Commission for
Communications Regulation

DIGITAL OPPORTUNITIES – Alex Chisholm, Commissioner, ComReg

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INTRODUCTION

Good afternoon and thank you very much for that introduction, and for the opportunity to speak here in Limerick – to such an audience, and on this particular subject.

'Digital opportunities' - my theme this afternoon – have held my attention for much of the last 15 years, first as a policy-maker, then in the media and software business, and now as Commissioner at ComReg, Ireland's Communications Regulator.

My plan today is not to announce a new initiative or explain a recent regulatory decision but to share with you some information about the emerging benefits and challenges presented by digital technologies, and some ideas on ways in which we can help to manage those for the better, to realise fully the social and economic potential they offer.

In doing so I am very conscious that as the regulator, we are only part of the potential solution: the challenges require innovation and cooperation between other State bodies, from local agencies, from the voluntary sector, and from the private companies whose products and services define the digital experience.

So I welcome the interesting mix of people and organisations represented here today, as a very suitable group for looking at the diverse social and economic challenges presented by digital technologies.

DEFINING DIGITAL

So what are these digital opportunities?

The digital universe now encompasses most of the media and communications markets. Not only are the majority of telephone handsets and television receivers now digital - as computers have long been - but so too are the transmitters, switches, routers and other devices that are needed to deliver the service.

The move to digital is important for two main reasons.

First, it has brought into play new technologies for compression, storage and transmission which - in tandem with advances in computer processing power and microelectronics - have enabled a vast new array of products and services to be made available to consumers. These offers have generally come to market more quickly, at lower cost, and on more flexible terms.

Secondly, by putting the telecoms, media and IT industries onto the same footing, the move to digital has effected a convergence between these industries, the delivery platforms they use, the services they offer, and the devices we use to receive them. This has further extended the choices available to consumers, and the intensity of competition between alternative providers.

Let me give three examples to illustrate these powerful forces at work.

First, Apple's iPod. As I make my way to work each day, in Dublin, it seems 9 out of 10 of my fellow commuters are listening to music or looking at photos or videos on their iPod (or one of the competing devices). Doubtless it is the same here in Limerick. Recent research has estimated that half a million people in Ireland have downloaded music from iTunes[1]. Internationally, 140 million iPods have been shipped by Apple Inc., and there have been over 4 billion downloads. The capacity of the latest devices is sufficient for 200 hours of video or 40,000 music tracks. Better even than my teenage record collection. Editable and updatable through any online computer. And all in your pocket.

The convergence trend can be illustrated by the well-known 'X-Factor' show. We can watch the show in our living rooms, on regular terrestrial television. Or we can watch it on cable or satellite. Fans can participate by phoning or texting our votes. They can also download video and music clips from the show over the Internet. And there is an interactive DVD. So we have multiple media formats, multiple delivery channels, multiple reception devices, and multiple options for interactivity. Convergence in action.

My third example concerns 'Voice over Internet Protocol', or VoIP, the internet-based voice telephony popularised by the Skype service, now used by 720,000 people in Ireland[2]. You can use this service to make free calls – even to relatives or friends as far afield as Australia or Canada. You can do this from your computer, using broadband, or, now, from the operator '3', through your mobile handset. The iPhone, launched in Ireland by O2 last month, is also being adapted to enable Skype calls. Free calls, across the world, from your portable multimedia device. Handy.

[1] Life Online Survey, Amarach Research 2008
[2] Life Online Survey, ibid.

COMPETITION & CHOICE

These examples show how we are experiencing digital opportunities in our daily lives. We can see how this is a global phenomenon – a subject I will return to - and how innovation, stimulated by competition, is driving change. And we can appreciate how the consumer is benefiting.

At ComReg we place the consumer interest at the heart of the digital revolution.

We do this, first of all, by encouraging competition. Experience here and in other markets has shown that vigorous and fair competition between providers has delivered the best outcomes for consumers. Better prices, better service, more innovation, more choice.

Broadband is a case in point. This time 6 years ago broadband was being marketed at a cost of €108 per month, and this at a speed of around half a meg (0.5 MBps/sec), and to a relatively small percentage of the population. Today, as you can see for yourselves on the ComReg price comparison website – www.callcosts.ie – broadband is available from €18.95 a month – and even less in a bundle with other services. Typically the entry level speeds available are 1-2 MBps/sec. And broadband services are available from a choice of operators to around 85% of the population[3].

