The Second UPC Report on Ireland's Digital Future

Accelerating Economic Recovery





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Welcome



If your home internet connection was to disappear tomorrow, what monetary value would you put on the loss of this service? This is just one of the questions we asked Irish consumers as part of the research undertaken for this Second UPC Report on Ireland's Digital Future. Globally, the digital revolution means change on a scale

that has not been seen for generations. Faced with such rapid and continuing change, we are all challenged to realise the potential that digital represents for today's generation.

In Ireland, we are seeing profound changes due to considerable uptake of digital services which is already reshaping how everyone lives and will do so in the future. How we manage and guide this process needs to be an essential concern for everyone.

Further to our multi-million euro investment, UPC provides access to high speed broadband and is therefore at the forefront of many of these digital developments and trends. We first conducted this comprehensive research around digital life and internet based economic activity two years ago. Our newly commissioned research shows that the consumer and business appetite for digital services remains very strong. The research was once again conducted independently by Amárach and was carried out on an entire market wide basis, including customers of all telecommunications providers.

Internet usage in Ireland is growing rapidly. Consumer bandwidth and content requirements are growing constantly. Ireland ranks highly among the world's most digitally advanced economies. The country performs well within the average standards in Europe for internet adoption and well beyond the average standards for higher internet speeds. Investment in digital infrastructure, products and services is strong and is equally matched by the skills to use them.

If Irish society and industry can keep pace with the digitisation levels of our world peers then this will benefit national prosperity and public wellbeing. However, we need to ensure no one is left behind and the widespread benefits that digitisation brings can be enjoyed by all.

The Second UPC Report on Ireland's Digital Future sets out the country's current status with regards to online engagement. It looks at what we like doing online and makes some recommendations as to what we should all be doing to ensure continued progress and success for the country and its people in an increasingly digital world.

By the way, the answer people gave to the question asked above is that the average Irish adult would require $\[\in \]$ 1,560 a year or $\[\in \]$ 130 per month to go without the internet. This represents the significant value Irish people place on broadband, which is well in excess of the average subscription cost of $\[\in \]$ 37 per month. We call this gap the *consumer surplus*, a topic we discuss in more detail later in the report. Of course the benefits of being able to access the internet are so much greater than simply having internet connectivity. Our Report goes into all of this and more and I believe you'll find it informative and interesting.

I thank Amárach for their research expertise and everyone who has helped us in preparing this second Report. I hope its findings are a useful contribution to everyone's understanding of where Ireland stands digitally today, and what we need to be thinking about for the future.

Magnus Ternsjö

Chief Executive, UPC



Highlights

Digitisation (the mass adoption of connected digital services by consumers, businesses and Government) is closely correlated to economic growth. The rate of this contribution is at its highest in advanced economies where there is a talent base and an economic 'ecosystem' that can take advantage of the digital services enabled by technology and broadband developments.

It is nearly two years since the first UPC Report on Ireland's Digital Future. Since that time, the digital landscape has gone through significant change – both in Ireland and abroad – which justifies revisiting the themes explored in the first Report as well as examining new topics and trends.

Many of the projections that we envisaged in the first Report have come to pass:

- » Irish consumers now enjoy faster broadband speeds
- » Online shopping continues to revolutionise the retail sector
- » Smartphones and multi-device use have become a major aspect of our digital lives
- » Irish businesses have experienced higher levels of growth thanks to digital productivity

These are the most notable changes. Other, less obvious changes have also taken place. Family life has been transformed by the emergence of multi-screen patterns of behaviour. Meanwhile our working lives have witnessed a blurring of the boundaries between business and personal spaces, in terms of time use, location and even devices. We have also seen the emergence of new discussion themes in the digital landscape, for example public debates with respect to privacy, security of personal data and the protection of children online.

Since our 2012 Report, we have seen real progress as Irish consumers, entrepreneurs, investors, the private and the public sector respond to the new opportunities that are presented by digital technologies.

While Ireland's economic fortune has turned a corner for the better in the past two years, we cannot afford to take anything for granted. We have to plan and work for the future that we want. The same is true for our digital future. Indeed, on some measures, we are well ahead of the rest of Europe. For example, Ireland has made significant progress with regard to the delivery of high speed broadband. In fact, 30% of Irish adults now say they are signed up to speeds of 30 Mbps or more, compared to just 10% in 2012 and an EU average of 18.2%.

The landscape is more competitive as more broadband providers have now entered the market providing consumers with a wider range of choice of providers and services. There has been a continuing improvement in broadband speeds where the fastest speed available to Irish consumers has increased from 50 Mbps in 2012 to 200 Mbps in 2014 – a top line speed that is actually available to 44% of Irish homes today.

The economic benefits of broadband for Ireland must be seen to go beyond providing a gateway to this digital world. Even though access to high speed broadband is vitally important, the benefits are much better defined by actual usage and by the uptake of content and services. The more that a society is exposed to, and the more it uses, digital technologies and services, then the more concerned that society will be about becoming increasingly digital. It is a virtuous circle that can contribute to improved levels of growth, prosperity and wellbeing for society and the economy.

¹ EU Digital Agenda Scoreboard http://digital-agenda-data.eu/charts/country-profiles-the-relative-position-against-all-other-european-countries#chart=("indicator-group":"bbquality","ref-area":"IE","time-period":"2-013")

Digitising Ireland

Increasing levels of digitisation in society can contribute to an overall uplift in GDP including jobs. Growth opportunities exist for small and medium enterprises whose success is essential for a robust economy. This is particularly so given that 98% of all enterprises in Ireland are SMEs / SOHOs. Our research shows there is continued optimism for that growth possibility among firms who realise that they can create new opportunities with the right digital strategy.

- » For businesses, greater digitisation supports increased revenues, lower costs and better access to consumers and customers. It is changing how businesses market themselves, provide services and communicate with customers including a growing reliance on social media. It is also changing how businesses manage and organise their resources including flexible working practices with an emphasis on personal productivity which does not always need to be office based.
- » For consumers, increased digitisation means better delivery of education, technological literacy, enhanced employment prospects and greater access to public and commercial services. It also means more community engagement and improved wellbeing, including the delivery of health related information and services.
- » Digitisation changes how we work, often on the move, sometimes at home, networking and communicating with colleagues, clients and customers all around us. In particular, it changes our consumer behaviour where a new generation is emerging who have had the internet all their lives and are using it to shape a constantly connected world transforming industries and society in the process.

Economic Value

The value of Ireland's internet economy in 2014 will be \leq 8.4 Bn or 5% of GDP. By 2020, our research suggests that this will rise to 10% or \leq 21.1 Bn.

If we can grow the contribution of the internet economy in the years ahead then that will benefit us all. However, we also need to be aware that others are already doing better than Ireland and we need to emulate their success. In the UK for example, over 8% of GDP comes from the internet economy.² If we were to achieve that equivalent in Ireland today, the internet contribution to Irish GDP would already surpass €12 Bn in current terms.

The largest single contributor to the internet part of the economy is online consumer spending at a current figure of nearly €6 Bn annually in Ireland (2014). Millions of people in Ireland shop on the internet but at the moment a large part of that spend is going overseas as UK, European and US websites continue to successfully target Irish consumers.

