought into NTL with a view to providing content over NTL's cable TV services.

In the broadband world of convergence, transmission is no longer the main issue; competition in the efficient delivery and packaging of content is of critical importance. Revenues from content provision are expected to rise as it becomes possible to deliver online services ranging from music to videos.

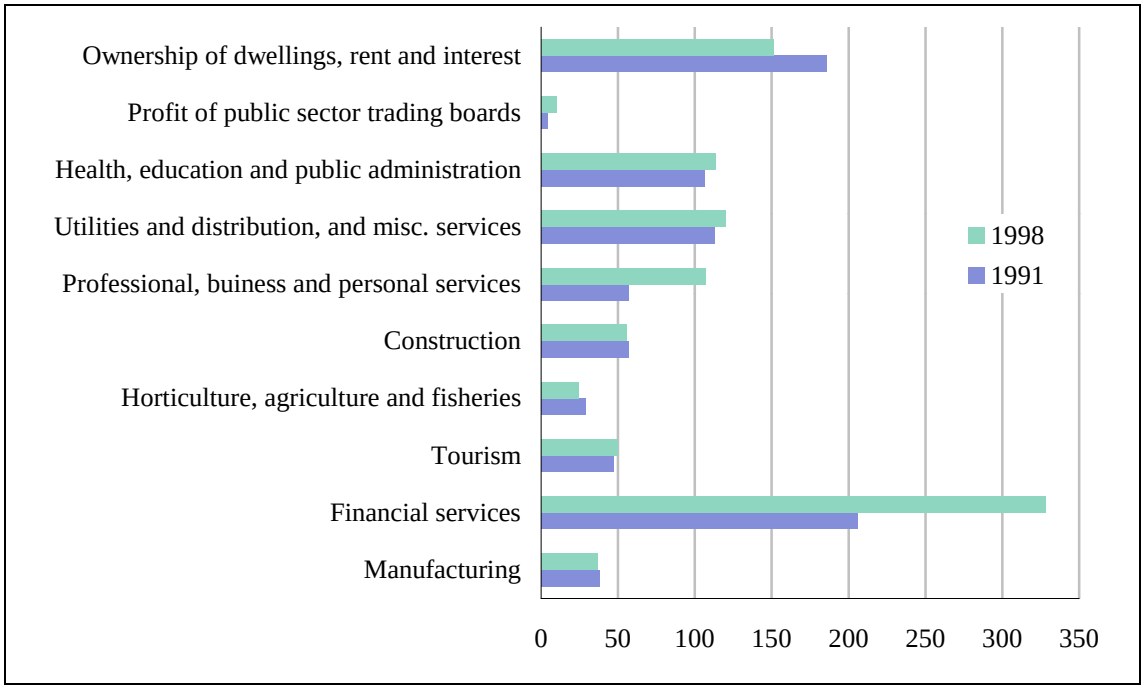
Peter Huber foresaw this convergence when he wrote in Forbes magazine on 27 November 1989: "Like it or not, tomorrow's network will combine the best of computers, telephones and television."

3/ Ecommerce: a Threat and an Opportunity

There is little doubt that ecommerce is going to have an immense impact on every economy in the world. Bill Gates, in his recent book *Business @ the speed of thought*, predicts extremely dramatic changes as new networking and computing technologies create a "digital nervous system" which accelerates the velocity of business. He believes that "when the increase in the velocity of business is great enough, the very nature of business changes." There are few places in the world, where the impact of networking technologies and ecommerce will be felt more strongly than in the Bailiwick of Guernsey, because:

- the Bailiwick is extremely dependent on the financial services sector (see Exhibit 3.1 overleaf) and this will be the first to feel the effects of ecommerce
- there is little scope for tourism, manufacturing, horticulture, agriculture or fisheries to drive economic growth, given the physical constraints of the Bailiwick
- only the growing professional, business and personal services sector can offer diversification for the economy and this sector will be dominated by ecommerce
- the economically active population in the Bailiwick is likely to decline slightly, so it is essential to increase productivity through the use of ecommerce
- physical isolation and relatively weak transport links to Europe increase the importance of ecommerce for transacting with partners, overseas offices and customers.

Exhibit 3.1: *Contributions to the Bailiwick of Guernsey's GDP in millions of 1998 GBP [Source: 1999 Economics and Statistics Review, The Economics and Statistics Unit, States Advisory and Finance Committee]*



3.1 THE THREAT

If the Bailiwick fails to create an attractive environment for ecommerce, then businesses will migrate to locations where the telecoms infrastructure, ecommerce legislation and IT skills meet their requirements.