Improvements in technology have played a part in getting to this better situation. But the key driver has been the competitive struggle between the fixed line providers, the fixed wireless companies, cable and satellite, and recently mobile operators too. Their fight for business has driven the market, to the benefit of users.

Overall, communications costs have fallen substantially over the last 10 years[4]. For how many other products and services is this true?

And competition is heating up. In the last quarter, 99,000 Irish people switched their mobile account from one provider to another[5]. 93,000 people took out new broadband accounts – from over 20 competing providers[6].

THE CONSUMER EXPERIENCE

Given all this choice, it is interesting to see what people do with it.

Obviously consumers spend their money with companies that bring them better services at keener prices. Looking at trends in consumer expenditure, it is possible to discern what it is that today's digital consumer really wants:

[3] Further information on geographical availability of broadband is available on DCENR site www.broadband.gov.ie
[4] CSO data series on cost of basket of communications services
[5] ComReg Quarterly Report – Q4 2007
[6] ComReg Quarterly Report – Q4 2007

First of all, he or she wants *better value* – on every side the ads and marketing literature are offering consumers 'super deals' with enhanced service levels and / or loads of free stuff. (And we at ComReg help this process along through www.callcosts.ie).

Secondly, the consumer wants *more control* – witness the success of time-shift digital TV recorders, or demand for 24-hr access to online services.

Thirdly, he or she is interested in *mobility* – in the last quarter, for the first time in Ireland, mobile networks took over half of all voice traffic; and mobile broadband – so-called HSDPA services - added over 39,000 customers, 42% of net additions.[7]

Fourthly – and perhaps most intriguingly – today's consumer is seeking more *involvement* – the so-called Web 2.0 phenomenon, in which hundreds of millions of people have started to use the web to make their own content and shape their own online identity, through a host of social networking and virtual reality services. In Ireland alone, some 1 million adults have created content on the Internet in the form of a Bebo or MySpace or Facebook type service[8]. As they say on SecondLife, "You've Seen the Show – Now BE the Show!"

Properly looked after, the Irish communications consumer is rewarding all this service handsomely:

By spending more time using electronic media and communications – on some estimates[9], as much as 73 hours a week.

And by spending a lot of money – €1300 per individual p.a., €3500 per household[10]. Indeed, over the last 10 years, in Ireland and throughout the OECD, an increasing percentage of household expenditure has been allocated to communications – this even during a period of, in general, falling communications prices. To put this in context, only spending on health has risen by a comparable amount.

As consumers are allocating more time and money to electronic communications, we can assume they are seeing real benefits from doing so. And the quantum of time and money suggests that electronic communications have become, for most of us, indispensable aids and enhancements to our lifestyles.

Of course there is a potential downside for the consumer if markets are left entirely to their own devices. Rogue practices such as misselling or cold calling can creep in, and at ComReg we have to be very vigilant to take action in such cases, often working alongside other consumer agencies (such as ASAI, the NCA and RegTel) and the Data Protection Commissioner.

[7] ComReg Quarterly Report – Q4 2007
[8] Source: Amarach Research report, 'Life Online: The Daily Life of Ireland's 2 Million Internet Users', 2008.
[9] ComReg analysis; includes mobile phone use, listening to radio, playing games on consoles, watching TV and being online. Note that some of the activities can be simultaneous.
[10] ComReg Quarterly Reports 2007, CSO data 2007.

We also have to be alive to the needs of all the communities in society, not all of whom are equally well placed to take advantage of communication services and the benefits they bring. Last year, working alongside the National Disability Authority and other such agencies, and the telecoms industry, we developed a package of measures to improve the accessibility of communications services for people with disabilities and for the elderly. You can read about these in our 'Phones and Broadband' guide, produced to meet the information needs of these groups[11].

DIGITAL IRELAND

Standing back from the interests of the individual consumer, what is the composite picture on the digital revolution in Ireland? 8 years ago Ireland signed up to the European Union's 'Lisbon Agenda', aimed at making Europe "the most dynamic and competitive knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion". How near are we to this goal?