If we allow this to continue, we risk very real damage to our economy. Over 60% of online shopping by Irish consumers is currently going abroad, some €3.6 Bn, resulting in lost revenues for Irish businesses. The opportunity is clear, we need to get as many Irish businesses online and we need to do that as quickly as possible, including those with export sales potential.

This is very important as we expect the share of online spend to more than double by the end of the decade when the value of Irish consumer spend online will rise from just under ≤ 6 Bn to nearly ≤ 13 Bn by 2020.

Encouragingly, CSO figures indicate that 24% of Irish enterprises now use the internet for a proportion of sales via e-commerce. The EU average (EU-28) figure for businesses using the internet for e-commerce is 17%, so Ireland is doing comparatively well.

2 "The Internet Economy in the G-20", Boston Consulting Group, March 2012. BCG analysis of findings from Economist Intelligence Unit, OECD, Individual Country Statistics and BCG Analysis. P8. http://www.bcg.com/documents/file100409.pdf We are also good at embracing social media for business. CSO figures indicate that 48% of Irish enterprises employing 10 or more persons use some type of social media, such as Twitter, LinkedIn or YouTube compared with an EU-28 average of 30%. In terms of enterprises using social media, Ireland is ranked third highest of the EU-28

However, we estimate that as many as 47,000 Irish small and medium enterprises (SMEs) do not currently have a website. Ireland is therefore not making adequate headway in convincing the full business spectrum of the digital opportunity. Given the size of the prize in jobs and economic value, this requires urgent attention. With so many businesses not having a website, our ability to capture the €3.6 Bn (and growing quickly) of online spend going abroad has to remain in doubt. In question too has to be our potential to realise the 150,000 jobs dividend (from direct and indirect impacts combined) that could come by the end of this decade from a concentrated effort on digital presence.

We need to accelerate the number of businesses with e-commerce capability so that they can not only flourish and create additional wealth and employment for this country but also enter into new international markets.

Focused education and assistance needs to be provided to Irish businesses to enhance their online capabilities. This may happen easiest if there is support for digitally savvy workers to give hands on help to Irish businesses, perhaps through a graduate programme. The Trading Online Voucher Scheme is a good initiative and requires greater promotion and enhancement. Tax reliefs with a fixed deadline and focused at Irish businesses may also help to urgently enhance their digital presence.

Businesses in our research said they expected a growth rate of 10.9% in 2014 but they said this growth rate could be as high as 15.1% if they are able to execute the right digital strategy. That is a further potential 4.2% boost to their anticipated business growth rate. This would also have further employment benefits given that 59% of businesses said that they expect to hire more staff over the next 2 years.

In terms of employment, digitisation creates jobs and improves productivity. Given the projected increase in the value of the Irish internet economy (more than doubling to €21.1 Bn by 2020), we project that up to 79,000 extra full time equivalent jobs, directly employed by the internet economy, could be created by the end of the decade.

Building for the Future

The importance of Ireland and indeed Europe in securing its digital future remains a key priority for policymakers.

In April 2014, the Irish Government introduced the next phase in its National Broadband Plan (NBP) which will see it investing in fibre at over 1000 rural locations so that high speed broadband services are universally available across the country.³ This is in addition to the Government's National Digital Strategy (NDS) which is focused on getting consumers and businesses more digitally engaged.⁴

Europe too, remains intently focused on pursuing a regulatory and policy agenda that will ensure continued investment in high speed data networks that enable the offer of ever increasing broadband speeds.⁵ Indeed, it recognises the importance that investment in new infrastructure can play in driving Europe's economic recovery. It has designed a programme dedicated to educating and training consumers in the hope that this will offset the shortage of ICT skills and help address youth unemployment across the EU.⁶

- 3 National Broadband Plan, Department of Communications Energy and Natural Resources http://www.dcenr. gov.ie/Communications/Communications+Development/Next+Generation+Broadband/National+Broadband+ Plan+Update+April+2014.htm
- 4 National Digital Strategy, Department of Communications, Energy and Natural Resources http://www.dcenr. gov.ie/Communications/NDS/
- 5 Digital Agenda for Europe, http://ec.europa.eu/digital-agenda/en/connected-continent-single-telecom-market-growth-jobs
- 6 Grand Coalition for Digital Jobs, http://ec.europa.eu/digital-agenda/en/grand-coalition-digital-jobs-0

Given the focus by Europe and our European neighbours with respect to their digital policy agendas, the Digital Challenge for Ireland will be to ensure it closes any remaining gaps with the rest of Europe so as to maximise the economic and social benefits from our digital future.

Broadband and the uptake of digital services for buying, selling and participating in society, enhance our lives and must involve us all. Much has already been achieved in Ireland but far more still needs to be done to further our digital economy ambitions.

As mentioned, the Government's NBP, NDS and related development programmes provide the building blocks for further progress which will complement the multi-million investments that have been or are being made by the private sector. Aligned to those Government strategies we need to see a constant drive to make businesses and people more aware of the benefits of digital adoption. We need to accelerate broadband take-up and, while doing so, get more people and more businesses interacting and transacting online within the Irish economy, while also focusing on export-orientated online services.

This Report takes a closer look at just some of the surprising and perhaps not so surprising developments that are unfolding as Irish consumers and businesses become more engaged in meeting the Digital Challenge. The fact is that all of us are challenged to be leaders, not laggards, and that is an opportunity that Ireland must grasp in terms of our digital future.

Failure to achieve the goal of establishing a fully fledged digital economy could reduce the rate of our jobs growth, curtail overall economic progress and hamper efforts to improve competitiveness. Success, on the other hand, can lead to a transformation both in our society and economy, to the benefit of all.

Ireland's Digital Agenda

National Broadband Plan (NBP) - key objectives

- Investment in long-term, future-proofed fibre infrastructure to over 1000 rural communities to ensure the NBP targets can be met:
 - > 70 Mbps for 50% of population
 - 40 Mbps for 70-85% of population
 - > 30 Mbps for 100% of population

National Digital Strategy (NDS) - key objectives

- Business & Jobs Grow small businesses and create jobs by helping micro and small enterprises to trade online and access new markets. By mid-2015, get 10,000 businesses online for the first time and through the NDS Trading Online Voucher Scheme help 2,000 more small businesses trade online for the first time.
- Citizens Focusing in particular on skills and awareness, aim to reduce by 50% the number of "non-liners" (people who have not yet engaged with the internet) by end 2016.
- Education and elearning: By end 2014, provide 100 Mbps broadband connectivity to all post primary schools and, through initiatives like "Switch-On", showcase the potential for digital technology and online resources with a view to enhancing educational experience and outcomes.

Methodology

It is against the background of continuing change that we have set about updating and expanding the first UPC Report on Ireland's Digital Future. We have retained some of the elements of the first Report, namely:

- » A survey of 1,000 Irish adults about their digital lives, preferences and experiences
- » A survey of over 200 Irish business decision makers about the opportunities and challenges that they face or will face due to digitisation
- » Estimates of the economic value of the digital economy in terms of consumer expenditure and channel preferences
- » Insights and sample case studies that demonstrate how consumers and business users are harnessing the benefits of high speed broadband services

As with the previous Report, the surveys were undertaken of a representative sample of Irish adults including both UPC and non UPC customers. We have added a new element to this Report, namely where available, we have included findings from similar studies conducted in Germany, Poland and the Netherlands by Liberty Global plc – UPC's parent company.