Mike Nelson, Programme Director for Internet Technology at IBM, supports this view in his statement from earlier this year: "Multinational corporations increasingly are choosing where to invest based on whether there is good telecommunication infrastructure." So does Tony Blair, who recently stated: "Countries that whole-heartedly embrace ecommerce will benefit from improved national economic performance. Those that do not risk seeing trade ebb away to low-cost competitors elsewhere in the world."

In a poor ecommerce environment, the businesses that stay in the Bailiwick will struggle to compete against companies elsewhere that are using ecommerce to the full. A vicious circle of falling revenues, skills migration and loss of confidence will send the Bailiwick spiralling down. As property prices start to tumble, the affluent will absorb their losses and leave, but the rest of the residents will be trapped in negative

equity. The Bailiwick will try to catch-up, but will find itself without the right skills, infrastructure or global profile. The race will have been lost.

The Bailiwick cannot afford to delay, as several competing economies are ahead in terms of ecommerce. Ireland and Singapore, two islands with significant offshore businesses, have both already passed legislation to handle ecommerce transactions. In addition, Bermuda has initiated moves to introduce legislation to allow legal significance to be attached to electronic contracts, electronic signatures and authentication methods.

3.2 THE OPPORTUNITY

So far, this chapter has stressed the potential for an extremely negative impact of ecommerce on the Bailiwick. There is also the potential for an extremely positive impact. The Bailiwick has the opportunity to take a leading position in the ecommerce world by virtue of its tax advantages and its ability to pass new legislation remarkably quickly resulting from being a small closely networked community with strong commercial drive.

It is debatable whether the Bailiwick can maintain the considerable advantage that its taxation regime affords, given the European Commission and OECD moves to rescind tax measures that they deem to be harmful. However, it will undoubtedly keep its strong tax advantage in the short term, and will probably always have lower taxation than its European neighbours due to the relative affluence and efficiency of its economy.

Ecommerce allows the Bailiwick to attract new companies with this tax advantage and build high volumes of business without increasing the population or damaging the environment. This is because provided that the computer server handling the ecommerce transaction is situated in the Bailiwick and that funds are transferred to a Guernsey bank, the transaction is considered to have occurred in the Bailiwick, irrespective of the fact that the goods themselves may have been stored elsewhere. One example of this is the British company Sportingbet.com (www.sportingbet.com) which has set up a server in Alderney to avoid the taxes levied on betting in the UK. This company recently won a commendation from the UK Department of Trade and Industry on the basis of its use of ecommerce.

However, success will depend on more than favourable taxation. Legal frameworks must be designed and continually updated to lead the pace of ecommerce development. This will involve all aspects of contract, privacy, encryption and taxation law. The

closely integrated networks of business, political and civil interest groups in the Bailiwick give it a unique advantage in being able to pass new legislation quickly.

If the Bailiwick moves quickly to create a favourable environment for ecommerce, then it can use ecommerce to underpin its sustainable development. This will build an even stronger finance sector, while diversifying the economy into the professional and business services sector. Growth will be driven by improved productivity, which will release the economy from tight constraints of its limited workforce and business premises. Residents will use high-speed access to online resources to maintain and develop their skills and knowledge. They will be able to work at home with full access to all of the systems in their offices. Teleworking will relieve congestion on the roads during the rush hour with benefits for lifestyles, efficiency and the environment. In this way, the economy can enter a virtuous circle of increasing business innovation, revenue growth and skills acquisition, as it builds a worldwide reputation for ecommerce.

However, it is important to stress that immediate action is necessary to grasp this opportunity for two reasons. Firstly, any delays risk pitching the Bailiwick into a vicious circle of decline from which recovery will be extremely difficult. Secondly, a rapid move into ecommerce is likely to win a leading position which will bring greater long-term advantage.

4/ Beyond Guernsey Telecoms

The provision of world class telecoms services is essential for the creation of an environment where ecommerce can flourish. Amid the telecoms revolution, Guernsey Telecoms is struggling to roll out new infrastructure, launch new services and maintain a high standard of customer care. This chapter describes the stresses that are being placed on Guernsey Telecoms by:

- liberalisation and falling prices
- ecommerce and the IP world.

4.1 THE IMPACT OF LIBERALISATION AND FALLING PRICES

Guernsey Telecoms cannot escape the effects of liberalisation and dramatic price falls in other parts of the world. The majority of business customers are international players, with other offices, which operate in liberalised telecoms markets. Their purchasing and systems managers can make simple price, service and customer care comparisons. Most residential customers have friends and family elsewhere in Europe and beyond, and many are frequent international travellers; they too can make comparisons. Even in the absence of competition and an independent regulator, Guernsey Telecoms is already feeling the pressure from representations to the States and letters in the press. It is also impossible to ignore the fall in accounting rates, which is having an impact on revenues.