We can look at this at 2 main levels:

1) Infrastructure
2) Take-up of services

INFRASTRUCTURE TODAY

One of ComReg's foremost goals over recent years has been to encourage the development of cross-platform infrastructure competition. This has required a lot of regulatory intervention by ourselves, and significant investment in infrastructure by operators. This is perhaps not the forum to consider this in detail, but perhaps I can give a handful of indicators of the progress made in this regard.

i) To provide extra competitive pressure in voice and broadband markets, ComReg developed its Fixed Wireless Local Access scheme. Under this innovative programme we have issued to date over 300 licences (including to 2 companies who operate in the market in and around Limerick). Fixed Wireless operators now serve c. 120,000 customers[12].
ii) We also issued licences for mobile 3G networks - currently operational from Vodafone, O2 and 3 - and these networks support mobile broadband services which have had a tremendous impact over the last year[13].
iii) In the fixed line market, eircom have continued to roll out their programme of digitally enabling exchanges; a number of operators now offer 'unbundled local loop' services; and in the trunk and backhaul markets, significant alternative capacity has been built.

[11] Available online at www.askcomreg.ie.
[12] ComReg Quarterly Report – Q4 2007
[13] Over the last 3 quarters of 2007, mobile broadband services were taken up by 127,500 customers, a 14% share of the broadband market (ComReg Quarterly Report – Q4 2007)

iv) Cable and satellite networks have also extended their coverage and footprint, and I'm aware that here in Limerick the cable network has been undergoing significant upgrading to support broadband and other services.

v) In total the telecoms sector in Ireland is investing around €700 million *per annum* in enhanced infrastructure[14]. And this is on top of the very substantial investment that Government has made in the Metropolitan Area Networks, and will shortly begin to make in the National Broadband Scheme[15].

In terms of coverage, the availability of broadband services has greatly increased over recent years, and, as I have said, covers over 85% of the population, with a further 5% expected over the next year or so. Speeds and other performance issues have also improved, and over the months ahead we will see further speed upgrades from the main operators, in response to consumer demand.

TAKE-UP TODAY

In terms of take-up of the services available over this infrastructure, let's compare where we are today with where we were in the year 2000, when the Lisbon Strategy was formed:

Households with computer - 32.4% then, c. 70% today[16]
Households with internet access – 24.1% then, c. 65% today[17]
Households with broadband access – 0% then, c. 50% now[18]
Households with digital television – a few%[19] then, over 58% today[20]

Enterprises with access to email & web – around 2/3 then, c.100% now[21]
Enterprises using broadband – 82% of Irish businesses today[22]

And the total number of Internet Users in Ireland is now over 2 million[23], up from 784,000[24] in 2000.

So some significant increases.

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[14] Source: Telecommunications & Internet Forum, IBEC, 28 March 2008.
[15] Subject to any legal or other obstacles to the introduction of the scheme.
[16] Extrapolating from CSO figure of 65% February 2007, 6.5% higher than previous year.
[17] Extrapolating from CSO figure of 57% February 2007, 7% higher than previous year, strong growth in broadband numbers over last year.
[18] Extrapolating from ComReg QR4 2007 figure of 45%, 11.7% higher than previous quarter.
[19] 0.8% in 1998, IDATE for the European Commission, 1999
[20] ComReg Quarterly Report – Q4 2007
[21] Figure for today from CSO report on 'Information Society and Telecommunications', 2007. CSO data for 2003 shows 85% email access & 86% Internet access. The 2000 figure of two-thirds is only a rough estimate.
[22] ComReg Millward Brown business survey July 2007, 79%.
[23] See, for example, Amárach Research report, 'Life Online: The Daily Life of Ireland's 2 Million Internet Users', 2008.
[24] ITU

In terms of the promised economic benefits for Ireland Inc.:-

- the Irish telecoms sector alone had revenues of €4.54 billion in 2007, employing some 11,000 people
- the ICT sector as a whole employs over 80,000 people and accounts for over 22% of total turnover in the industrial and services sector[25]
- the economic value of radio spectrum in Ireland has been calculated at almost €3 billion, employing 31,000 people directly.
- the use of ICT in firms is reducing costs and opening up new revenue stream – eg 27% of enterprises received orders online last year[26]

And looked at more locally, in terms of the regional economy here:

- Limerick has acknowledged regional strength in ICT with firms like Dell, Analog and Intel well established, and of course the University of Limerick among other establishments providing ICT education
- Limerick is now also rated one of the top counties for start-up companies, with e-commerce and technology businesses to the fore[27] – including one managed by 2 teenage Limerick brothers who are now, apparently, multi-millionaires[28].

These are impressive figures and developments.

But in European terms we are middle of the pack – not one of the leaders. And in countries like Japan and Korea, they are further advanced again in terms of both availability and take-up of ICT.

Earlier this month, IBM/Economist Intelligence Unit published their 2008 'e-Readiness' rankings, which aim to measure nations' ability to absorb information and communications technology for economic and social enhancement. The Republic was placed 21st out of 70 countries, for the second year running.