We have woven these and other elements together, in separate sections as follows:

- » Life Online key developments in the lives of Irish consumers: new screenrelated behaviours; new patterns of shopping; parenting in the digital age; the growing impact of eGovernment; and evolving work patterns.
- » Enterprise & Innovation identification of opportunities for Irish businesses to succeed and prosper: the growing impact of customer feedback and reviews; the depth and breadth of e-commerce; the 'digital contract' that exists between employers and employees; the contribution of digitisation to job creation and business growth.
- » The Digital Future in the final section we look at: the likely size of the digital economy in the future; the 'low hanging fruit' that can secure Ireland's growth prospects; benchmarks for Ireland's digital success.

We set out the main findings from our surveys; changes since the 2012 Report; comparisons with a select number of European markets; and recommendations for policymakers and other stakeholders interested in securing Ireland's digital future.



What monetary value would you accept in place of your home Internet connection? Based on feedback provided to our survey, the average Irish adult would now require over €130 per month to go without the internet. That's almost €100 above the average monthly price, a figure referred to as the consumer surplus.

The value placed on digital services continues to increase as more and more services are digitally enhanced and become digitally enabled. Throughout this Report, we identify a number of additional benefits adults are experiencing online, from multi-screening capabilities, to more convenient ways of managing a household e.g. online shopping, eBanking and eGovernment services. More importantly, we expect this consumer surplus to continue to grow as services are further enhanced and the internet-of-things phenomenon continues to expand.

Continued Online Growth

We surveyed 1,000 Irish adults aged 16+ with quotas set on gender, age, region, and social class to ensure a nationally aligned sample. A similar sample was surveyed in 2012. Since that time, UPC Ireland's parent company, Liberty Global plc has undertaken similar surveys in Germany, Poland, and the Netherlands so comparisons can be made on some of the questions asked of our European neighbours.

The rate of growth in internet usage at home continues to increase as more and more devices are connected to the home internet connection. Consumer take-up of higher broadband speeds is also on the rise with 30% of Irish adults subscribing to speeds of 30 Mbps or higher - compared to just 10% in 2012. The dramatic uptake in higher speeds reflects not only changes in consumer behaviour and the explosion of online video services, but also the increased availability of higher broadband speeds by a range of service providers. In fact, in the period since our first Report, the top broadband speed available to Irish consumers has jumped from 50 Mbps to 200 Mbps. Over 44% of Irish homes can access these top line speeds today.

Three quarters of Irish adults now say they are satisfied with the broadband speed they receive, up from 68% in 2012. Satisfaction levels are clearly linked

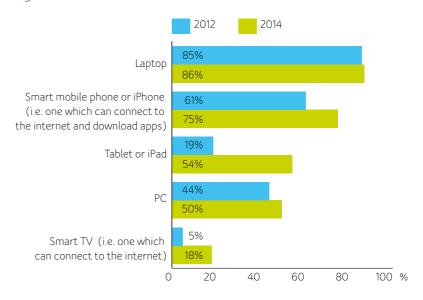


Satisfied with their broadband speed, up from 68% in 2012 (This increases to 85% for those with 50 Mbps+)

to broadband speeds as 85% of those with speeds of 50 Mbps or more said they were satisfied with their broadband service.

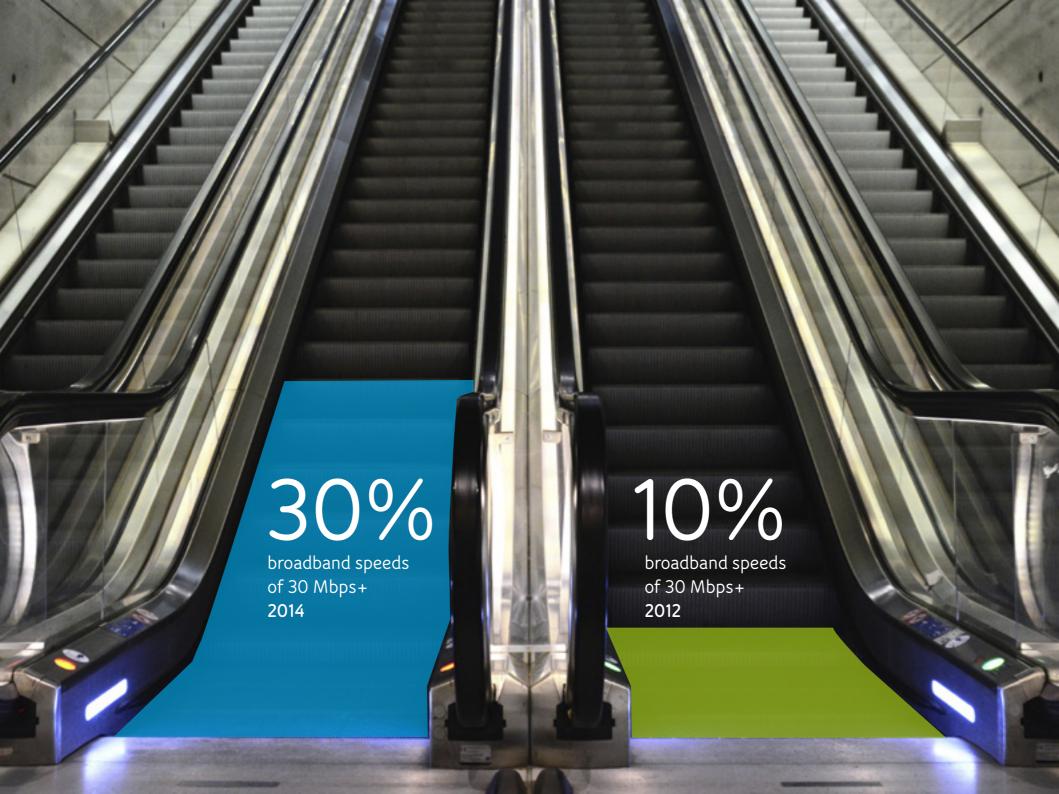
From a consumer standpoint, increased broadband speeds are required to meet the growing demand from internet enabled devices in the home. The need for speed and higher bandwidth can be clearly understood when we look at the growth in video streaming services coupled with the strong uptake of smart TVs, smartphones and tablets. Similar to the rest of the world, we can see that these products are cannibalising the home PC market where there was a fall from 50% to 44% in PC usage between 2012 and 2014.

Figure 1: Increase in internet enabled devices in the home



^{*}Respondents could select more than one answer

⁷ Research was conducted online with a sample of 1,000 Irish adults aligned to the national population. As such only the views of online customers were assessed.





The average number of internet enabled devices in the Irish home versus just 2.6 in Germany

On average, Irish adults say they have 4.7 internet enabled devices connected to their single broadband home connection. This is very high when compared to our German neighbours who, on average, have just 2.6 internet enabled connected devices in their home

The demand for higher bandwidth is also due to the fact that there are multiple users accessing the broadband connection in the home. Four-fifths of respondents indicated that there was more than one person accessing the household broadband connection. In fact, on average, 2.7 adults may be using the internet at any one time.

Further, the majority (69%) say they are willing to share their wifi passwords with visitors to their home. While this is more common among those with higher broadband speeds, over six in ten respondents with speeds of just 1-8 Mbps are also open to providing access to their home wifi.