Liberalisation across the world has sparked the creation of new entrants offering innovative services, particularly data services. It has also prompted a global turf war, as the major players grow larger by acquisition, merger and partnership to stake their claim across the world. Several of these large players can offer an end-to-end, worldwide service which is becoming essential for the efficient operation of the international financial community in the Bailiwick. Business customers will need the full range of global services that these large players can offer.

The existence of technologies such as callback (a method of using reversed call charges from a cheaper country) means that competition can come from operators which do not even possess a network in the Bailiwick. Voice over IP might start to take significant voice traffic, because of the cost savings on international calls. The top 20% of Guernsey Telecoms' clients, which provide 80% of Guernsey Telecoms' revenues, could install VoIP gateways at their premises and thereby route calls via the Internet at little cost, depriving Guernsey Telecoms of large revenues. Alternatively, they might choose to install a satellite system, and it is difficult to imagine the Telecoms Board successfully barring deployment.

It is argued that none of these options are sufficiently robust for business critical operations. However, this argument does not withstand scrutiny, because a business can always keep the Guernsey Telecoms lines as back-up in case the low-cost alternative fails. This leaves Guernsey Telecoms with heavy sunk costs, but little revenue.

There is no escape from liberalisation. Guernsey Telecoms has to offer a full range of world class services at a price which stands comparison with international benchmarks. It is clear that Guernsey Telecoms is simply too small to meet this challenge alone.

4.2 IMPACT OF THE IP WORLD

The growth in the Internet, the emergence of ecommerce and the rapid evolution towards an IP world is creating an immediate demand for bandwidth. ADSL has been launched in, for example, the USA, Hong Kong and Singapore, and will be launched in the UK in March 2000. Guernsey Telecoms' customers are going to expect to have similar access without delay, especially as they have no alternative such as a cable operator offering cable modems. Rolling out this service requires bulk purchasing of the hardware to minimise costs, an experienced team to install equipment and trained technical support staff to help customers. It is inconceivable that Guernsey Telecoms could find the staff to resource this project, and even finding the staff to manage the necessary subcontractors may prove difficult.

Furthermore, it is possible that ADSL will be only an intermediate step for some customers. Guernsey Telecoms will therefore have to make plans for direct Ethernet connections to homes or possibly consider advanced fixed wireless solutions. This would stretch the network and installation engineers into further new technologies.

However, ADSL is not the only issue; the demand for UMTS will become intense as resident customers see systems implemented in other parts of the world. There will also be pressure from visitors to the Bailiwick, who discover that their wireless

organiser works in most central business districts in the world, but not in St Peter Port. There is a growing consensus that UMTS will lead a radical shift in computing and communications. Bill Gates and other industry leaders recognise that it is possible that the PC, in its current form, will be rendered obsolete by wireless IP-based devices.

Guernsey Telecoms needs to be ready to enable this change in the Bailiwick, but there is a danger that it will be stretched too far. Although turnkey contracts can be placed to deploy the UMTS network, Guernsey Telecoms will be hard pressed to manage even subcontracts for the new complex billing arrangements, the sales of a extremely diverse range of hardware, and handling of customer technical enquiries. The timescale for launching UMTS will be fairly short. Other countries are planning for deployment as early as 2001. There is also the complication of intermediate steps on the way to UMTS, for example, general packet radio services (GPRS). Strategy and planning in themselves will be complex tasks.

Further pressure on the Guernsey Telecoms' mobile business will come from the increased demand for voice services as more customers develop a preference for mobile rather than fixed. The number of GSM mobile subscribers jumped to approximately 13 500 in August 1999, compared with approximately 7400 in January 1998. This trend will continue to at least 30 000 subscribers.

Clearly, access is only one issue, albeit a particularly diverse and labour-intensive one. The demand for broadband will mean that the core network and its international connectivity will have to be upgraded. Current trends suggest that IP networks will offer the most cost effective solutions in the very near future with the arrival of wire-speed routers capable of dealing with terabit volumes. These new networks will have the capability for sophisticated billing according to the number of Mbytes transferred and their priority on the network. The network will have to carry voice, data, video and other media. Guernsey Telecoms will need to implement Web hosting, server farms and applications provision if it is to meet the needs of its customers. It will have to deal with entirely new business sectors in IT and entertainment. The technical and cultural strain on Guernsey Telecoms will be severe.

4.3 CONCLUSION

Historically, Guernsey Telecoms has kept pace with global developments, while ensuring that the unique needs of its business and residential customers are taken into consideration. However, Guernsey Telecoms, as it stands today, is too small and too constrained to meet the dramatic challenges presented by the global telecoms revolution. The pace and complexity of change is overwhelming, as telecoms companies are compelled to enter the unfamiliar worlds of IT and interactive media. If

there is no shift in the current telecoms policy, then the business and residential community will experience a widening gap between the telecoms services available in the Bailiwick and those taken for granted in the rest of the world. The chance to seize the ecommerce opportunity will be destroyed without the cornerstone of world-class network connectivity and service provision.