So, to coin a phrase made popular by a political leader now apparently on the verge of retirement, "a lot done, more to do".

KEY CHALLENGES FOR FUTURE

So what are the challenges we face as we look ahead?

[25] CSO report on 'Information Society and Telecommunications', 2007
[26] CSO report on 'Information Society and Telecommunications', 2007
[27] 'Seven firms to create jobs for Limerick' - Irish Times, March 6, 2008.
[28] 'Limerick teens sell software firm in multimillion deal' - Irish Times, March 27, 2008.

1) Continued roll-out

Looked at narrowly, in terms of infrastructure, there is still a significant job of work to make sure that households and businesses across the country who want broadband can get it. The Department of Communications' National Broadband Scheme is the centre-piece of the Government's strategy for achieving this. ComReg will play its part by encouraging entry into the market, and vigorous competition between operators.

There is also a need for higher speed networks to support the growing army of users and the more bandwidth-hungry applications coming onto the market – IPTV, HDTV, Video-on-demand etc. Here we want to see the fruits of technological innovation, including early and rapid introduction of the so-called Next Generation Networks - fibre-rich IP-based networks that can support much faster speeds, ushering in a new suite of services to the home and for businesses.

Indeed we want to see continuing rollout of all competing infrastructure platforms, whether they be fixed-line, wireless, cable, satellite or (next year) Digital Terrestrial Television – this last of especial national value because of the opportunity to reclaim and reuse the valuable radio spectrum currently used for analogue broadcasting transmission.

But looked at more broadly, this is not just about making the bits and bytes available to people in Ireland. It is about maximising their economic and social benefits.

2) Increased competitiveness – Ireland Inc.

At ComReg, with our day-to-day involvement with communications markets and technologies, we can see the pace and scale of changes. We share the view of Forfas and other agencies that our national response to these challenges will have a critical bearing on our future competitiveness. That is one of the reasons I am here speaking with you today.

To the entrepreneurs and business managers in the audience, I ask you to consider a market so big that it involves 1 billion deliveries annually. For that is the projected size of the global Internet ecommerce market in just 2 years. And this is a market anybody with a computer and a network connection can address – so if it is not us doing it, the business has gone to firms in other countries.

3) Digital inclusion and social balance

The debate cannot just be about money-making business opportunities: fundamentally it must be about us as individuals and communities, and how we live. Issues which take us outside ComReg's remit, but are very relevant to the overall digital debate.

Some fascinating research[29] from America has shown how, over a 4 year period, the Internet had a very positive effect on people's lives, in terms of their ability to do their job; ability to shop; to get information about healthcare; and the way they pursued their hobbies and interests.

The same research showed how using the Internet could give people better choices, and enable better informed decisions about important family matters such as financial investments, vocational training and medical care.

More speculatively, there would appear to be considerable untapped scope for using the new digital technologies to tackle some of our fundamental social challenges, including spatial development (eg through mobile working), and environmental sustainability (eg through programmable energy efficiency devices in the home).

But there are also some quite significant challenges to our social cohesion.

To highlight two interesting findings from Amarach Research's 'Life Online' survey[30], published earlier this year:

a) 8 out of 10 15-24 year olds in Ireland use the web, but just 1 in 4 of those aged over 65.
b) Nearly 9 in 10 in the highest A social class use the web, compared with just 1 in 5 of those in the E social class.

And from ComReg/Amarach research published last October, we find:

c) only 1 in 4 people with disabilities use the Internet, compared to almost half of the population in general[31].

In terms of all groups that are identified as socially disadvantaged today, the OECD has identified the risk – and some international evidence - that these groups become more excluded through the impact of digital technologies, unless policies are developed to manage this effect[32].

To these socially stratified differences, we can add significant regional inequalities. For example, whereas 37% of households in the Southern & Eastern regions of Ireland had broadband connections in 2007, only 15% of households in the BMW had broadband[33].

These social and demographic differences, collectively termed the 'digital divide', are a potential source of concern.

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[29] Pew Internet and American Life Project, 2006. Surveys conducted in 2001 and 2005.
[30] 'Life Online: The Daily Life of Ireland's 2 Million Internet Users', Amarach Research Report | 2008.
[31] ComReg Trends Survey 2007: Research on the experience of electronic communications services by users with disabilities. Prepared by Amarach Consulting, October 2007.
[32] OECD Working Party on the Information Economy: Broadband and ICT Access and Use by Households and Individuals, December 2007.
[33] CSO report on 'Information Society and Telecommunications', 2007

To the extent that these imbalances reflect lack of availability, they can be addressed by achieving further roll-out of infrastructure. Where affordability is the constraint, we can look to competition to deliver ever better value.