The average number of users connected to the internet in an Irish home at any one time

Broadband on the move

JPC Insight

The internet helps people to connect with services, friends, family and community and is becoming increasingly more important in our daily lives. Monthly internet traffic has grown by a multiple of 12 times or over 1000% in just 5 years since 2009.¹

The appetite for higher bandwidth is driven by increasingly rich multimedia content and growth in the number of internet enabled devices where consumers expect to be connected at all times.

UPC is addressing these rapid growth trends with a network capable of meeting future speed demands. It has also introduced innovative new services including TV apps for PCs, laptops, tablets and smartphones, wifi based phone apps and WiFree – the free residential shared wifi network used between UPC customers



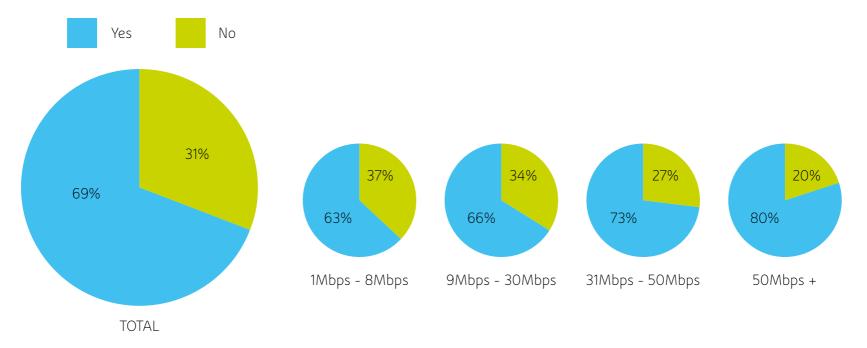
67% — Irish households with a broadband connection

71% — Reduction in the price per Mbps in UPC's service since 2011

 $60_{
m Mbps}$ — the entry level speed for UPC broadband customers

- 1 Sources: Comreg; INEX
- * 1 Petabyte = 1 million gigabytes

Figure 2: Willingness to share wifi increases with speed



One of the most revealing findings in our research lies in response to how much we would have to pay Irish adults if we were to remove their broadband service. Astoundingly, on average, Irish adults said they would have to be paid \leqslant 130 a month – which is over \leqslant 1,500 per year. This sum jumps to nearly \leqslant 1,800 for those aged 35-44, and notably, also increases in accordance with the take up of higher broadband speeds.

A consumer surplus, i.e. the difference between cost and value, can be calculated for broadband by subtracting the price per month from the value Irish broadband users place on the service. Based on internal Amárach data of over 700 Irish broadband users, we know the average cost per month for a broadband internet connection is €37. Setting this against the results received in this survey, we can therefore determine the average consumer surplus for broadband in

Ireland is \le 94 per month or \le 1,128 per year, which represents a significant gap between price and perceived value. This figure decreases to \le 1,104 for those with speeds of 1–8 Mbps and increases to \le 1,416 for speeds of 50 Mbps or more.

Digital Observation: Future proofing broadband infrastructure

The rate of growth in terms of internet enabled devices looks set to continue to grow exponentially. It is notable that already today consumers place a much higher value on their broadband service than they actually pay for it. It will be important that infrastructure is future proofed to satisfy consumer demand.

Figure 3: Consumer surplus is in excess of €1,100 per year and is highest among those with speeds of 50 Mbps+



The consumer surplus highlights the additional benefits Irish consumers yield from the internet over and above the cost they actually pay for it.

Of course the benefits of being able to access the internet are far greater than simply having internet connectivity. As we will see from results throughout the remainder of the Report, the internet is a great enabler in allowing Irish people to improve their daily lives whether this is by improving their in-home digital entertainment or by granting them greater flexibility in managing their households e.g. online shopping.

It is striking to note that the consumer surplus increases by over €300 as consumers move from 1-8 Mbps to 50 Mbps or more. While speed plays an important role in the current user online experience, it will become even more essential in the future as digital services (e.g. 4k streaming) and the number of devices in the home increases. These will all demand even higher bandwidth levels to ensure the best user experience. It is reasonable to expect consumer take-up of these new services will only increase the consumer surplus value for broadband.



Multi-screening at home

As the trend to purchase internet-enabled devices increases, the tendency for consumers to 'multi-screen' (i.e. utilise two or more screens simultaneously) has become common for families across Ireland. Eight in ten Irish adults now say they use a laptop, smartphone, or tablet while also watching TV.

Figure 4: Multi-screening is most common among younger adults

	AGE					
	Total	16-24	25-34	35-44	45-54	55+
All the time	10%	19%	11%	10%	7%	5%
Almost always	29%	41%	39%	25%	30%	16%
Occasionally	40%	29%	38%	48%	41%	42%
Rarely	11%	7%	7%	12%	12%	16%
Never	10%	4%	5%	6%	10%	22%

^{*}Responses may not sum to 100% due to rounding



As we note from Figure 4, multi-screening is highest among those aged 16-24 where 89% say they multi-screen, 11 percentage points higher than their parents' age group (45-54).

The same question was put to a nationally aligned sample of German adults online and we can quickly see that this behaviour is much more common in Ireland. Only half of Germans multi-screen and while this is higher among those aged 16-24 (74%), this only beats those aged 55+ in Ireland. These differences may be driven by the high uptake in mobile products (i.e. smartphones and tablets); while 75% of Irish homes have a smartphone, this is only at 64% in Germany. This gap is even bigger for tablets where it is 54% in Ireland and just 29% in Germany.

It is interesting to note that while multi-screening is higher in Ireland, general TV viewing per day is similar across Ireland, Germany, Poland and the Netherlands. Three in ten claim to watch over 3 hours of TV a day while four in ten watch less than 2 hours a day.

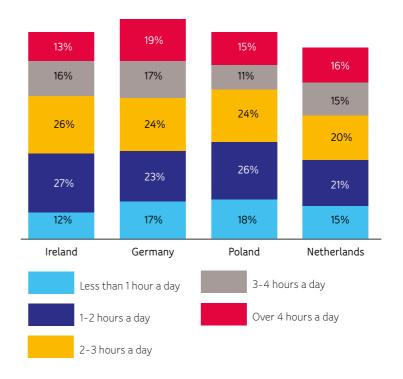
In Ireland, TV viewership increases with age as only 8% of those aged 16-24 are watching 3 or more hours of TV a day versus 46% of those aged 55+. This may in part be explained by differences in daily schedules and consumer preferences. Regardless, it is clear that young people in Ireland are moving away from traditional media to so called over-the-top (OTT) online content, such as social media or video streaming services such as Netflix (which they do not regard as 'TV').