5/ Recommendations for Change

This chapter answers the question: *how can the Bailiwick of Guernsey stimulate the fast and flexible development of telecoms, while ensuring that the provision of services will be tailored to meet the Bailiwick's business, social and environmental needs?*

The chapter comprises five sections:

- applying the resources of private telecoms operators by licensing a single network operator and many service and application providers
- giving Guernsey Telecoms more freedom in the interim
- controlling the market with strong regulation
- building consensus for change among all interest groups in the Bailiwick
- scheduling actions to implement these recommended changes.

5.1 APPLYING THE RESOURCES OF PRIVATE TELECOMS

Our analysis of the case studies (Annex A) and the forces shaping the telecoms industry, lead us to conclude that cost-effective fixed infrastructure provision with international connectivity requires the expertise and buying power of consolidated global telecoms operators. This conclusion eliminates a number of the possible options for the ownership of Guernsey Telecoms (Annex B):

- commercialisation by itself does not give any significant improvements in economies of scale or extension of the skills base
- merging or sharing resources with Jersey Telecom also fails to bring sufficient weight to the enterprise
- privatisation without a powerful strategic partner suffers from the same problem
- creation of Guernsey Telecoms Limited as a subsidiary of a major telecoms operator brings the necessary scale and skills, but leaves the Bailiwick dependent on a monopoly operator.

A solution emerged from a senior management team workshop, whereby the Bailiwick awards one licence for operating the fixed network infrastructure on the basis of an open competition, and several additional licences for providers to offer competing services over this network. The single licence for operating the Bailiwick's network brings the necessary corporate weight to creating a robust state-of-the-art network. Further justification is provided by the limited size of the market and the difficulty of gaining physical access to lay lines on the narrow and congested roads. The licences for competing providers eliminates the dependency on a monopoly for services to bring innovation and choice to the market.

It is expected that the licence for the single network operator would be the subject of competition among consortia led by major multinational telecoms operators, and possibly including equipment suppliers, service and content providers and local businesses. The consortium must own the company, if it is to feel strong long-term commitment, but it may be a condition of the licence that a share offer is made to the residents of the Bailiwick. This would allow the people of the Bailiwick to share in the benefits of the new structure. The proposed approach brings investment, buying power and expertise to the development of the network, while retaining a significant element of local ownership.

Additional licences may be granted for operators offering wireless access on condition that the visual impact of the equipment is acceptable. With this strong foundation, the Bailiwick can encourage competition among service and application providers by licensing them without threatening the environment of the Bailiwick or the fundamental resilience of its network infrastructure.

Licensing of the monopoly network operator and the service providers needs to be completed within two years. There is no scope for delay. Commercialisation would be a reasonable stepping stone for this change, but current progress is too slow. Telecoms must be separated from the commercialisation of other utilities. Then the preparation of Guernsey Telecoms' assets for transfer to a licensee must be given the highest priority.

5.2 GIVING GUERNSEY TELECOMS MORE FREEDOM

In the meantime, Guernsey Telecoms needs to step back from the philosophy of trying to provide the full range of voice and data, fixed and mobile services. It should focus its limited resources on providing resilient modern local infrastructure for business and residential connectivity prior to the licensing of a new network operator. In pursuit of this aim and in order to meet pressing customer demands, Guernsey Telecoms urgently

requires the freedom to let substantial contracts for infrastructure and service provision without political intervention.

One particular effect of the current direct government influence is that government approval always has to be sought over pricing changes of line rental and local calls above a maximum already set by the States. The historical price-setting regime has supported non-cost-based tariffs, some of which will be unsustainable; Guernsey Telecoms' line rental is extremely low at £10.50 per quarter (rising to £11.10 from January 2000), compared to the £20 per quarter charged by Manx Telecom, and Guernsey Telecoms still offers untimed local calls. In many liberalised telecoms sectors, there has been a move towards substantially raising local call tariffs or line rental charges to reflect the cost of provision of local telephony, particularly when international revenues are declining. Guernsey Telecoms has increased local call charges while reducing long-distance charges but the change, due to the current controls, has been slower than ideal.

There is also the issue that as a government-owned company, and therefore obliged to conform to civil service salaries, Guernsey Telecoms is unable to attract the talent vital for the launch of new services. The problem has become so acute that the departure of one or two key staff in a single department can impede that department's ability to operate its respective service.

The necessity for more freedom requires an interim board to be appointed within six months and given the power to sanction subcontracts, investments and essential recruitment within an agreed framework. It must be a compact team with strong international business, IT and telecoms experience.