But there are also attitudinal and skills-related restraints. Nobody should be coerced into taking a service of no interest to them. But equally, one would like to think, nobody should be deterred from taking a useful service by a lack of information or aptitude. This speaks to an awareness and training challenge.

It also means making sure that schools and colleges have the connections and capabilities they need to educate the next generation for the 'knowledge society'.

4) Digital abuses

Our fourth and final challenge of the 'digital opportunities' takes us to the darker side of life. The Internet with all its opportunities has also spawned illegal pornography, abuses of privacy and identity, viruses, hacking and spam, and so-called 'cyber-crime'. Like everything else to do with the Internet, these elements too are growing at an unprecedented pace.

I don't have any magic wand solutions for you today – and indeed ComReg has no responsibilities for content regulation. But I do feel sure that technology will come to our aid, with better and easier safeguards - if that is what we want.

And I cannot resist quoting the wise words of one of the Internet's founders - Vint Cerf. Pointing out last year that troublesome content on the Internet is still contributed by its users, he said: "When you see a problem in the mirror, you don't fix the mirror, you fix that which is reflected in the mirror"[34].

We must indeed look at all the positive social influences we can bring to bear on people's behaviour. Accepting the limits on external restraints, it is to our self control that we will increasingly have to turn. Some of the agencies represented here today can surely help with this important social dimension to the digital revolution.

GLOBAL VIEW

These four challenges are daunting. As a small country in the headwinds of technological change and globalisation, we will find that the going gets tougher. Because the pressures – as well as the opportunities – are accelerating and intensifying. We can see this clearly if we take, finally, a more global view of the issue.

It took over 100 years for a billion people to have the use of a telephone. The next billion took just 4 more years. The 3rd billion, 3 years; the 4th billion, just 2 – which is where we are today[35].

[34] Interview on BBC Radio 4 'Today Programme', accessible through www.bbc.co.uk
[35] ITU Symposium 20-21 February 2008, ICT Market Trends.

Look at storage and transmission. There are now 45 gigabytes of digital data in existence for every person on Earth[36]. Google has stated that given the current trends in local storage (ie capacity increases and falling real prices) it is conceivable that by 2015, consumers will be able to carry a music player in their pockets with the capacity to hold all the music that has ever been written.

Look at the collation and dissemination of knowledge:

- The Smithsonian Institute in Washington DC, in their 'Encyclopedia of Life' project, have set about producing web pages on the world's 1.8 million species. The aim is to draw together in one place all the knowledge of the world's wildlife that scientists have discovered over the past 250 years[37].
- The Massachusetts Institute of Technology (MIT) have over the last 7 years put almost their entire teaching output – some 1800 courses - online – for free. 35 million people have accessed these courses from around the world[38].

Look at the explosion in individual expression. Whereas there are some 500,000 accredited journalists in the world, there are well over 100 million blogs![39]

And look at the money. Spend on ICT in Europe last year was €700 billion[40], globally $2,000 billion. And in these markets, significant transfers of wealth and employment are occurring – away from terrestrial broadcasters, and music and book publishers, for example, and towards online search and social networking services, and data aggregators.

CONCLUSION

So the global environment is changing apace. Here in Ireland we do face major challenges, which will help to define our social and economic well-being over the next generation. We need to work together to meet these challenges, at local, regional and national levels, building on our constructive social traditions of cooperation and partnership. And with joined-up thinking that embraces both public and private sectors. All of us at ComReg intend to play our full part in this.

Properly realised, digital technologies, and the changes they bring, can have a very positive effect on people's lives, offering more mobility, better connections, more control, more choices, more engagement and more prosperity. We should embrace these opportunities with curiosity and enthusiasm – as I hope I have shown today – and mindful of what Barack Obama - and before him Martin Luther King - called "the fierce urgency of now".

Thank you very much.

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[36] According to a study by IDC, sponsored by EMC, cited in Irish Times 14 March 2008.
[37] Reported in Metro newspaper, 26 February, 2008.
[38] http://web.mit.edu/newsoffice/2007/ocw-tt1128.html
[39] There are 500,000 members of the International Federation of Journalists (www.ifj.org). The blog search engine Technorati was tracking 112 million blogs as of December 2007.
[40] EITO, 2007