These shifts in consumer behaviour have a direct impact on companies that provide internet connectivity and have to provision their infrastructure so they can cope with ever increasing demands for greater bandwidth. According to recent findings published by Sandvine, Netflix is now the second largest driver of web traffic for fixed line networks in the UK and Ireland. At 17.8%, Netflix is second only to YouTube which is responsible for 19.9% of all downstream internet traffic for the two countries.⁸

The growing prevalence of multi-screening also has implications for the online advertising market which continues to experience strong growth and now

represents approximately 25% of the advertising market in Ireland. Digital agencies predict this will grow by a further 12-15% in 2014.⁹

Figure 5: TV viewing rates are similar across Ireland, Germany, Poland, and the Netherlands



^{*}Figure excludes those who said "Don't know" and so totals may not sum to 100%

⁸ Global Internet Phenomena: https://www.sandvine.com/trends/global-internet-phenomena/

⁹ IAB Ireland PWC: Online Adspend study for 2013 http://iabireland.ie/

Multi-screening has transformed the home viewer experience Digital technology is changing and evolving. Today's consumer is more 40m The number of views of UPC On Demand content since 2012 connected than ever before through the widespread availability of digital devices and systems. The number of hours UPC customers have spent watching 17m TV has been totally transformed from a box in the corner of the living room On Demand content since 2012 to a high definition screen, the smart phone in your pocket or the tablet in The percentage of UPC's On Demand capable customers your hand. In response to the increased demand for greater personalisation of 90% who have used the service since launch viewing schedules and the need for greater flexibility, UPC launched Ireland's first On Demand TV service and more recently, the Horizon TV service and of the 40m views of On Demand TV have been views of 52% Horizon TV Apps. domestic Irish TV Almost half a million videos are viewed every month through UPC's Horizon The number of downloads of the UPC Horizon Apps since 112,272 TV Apps - testament to these changing habits. As consumers, we want to April 2013 watch what we want, where we want, when we want. UPC is providing this The percentage of streaming on the Horizon TV Online and capability bringing video and the internet from the living room into every room 96% Apps service that is linear TV broadcast in the house. UPC customers are five times as likely to use a mobile device x5 times (smartphone or tablet) to access the Horizon Apps and Online services than to use a PC or laptop 71% The proportion of Irish households with a pay TV subscription

Digital Observation: The role of traditional media in the digital world

Traditional media and content providers face significant competition as Irish adults become more comfortable with multi-screening and consuming content from new online sources. Consumer interest in these services is only on the increase and will result in continued demand for higher broadband speeds. For broadcasters, print media, online media and producers of content,

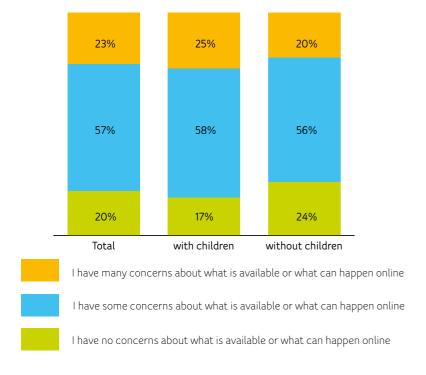
creating a comprehensive multimedia experience for consumers is essential to retain audiences and maintain market share. It is imperative that the media sector thrives in the digital age to ensure widespread access to information and vibrant discourse in society.

Delivering a Safer Internet for Children

As a result of the widespread availability of high speed broadband services across multiple devices, in recent times the topic of protecting children online has been the subject of much debate. Given this, we included a number of questions on this issue which we put to the general public and also to parents of young children.

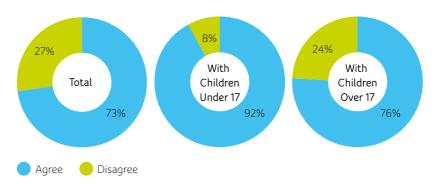
Of those surveyed, 80% of Irish adults indicated they had some or many concerns about what is available or can happen online. This is higher among those with children (83%) versus those without (76%).

Figure 6: Internet concerns are highest among those with children



Given this feedback, three quarters of Irish adults indicated they wished to be in control of how people in their household accessed the internet. Achieving this level of control has become more difficult in recent years given the proliferation of internet enabled devices that can be accessed by all members of the family. This is particularly true among parents of children aged under 17. For this demographic, 92% of respondents indicated they are concerned about content their children can access away from the guidance and supervision of a parent or guardian.

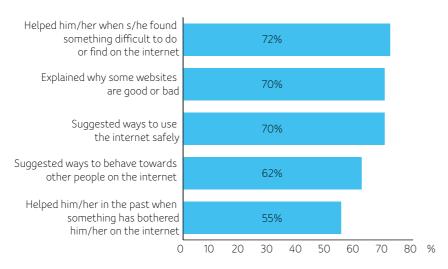
Figure 7: Agreement with statement "I want to be in control of how people in my household access the internet"



However, it would seem that parents are taking proactive steps to protect children online (this being particularly true for children under 17 years of age). In this regard, results from our survey suggest that seven in ten parents have helped their child with something difficult online and/or advised them that some websites are good and others might be bad. These results would appear to be consistent with the findings for Ireland in the recent EU study on Net Children Go Mobile.¹⁰

¹⁰ Net Children Go Online - Initial Findings for Ireland, February 2014. http://www.internetsafety.ie/website/ois/oisweb.nsf/page/40CD0C787E7B966980257C7B005EE1CB/SFile/NCGM_Ireland_initialfindingsreport_complete.pdf

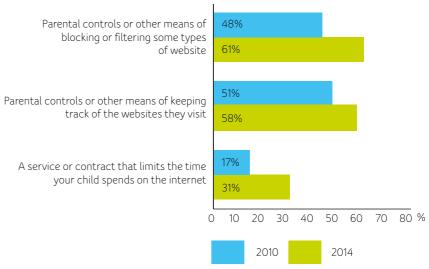
Figure 8: High levels of parents guiding children on appropriate online behaviour



^{*}Respondents could select more than one answer

Further feedback revealed that measures such as online tools are also used by parents to keep young people safe online. Of those surveyed, six in ten have installed parental control software which blocks or filters certain website types while a similar amount have installed software that tracks a child's online usage. When compared to similar research conducted in 2010, it is apparent that the number of parents utilising these online tools is on the increase. In fact, based on findings from our research, today almost two-thirds of Irish parents use some form of parental control.¹¹

Figure 9: Increasing number of parents installing online tools to protect children online



^{*}Respondents could select more than one answer

When asked where they get information about how to protect their child online, parents cited a wide variety of sources and indicated they usually used more than one source. The two most commonly used sources are 'websites with safety information' and 'family and friends'.

Comparing the sources that parents use currently and those they see as preferable, we can see the biggest shortfall is in the information provided by schools, where there is a 16% gap between this being a used and preferred source (see Figure 10, page 22).

¹¹ Parent responses to use of parental control tools or filters. O'Neill, B., & Dinh, T. (2012). Irish Kids Online: Comparing Youth and Parent Perspectives. Retrieved from http://arrow.dit.ie/cseroth/41/

Promoting a digital society

UPC Insight

Liberty Global plc and UPC initiatives and partnerships to help make the internet a better place

Safer Internet Day

Liberty Global plc has sponsored the Safer Internet Day for seven consecutive years.

Play and Learn: Being online

A toolkit for 4–8 year olds delivering messages for keeping safe online, while providing a glimpse of how technology can impact their lives.

Almost 190,000 copies have been distributed since 2008 in 16 languages.

eSafety Label

European-wide online safety accreditation and support service for schools. A multi-stakeholder initiative with European Schoolnet, industry peers and ministries of education. The pilot included 26 schools in six countries.

The Web we Want

An educational handbook that aims to equip young people with the tools they need to make informed online decisions. It covers topics such as freedom of expression, thinking before you post, online and offline values, and staying in control of what you share online.