5.3 REGULATING THE MARKET

There is no doubt that independent regulation will be vital as reforms take place. This is the message from the case studies. For example, consumers in Bermuda did not gain the full benefits of competition, because the regulator did not have sufficient power and the regulations were not sufficiently well defined to avoid lengthy disputes.

The regulator's remit will be to stimulate investment in the telecoms network infrastructure, ensure the delivery of world class services and monitor pricing to guarantee that it remains in line with international benchmarks. This role will rely on the regulator developing fast and flexible mechanisms for licensing.

The telecoms regulator will have to manage more than just telecoms regulation. As convergence and ecommerce develop, the interfaces between telecoms regulation,

broadcast regulation and taxation will become increasingly important and complex. The workload will require a full-time telecoms regulator, a small support team and access to specialist advisors under contract.

5.4 BUILDING CONSENSUS

Success depends on establishing consensus on a goal for the Bailiwick's sustainable development centred on an ecommerce strategy. Any significant dissent has the potential to create dangerous delays, so agreement is needed between everyone involved:

- Guernsey Telecoms, its staff, management and board
- business clients and residential customers
- interest groups such as the 'IT in Society' working party
- Board of Industry, Advisory and Finance Committee, and the States
- the regulator.

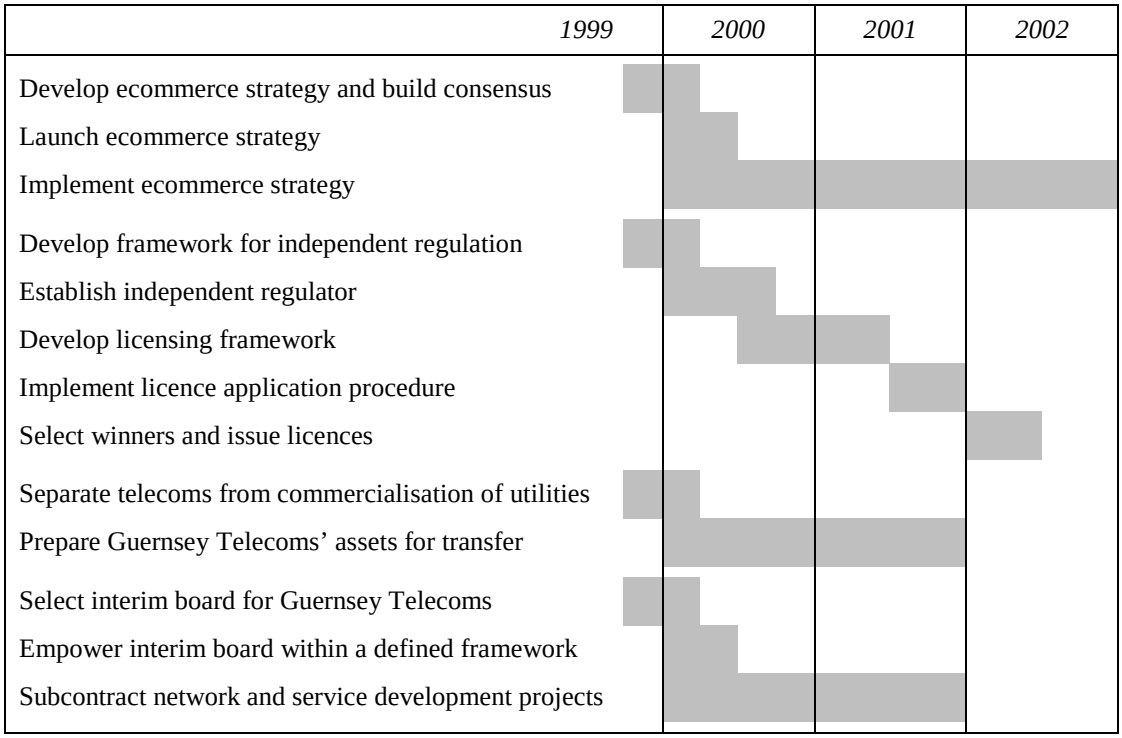
A campaign to build consensus by disseminating information, facilitating informed debates and demonstrating ecommerce in action is essential. Ideally, the campaign should feature leading-edge ecommerce implementations by Guernsey Telecoms, some of its major customers and the public sector.

If a high-level strategy is accepted by all parties within three months, then the Bailiwick has an excellent chance of becoming a leading centre for ecommerce, because its small size, commercial drive and history of expedient actions offers advantages over its larger competitors.

5.5 SCHEDULE FOR ACTION

Exhibit 5.1 summarises the actions and sets out a schedule for their execution.

Exhibit 5.1: Recommended timetable [Source: Analysys, 1999]



As the exhibit shows, the timetable is extremely tight if the Bailiwick is to achieve its potential to become a world-leading centre for ecommerce.