2007

2008

2009

2010

2011

2012

2013

2014

Family eSafety kit: Taming the web

A toolkit for 6–12 year olds offering parents, teachers and children tools to overcome online safety issues, such as security, communication, cyber-bullying and entertainment.

In total, over 1.2 million copies have been distributed to date in 18 languages across 23 countries.

European Youth Panel

Liberty Global plc sponsored the European Youth Panel encouraging young people across Europe to discuss emerging internet safety issues. Liberty Global plc operations strengthened partnerships with local country Insafe centres.

Who are your kids talking to online?

A three-minute interactive video, the first in a series of animations called 'The Digital Universe of Your Children', which helps parents strengthen their digital parenting skills by empowering them with the knowledge and resources needed to protect their children online.

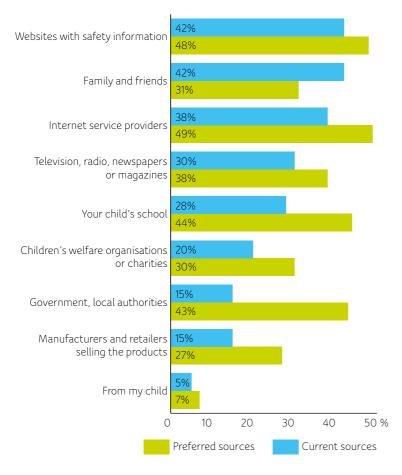
The video is available in seven languages.

Coder Dojo & YouRock

The Grand Coalition for Digital Jobs, a multi-stakeholder partnership, was launched by the European Commission in response to a projected shortage of up to 900,000 ICT workers. UPC is supporting this initiative through two innovative projects, CoderDojo and YouRock, which address the challenges of the ICT skills gap in Europe.



Figure 10: Information sources on how to protect children online



^{*}Respondents could select more than one answer

Digital Observation: Children and the web we want for them

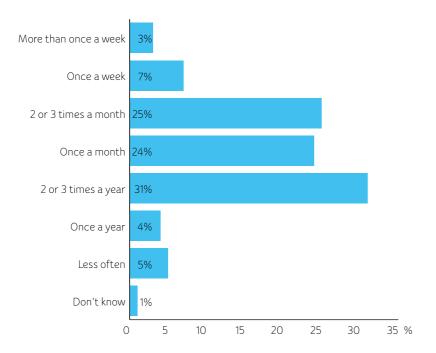
As more devices are capable of going online and consumers are increasingly able to access higher broadband speeds, society should ensure the appropriate tools are available to parents and guardians to allow them create a safe environment for their children. Equipping parents with the right knowledge and digital tools to protect their children is essential.

It is clear that parents are already taking proactive steps to ensure the online safety of their children, however there is a desire for more information from authoritative sources (e.g. schools, online sources). As part of Ireland's Digital Agenda and its work in relation to the protection of children online, the Government could explore options that would publicise and facilitate the sharing of educational or informational material that may help parents and schools protect children online. Industry too, should ensure that any parental control tools and/or guidance materials it provides can be easily located, are user friendly and clear in the description as to the level of protection that is offered.

Shopping Online

Online shopping continues to be popular in Ireland with over nine in ten Irish adults claiming to have done it on some occasion. This is steady across demographic groups and similar to levels observed in 2012. Of greater importance now though is the frequency with which people are shopping online. Six in ten Irish adults claim to do so at least once a month and this increases to seven in ten among those aged 25-34.

Figure 11: Frequency of shopping online



These people say they enjoy benefits such as lower prices, convenience and a greater range of products online. For those who said 'lower price' is a significant benefit, when comparing online and offline prices they felt that they were saving

36% on average. While this will obviously differ by category, this high level of saving clearly shows there much is to be gained by shopping online.

Not only are Irish consumers enjoying the benefits of the internet by shopping online, they also use it to get a better understanding of products/services.

Nearly nine in ten regularly use the internet to help them find better deals and/ or make better purchases, while seven in ten have used it to research products before buying them locally. This behaviour is most common for clothing/ footwear and electrical goods such as home appliances.

Using IMF economic projections as well as industry estimates and forecasts, we have projected the future value of online spending by Irish consumers to 2020:

Figure 12: Projected value of online spend to 2020

	Online % of Consumer Spending	Value of Online Spend € Bn
2013	6.6%	€5.5
2014	7.0%	€5.9
2015	7.5%	€6.5
2016	8.5%	€7.6
2017	10.0%	€9.3
2018	11.0%	€10.6
2019	12.0%	€11.9
2020	12.5%	€12.7

Based on Figure 12 above, we expect the share of online spend to double within five years, with the result that the value of Irish consumer spending online will rise from just under \leqslant 6 Bn to nearly \leqslant 13 Bn by 2020. These may seem quite bullish projections but they would chime with forecasts in the UK, where according to Boston Consulting Group (BCG), 23% of retail sales alone are



expected to be online by 2016.¹² It is worth noting that retail sales make up more than half of all consumer spending in both Britain and Ireland.

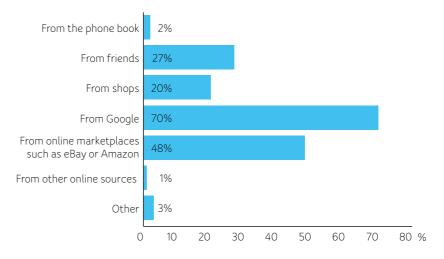
It is just as easy to invert this behaviour though and we can see that half of Irish online shoppers are researching items in store and then purchasing online (a trend known as 'showrooming'). This is a concerning trend as, according to Irish online shoppers, 40% of their shopping online is done on Irish websites while the other 60% is going abroad. It is clear that Irish retailers online are facing significant competition from large international players and will have to focus on delivering top quality and competitive prices to protect their market share.

Exploring the topic of how and where Irish online shoppers get their information on products, we probed on the different sources they use. The most popular source is Google which is used by 70% of Irish adults when looking for information on goods/services. This increases to nearly eight in ten among the 35-44 age group. While the youngest age group (16-24) are heavy online users and shoppers, they are the group most likely to seek input on goods/services from their friends (40%), highlighting the continued importance of word of mouth.

Digital Observation: Shopping Online - a trend that is set to grow

The level of online purchases going abroad must be a serious concern for Irish retailers and also for Government. Businesses risk losing revenues and Ireland risks losing out on jobs unless a widespread adoption of digital business practices is promoted. Government needs to scale up this activity supporting Irish retailers to engage in or further develop online trading to remain competitive in the online space while Irish businesses both big and small need to exploit this opportunity.

Figure 13: Google is the main source of information on goods/services

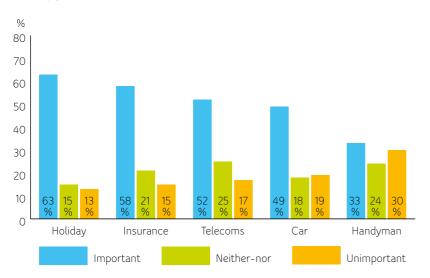


^{*}Respondents could select more than one answer

In terms of online reviews, a significant proportion of Irish adults say these are important sources of information when deciding on a product. For example, nearly two thirds of adults consider online reviews of foreign holiday destinations as important. While this drops down to one third for handymen (a sector predominantly driven by local word of mouth), it is clear that these reviews still play an important role in the decision making process. We will also see later in our Report that two thirds of Irish businesses actively monitor their reputation online.