Annex A/ Case Studies

A.1 INTRODUCTION

As a key input to this study to examine the future ownership structure of Guernsey Telecoms, case studies and interviews were conducted, between July and September 1999, to examine the telecoms provisions in regions and islands that are comparable to the Bailiwick of Guernsey. Specifically, this required each case study to cover a region of similar scale to the Bailiwick, to have a high dependence on a single industry, or to be an area where a telecoms operator had undergone transformations of the type that may affect Guernsey Telecoms.

The case studies chosen were:

- Bermuda
- Isle of Man
- Kingston upon Hull.

Bermuda and the Isle of Man were chosen as suitable regions for study, because, like the Bailiwick, they are heavily dependent on the finance sector and, to a lesser extent, on tourism. However, it is worth noting that each of these islands addresses the telecoms needs of their people in a different way. In Bermuda, there are several players, each restricted to a particular service (e.g. long-distance or international telephony). As there are two players in most sectors, an element of competition exists. The Isle of Man has a single private operator, which is entirely owner by BT. Kingston upon Hull was profiled, because of the transition of its operator from a local authority owned company to a fully listed private company. This was chosen to provide insight into the dynamics of change and the transformation of corporate structure. Independent desk research was carried out to provide further understanding of the selected regions.

The interviews were based on a structured questionnaire, which was designed to provide insight into the issues relevant to the Bailiwick of Guernsey.

- For the Isle of Man and Kingston upon Hull case studies, the discussions focused on the changes in the corporate structure of the operators from public to private status, and the interviewees were asked to assess the strengths and weaknesses of the both previous and current corporate structures. These included discussions on the freedom to undertake commercial decisions, the ability to hire staff easily and introduce new services, and the reasons why other options considered had not been chosen. We also asked the interviewees about the mechanics of change, which involved discussions on the perceived and actual obstacles, and the solutions to them.

- For Bermuda, where telecoms has always been provided privately, the interviewees were asked about the strengths and weaknesses of the provision before and following liberalisation, with a view to gaining insights on issues regarding commercial freedom and staffing. The interview also attempted to capture the dynamics of change, as the industry has recently been liberalised. Such insights will be relevant to the Bailiwick, with the advent of competition.

In order to gain a firm grasp of all the relevant issues from different viewpoints, our interview covered several parties which have an interest in the industry. We interviewed the incumbent operator, the regulator or public body which once owned the incumbent, and finally a major user of telecoms services, selected from the financial community. The case study for Kingston upon Hull did not involve a corporate user, because the financial services industry does not play an important role in the local economy. The complete list of interviewees is found in Exhibit A.1 below.

A.2 BERMUDA

As telecoms has always been privately provided in Bermuda, the island provides an interesting case study to test whether private provision successfully meets the island's needs. Important lessons can also be learned from the island's experience of liberalising the telecoms market, which proved to be a contentious process.

It appears that in Bermuda private provision enables companies to react to market conditions far more rapidly than if they were subject to political influence and in a monopoly environment, where they tend to charge high prices and are slow to respond to customer needs. Private service provision needs to occur in a competitive situation to ensure that the commercial freedom of companies is used to serve the customer well. This is especially true for foreign private provision which can result in neglect of the region's interest, as a company from overseas will not have the same sense of social responsibility as a local company. In such a situation, competition is beneficial,

Exhibit A.1: Interviewees [Source: Analysys, 1999]

Case study	*Name*	*Organisation*	*Organisation description*
Bermuda	Mr A Simons, Vice President, Government and Regulatory Affairs	Bermuda Telephone Company (BTC)	The incumbent local voice and mobile operator
	Mr R Bartlett, Global Voice Systems Manager	Bank of Bermuda	A major user of telecoms in Bermuda
Isle of Man	Mr M Dee, Chief Financial Officer	Manx Telecom	The incumbent operator in the Isle of Man
	Mr B R Waddington, Communications Commissioner	Manx Communications Commission	The industry regulator for the Isle of Man
	Ms J Garfitt, Operations Manager	HSBC Bank International, Isle of Man	A major user of telecoms in the Isle of Man
	Ms J Curphey, Systems Controller, IT Department	Barclays Private Bank & Trust (Isle of Man) Ltd	A small user of telecoms in the Isle of Man
Kingston upon Hull	Mr H Saunders, Group Regulatory and Technology Director	Kingston Communications (Hull) plc	The incumbent operator in the Hull area
	Mr M Price, Chief Financial Officer	Kingston upon Hull City Council	The city council that formerly owned Kingston Communications

because in a competitive environment foreign-owned companies will compete to be responsive to the customer. This is evidenced by the behaviour of Cable & Wireless Bermuda (C&W) and TeleBermuda International (TBI) in the international telephony sector.