Figure 14: Online reviews play an important role in the consumer decision making process



^{*}Figure excludes those who said "Don't know" and so totals may not sum to 100%

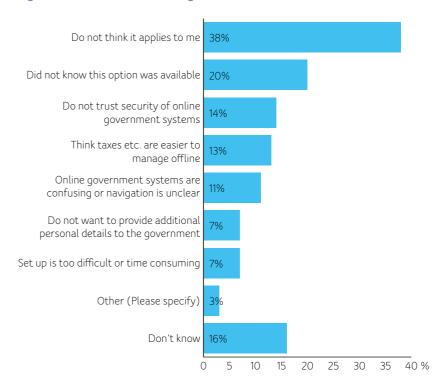
eGovernment & Banking Online

Of course, there is much more to the internet than online shopping. A number of Government departments are also capitalising on the benefits it offers in terms of convenience and efficiency. Six in ten Irish adults have interacted with some Government department online. This is slightly higher for males and among those aged 35+.

Four in ten of these have used the online car tax website while a quarter have made use of the Revenue Online System (ROS). The research also shows that approximately a fifth of those interacting with the Government online either researched or paid their property tax via eGovernment services.

It is clear however that there are still a number of barriers to interacting with the Government online. Nearly four in ten of those who have not made use of an online Government system say they do not feel it applies to them (highest among the youngest group). More surprisingly, a fifth were not aware that such services were available. While older adults say they are more comfortable managing their taxes online, the Government will need to prepare for younger generations that will have high(er) expectations with regards the usability and ease of navigation of eGovernment services. The scope for improvement is clearly understood when one considers that over one in ten respondents indicated they found eGovernment systems confusing or difficult to navigate.

Figure 15: Reasons for not using eGovernment services



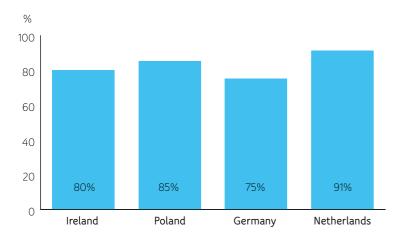
^{*}Respondents could select more than one answer

Digital Observation: The potential for eGovernment services

Government departments need to further highlight and promote the range and accessibility of services available to Irish people online. This will create benefits for people and Government alike as greater levels of convenience, service and efficiency are achieved, often with cost benefits for the Exchequer. It should also be a given that eGovernment services are based on trustworthy and secure systems and consumers should be given the necessary assurances that this is indeed the case.

People are also banking online to a greater degree as more banks offer online services and mobile applications (apps). The number of Irish adults that have banked online has remained relatively steady since 2012 and is now at 80%. Relative to our European neighbours, we can see that the Irish are ahead of the Germans but fall behind both Poland and the Netherlands.

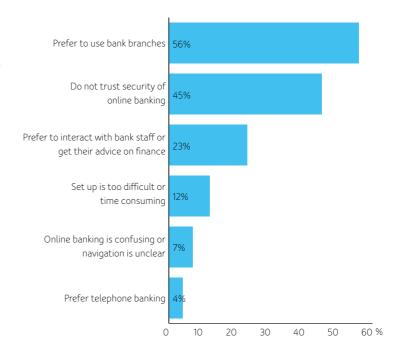
Figure 16: Incidence of online banking



While the number of Irish adults with smartphones and tablets continues to rise, the laptop (PC) is the first port of call for online banking. Some 46% of those banking online see this as their primary channel for accessing the service while a quarter say they use their smartphone. Less than a fifth depend on a PC, further evidence on the decline of the PC with consumer preferences shifting towards mobile platforms.

Similar to the eGovernment section, we tried to better understand the barriers for those who have yet to engage with online banking services. Over half of these adults say they still prefer to use local branches, while 45% do not trust the security of online banking. Only 2% of these adults say it is because their bank does not offer this service.

Figure 17: Main reasons for using offline banking services



^{*}Respondents could select more than one answer

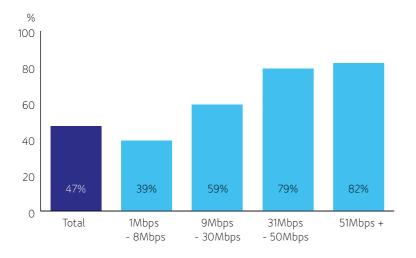


Working from Home Online

The internet also facilitates people in working from home to a greater degree. Over half of Irish employees agree that digital technology allows them enjoy a better work/life balance versus just 15% who disagreed with this statement. Nearly half of Irish employees now use the internet to work from home, driven mainly by the 35-44 age group.

For those that do not yet work from home online, six in ten feel their current internet speeds would be fast enough to allow them to do so. This is very clearly linked to available internet speeds as over eight in ten of those with speeds of 50 Mbps or more said their speed is sufficient versus just four in ten with speeds of 1–8 Mbps.

Figure 18: My broadband speed is sufficient to work at home



Digital Observation: Trust and Security remain an issue for online banking

While 80% of people bank online, over half of our respondents said they prefer to use bank branches. Further work needs to be done to build trust in electronic banking systems. Encouraging people to carry out financial and consumer transactions online forms an essential element of a vibrant digital economy. Banks should further highlight the benefits of online banking and the security of their systems.

Digital Observation: Flexible Working

One of the main envisaged benefits of digitisation is that it would allow people work from home. A further benefit is that it would enable employers recruit from a greater catchment area than they may already be doing – therefore allowing for a more regional (employment) balance. Employers need to be open to the possibility of flexible working arrangements which carry mutual benefits for the employees and organisations concerned.

Irish SMEs should also have well defined policies around the trend of Bring Your Own Device (BYOD) and social media usage among employees at work, implementing procedures that retain the flexibility of such practices and mitigating avoidable risks in the future.





The potential employment uplift to Ireland if it ensures continued focus on the right digital strategy could translate into an incredible 150,000 jobs by the end of the decade. As this section demonstrates, this is a wholly realistic estimate and is one that could be readily achieved as more businesses move online, and harness the full benefits of digital technologies for existing and new markets.

We are starting from a strong position – the incidence of digital technology usage in Irish enterprises has continued to go from strength to strength, as revealed in recent CSO findings:13

Figure 19: % of Irish enterprises using selected digital technologies

	Total		
% of all Irish enterprises	2012	2013	
General information about ICT systems			
Using LAN	63	68	
Using extranet	19	22	
Use of the internet			
Have a website or homepage	73	75	
Interaction with public authorities via internet			
For obtaining forms	86	88	
For returning filled-in forms	84	95	
Electronic sharing			
Uses an ERP software package	19	22	

Source: CSO Information Society Statistics - Enterprises

It is interesting to note however that a quarter of Irish businesses do not yet have a website or homepage, meaning they are missing out on potential business from online consumers and businesses. Extrapolating from the CSO figures (which suggests that there are approximately 188,000 small and medium enterprises (SMEs) in Ireland), this implies that as many as 47,000 SMEs are currently excluding themselves from the digital economy.¹⁴ The opportunity is clear, we need to get as many of them online and as quickly as possible otherwise there is a risk that this gap will widen and the increase of offshore spend for the business-to-consumer (B2C) or business-to-business (B2B) markets will increase.