The full benefits of private provision will not be realised if there is a weak regulatory framework. For example, the price and service approval procedure in Bermuda is seen as cumbersome and inflexible by both the incumbent telecoms operator and the telecoms user interviewed.

The absence of a strong regulatory framework to guide the process of liberalisation results in many areas being undefined. As demonstrated in Bermuda, this can lead to protracted negotiations and even court cases. This causes problems for all parties. Incumbents face uncertainty and do not know how to react to competition, while new entrants may find it difficult to offer new services. The incumbents' staff may be unsettled by the uncertainty. As incumbents are generally better resourced than new players, they are often able to win any disputes that arise. Ultimately, the customer does not enjoy the fruits of competition in the form of better service and lower prices.

A.3 ISLE OF MAN

Telecoms provision in the Isle of Man has historically differed from that in the Bailiwick, because the Isle of Man government has never set up a telecoms firm but instead has relied wholly on the UK government for such services even though it is not a part of the UK. Thus, when the UK government introduced privatisation and licensing for the Post Office Telecoms Department, the Isle of Man had to change as well because the it was directly affected. Nevertheless, the process of change, given the similar political conditions which pertain in the Isle of Man and the Bailiwick, has important lessons for Guernsey Telecoms.

Political acceptability of the change was crucial to success. The selection of BT (the successor to Post Office Telecoms) to operate Manx Telecom offered a sense of familiarity, continuity and comfort to both staff and politicians. Change is often difficult to secure in an non-party-based system like the Isle of Man, so convincing the Manx Parliament was crucial to success. Parliament was divided as to which of the bidders deserved the licence. In view of this, it was important to secure the support of the operator's local staff. It is worth noting that company staff are important voters in a small community such as the Isle of Man or the Bailiwick and few politicians will risk alienating their constituents. The outcome had to be seen as beneficial to the state and to the people in order to win the support of local politicians. According to Manx Telecom, BT's high bid for the first licence had a strong influence on its selection. To add further weight to the proposed changes, it was also necessary to enlist the support of important customers, such as the island's major banks. A strong united front of important parties such as customers and staff was needed to convince politicians of the need to change.

From the experience of the Isle of Man, it is possible to conclude that private sector provision of telecoms can be beneficial, because the operator itself has great freedom to introduce and innovate services. When telecoms was handled by the Post Office Telecoms Department there was no commercial focus, but a change to private sector provision made the company more responsive to customers and also more innovative. Although the customers from the Manx finance sector that we interviewed were generally pleased with the levels of service they receive, they expressed a preference for there being more than one operator, to reduce their dependency on Manx Telecom. If there is a weak regulatory structure, competition is necessary to rein in the disadvantages that accompany a monopoly private firm. According to Mr M Dee, the Chief Financial Officer of Manx Telecom, Manx Telecom does not have to listen to the persuasion of the regulator to lower prices and can ignore the request, even if the regulator tries to galvanise public opinion against it. The regulatory body on the Isle of Man does not appear to be strong, given that the Communications Commissioner only works part time, at three days a week.

Foreign ownership of a local telecoms operator does not automatically mean domination by the larger partner or neglect of local needs. As mentioned above for Bermuda, these effects arise from a monopoly firm not meeting local needs rather than as a result of foreign ownership *per se*. In the case of the Isle of Man, the formation of a locally-based subsidiary actually brought back to the island many of the functions that once were handled in Liverpool. Moreover, it also brought the company under the influence of local laws, regulation and taxes. BT's assurances and undertakings to respect certain wishes, such as the requirement that the company be based locally, were secured when issuing a licence for operation. The Isle of Man actually benefited from BT's expertise in technology and management when there was a need for solutions to problems or the introduction of new services. Manx Telecom was able to receive qualified staff from BT Europe on secondment to help out in many areas. This alleviated the difficulty of finding staff on the island, where there was a significant shortage of skilled staff.

Cultural change in the organisation took time and, even today, there is still a need to mould Manx Telecom staff into a commercial culture. Company structures have to be flexible to deal with new demands and new methods of doing things. For example, Manx Telecom is trying to move from a structure based on management function, with departments such as accounting and engineering, to a one focused more on product lines.

A.4 KINGSTON UPON HULL

Similarly to Guernsey Telecoms, the Hull Telephone Department does not have the flexibility to undertake commercial decisions without significant political influence. It cannot borrow in its own right, nor can it simply expand the business, because it remains a local authority department and is confined to the Hull area. The predecessor of the present company, Hull City Telephone Department, underwent two significant changes. In 1987, it was commercialised as Kingston Communications Ltd, a wholly owned company of the Kingston upon Hull City Council and, in July 1999, Kingston Communications plc was listed successfully on the London Stock Exchange.

Important lessons were gathered from this case study. While the commercialisation of the company was beneficial in that it gave the company commercial freedom and the ability to hire staff, this was not sufficient to ensure the long-term future of the company. Further change was necessary to enable Kingston Communications to expand its businesses. This suggests that, even if Guernsey Telecoms is eventually commercialised, its status as a wholly owned commercial company of the government may not sufficiently free it from political influence.

It is worth noting that, although in Kingston there were similar obstacles to change as in the case of Guernsey Telecoms, there was eventual success, even though the process was slow. However, the urgency of the situation in the Bailiwick does not warrant long periods of inaction. In the case of Kingston Communications, initially there was political resistance from the Labour-controlled council, which feared that it was parting with a precious local asset. Success in change depended on seizing the right political moment to make the transformation and also on the steps taken to unite all parties with an overriding desire to secure the future of the company. The experience of Kingston Communications shows that fears that change will result in a dilution of commitment to the region can be addressed by writing special obligations and undertakings into the company's constitution. Change must benefit all parties, as seen in the case of the local retail offer and staff share ownership schemes when Kingston Communications was floated.

As part of the process to ensure that matters progress without delay, it is important to appoint a steering committee with representatives from all parties. Impartial advice from a single advisor helps to reduce complications arising from competing advisors from different groups.

Annex B/ Analysing the Options for Guernsey Telecoms

The table overleaf summarises the strengths and weaknesses of the five original options for Guernsey Telecoms. It is based on our own analysis and discussions during interviews and the workshop.

The results of this analysis suggest that:

- commercialisation has some value as transitional move which creates flexibility, but it does not offer a long-term solution
- creating Guernsey Telecoms Ltd as a subsidiary of a major telecoms operator is the most promising long-term move that is also likely to be politically acceptable
- all of the original options lack the element of competition, which is essential to protect the Bailiwick from monopolies and ensure the availability of a wide range of low-cost innovative services.

Option	*Strengths*	*Weaknesses*
1. Commercialisation of Guernsey Telecoms to form Guernsey Telecoms Ltd	Guernsey Telecoms gains a little more flexibility to form partnerships and to recruit specialist staff at the market price The process is underway and considered politically acceptable Commercialisation creates flexibility to pursue any of the other options	At present, the commercialisation of telecoms is integrated with commercialisation of the postal service and the electricity utility, which adds tremendous inertia to the process Guernsey Telecoms does not break free of state ownership and remains subject to political interference, e.g. salary restrictions are likely to continue to some degree Guernsey Telecoms does not gain any additional buying power or expertise
Conclusion	Commercialisation has some value as stepping stone to other solutions, but answers none of the major long-term concerns in itself	
2 Formation of Channel Island Telecoms Ltd	Guernsey Telecoms and Jersey Telecom share very similar market environments in very close proximity	Guernsey Telecoms and Jersey Telecom have different cultures, which will affect the efficiency of planning and co-ordination The idea is politically unpalatable If States ownership persists, then all of the existing constraints exist with the added inertia of political interference from Jersey The merger creates another very small telecoms operator, so the economies of scale are insignificant
Conclusion	There would be strong opposition to a merger with Jersey Telecom, which solves very few problems, increases the constraints of political interference and creates operational complications	
3 Privatisation of Guernsey Telecoms	Guernsey Telecoms gains full flexibility to invest, recruit, launch new services, merge or partner with other companies, etc.	Privatisation alone is likely to meet political resistance Without competition, the Bailiwick is exposed to risk in the event of the new company's failure or poor responsiveness to the regulator Guernsey Telecoms may not have the staff and resources to become a private company without a very difficult transition
Conclusion	Privatisation of Guernsey Telecoms may solve some problems in the long term, but is likely to encounter political opposition and Guernsey Telecoms will experience severe difficulties in managing the change	

Option	*Strengths*	*Weaknesses*
4 Sharing administration and technology between Guernsey Telecoms and Jersey Telecom	Guernsey Telecoms and Jersey Telecom share very similar market environments in very close proximity	Guernsey Telecoms and Jersey Telecom are culturally different Guernsey Telecoms remains constrained by States ownership Sharing facilities will create operational and accounting difficulties The alliance of two small telecoms operator does not give significant economies of scale
Conclusion	Sharing resources with Jersey Telecom is an unstable solution with few long-term benefits and many short-term difficulties	
5 Guernsey Telecoms Ltd as a subsidy of a major telecoms operator	The Bailiwick gains access to the expertise, efficiency and range of services offered by a major telecoms operator	In the absence of any measures to introduce competition, it creates another monopoly, which may not be responsive to regulation The process for selecting the buyer is likely to make slow progress, because it will be subject to intense political debate
Conclusion	This option solves many problems but is heavily dependent on selecting a suitable buyer, because the decision is practically irrevocable and it creates a powerful monopoly unless competition is introduced	