Future Feedback

In our UPC 2014 survey we spoke to over 200 IT decision makers from a crosssection of Irish SMEs and large businesses to get their insights on digital trends and growth. One of the biggest trends - which has mushroomed in size since the last UPC Report - is that of online customer feedback.

It might seem obvious but in just the last few years Irish consumers have become much more confident about letting businesses know what they think about their products, brands and after sales experiences. So businesses have to be more attentive than ever before as to what their current and future customers are saying about them.

In fact, over half (53%) of the businesses we surveyed answered yes to the question: 'are online ratings and reviews by your customers an important influence on your business?'

¹³ CSO, Information Society Statistics 2013 - Enterprises: http://www.cso.ie/en/releasesandpublications/er/iss/ informationsocietystatistics-enterprises2013/#.U0qqqFVkSSo

¹⁴ SMEs typically have between 10 - 49 employees



Digital Transformation

With over 1 million subscriptions for our services, UPC connects hundreds of thousands of Irish people to the digital world each day. While our customers move more of their lives online, they also want the freedom of managing their relationship with us 24/7. Meeting this need, we have 'digitised' our business with innovative services to enhance the way we connect with customers. These services include online sales, technical support, account management, real time web interaction and social media contact, enabling customers to engage with us when and where they want. This Digital Transformation has helped UPC to align our products and service delivery with the changing lifestyles of our customers while placing their interests at the centre of our business model

55%	- UP	C customers who manage their account online
31%	– Pro	portion of UPC's new sales completed online
13%		portion of customers interacting with UPC ough social media channels
154%	Rat 201	e of growth in social media enquiries to UPC in 3
74,000+	– Fol	lowers of UPC Facebook Page
19,000+	- UP	C Twitter Followers

Figure 20: The number of Irish firms influenced by online reviews



Not surprisingly, B2C operators and larger, foreign owned businesses are more attentive to online feedback. But even among the smallest category of businesses - small office/home office (SOHO) - nearly 2 in 5 are monitoring what their customers are saying online.15

Moreover, research for Liberty Global plc in Germany, for a similar sample of companies found just 29% of German businesses monitor customer online feedback.¹⁶ So in this instance, Irish businesses are more advanced in terms of incorporating ratings and reviews into their market intelligence.

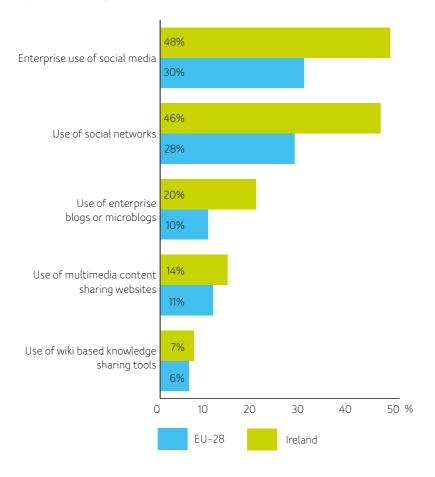
The differences between Irish and other European countries should not surprise us. A CSO Report on Irish enterprises and their usage of social media in 2013 showed that Irish firms are considerably ahead of the EU average.¹⁷

¹⁵ SOHOs typically have between 1-10 employees. SOHOs represent 90% of the businesses in the Irish market

¹⁶ Amárach Research study on behalf of Liberty Global plc Germany

¹⁷ CSO, Information Society Statistics 2013 - Enterprises: http://www.cso.ie/en/releasesandpublications/er/iss/ informationsocietystatistics-enterprises2013/#.U0gggFVkSSo

Figure 21: Enterprise use of social media, 2013

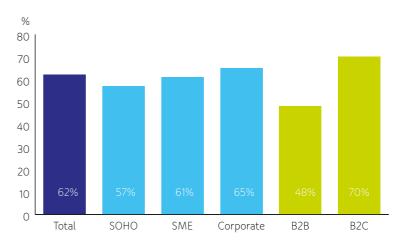


When we look at the share of businesses that actively monitor their online reputation, once again Irish firms are ahead of our German counterparts with 65% monitoring their online reputation versus just 42% of German firms.

It is one thing to monitor your reputation - the real test is whether you have changed any aspect of the way you do business as a result of online feedback. Among all those of those that actively monitor their reputation, the proportion that have instigated changes as a result is a remarkable 60%.

Across all categories of businesses in Ireland, 50% or more have already changed an aspect of their business in response to online feedback. In contrast, fewer than half (42%) of all German firms monitoring their reputation have changed as a result. However, firms in both countries expect to see a bigger role for online customer feedback and comments in their future business performance: 62% of all Irish firms versus 48% of German firms.

Figure 22: % of businesses expecting to use online feedback in the future



The incidence of businesses monitoring and responding to online feedback is an example of how Irish firms are effectively using digital technologies, social media and analytics to get ahead in today's economy. Historically, having the capacity to collect customer feedback represented a significant investment. As businesses move online this barrier is reduced as companies of all sizes can actively engage with and gain invaluable insights from their customers. This is

very important because, among other things, it means that SOHOs and SMEs can scale and more easily compete with larger organisations. From our own survey, we can see little difference between SOHOs, SMEs and larger companies with regard to their intentions for future online strategies.

Digital Observation: Online Feedback - a valuable resource

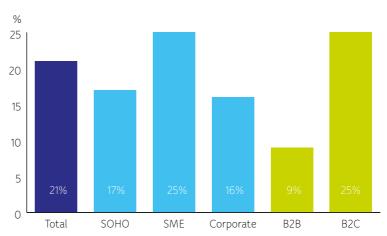
SMEs and SOHOs should explore ways to get online and use digital feedback to grow sales through cost effective, word of mouth marketing. The Government Trading Online Voucher Scheme being rolled out under the National Digital Strategy presents opportunities in this area and can be accessed by small firms who wish to move online and implement this strategy. It should be marketed more vigorously among this grouping. Additionally, the Government could consider tax reliefs for small businesses investing in their digital presence including websites and e-commerce technologies. This could operate initially on a pilot basis over a set duration of time as part of a concerted awareness and promotion initiative to get more Irish businesses online.



Digital Growth

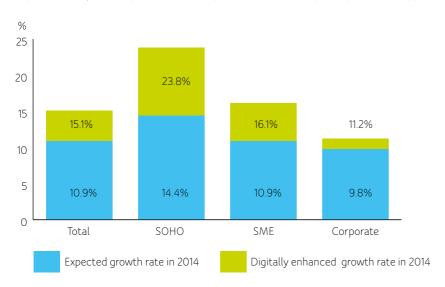
Our UPC 2014 business survey reveals a steady increase of online sales for Irish businesses. Last year, an estimated 17% of sales were online; this year, most expect to reach an average of 21%. Indeed, the percentage of businesses in our survey who said they expected an increase in the share of online sales in total revenues for 2014 jumped from 63% to 68%. This tells us that there is a very positive dynamic already underway in Irish businesses as they confidently grasp the digital potential.

Figure 23: Projected share of online sales



With respect to the ultimate potential for digitally driven growth, we asked IT decision makers what growth rate they expect for this year with the right digital and online strategy. Feedback received would indicate that respondents firmly believe that the right digital strategy can have a significant impact on sales and revenues, this being particularly relevant for SOHOs and SMEs.

Figure 24: Expected growth versus growth with the right digital strategy

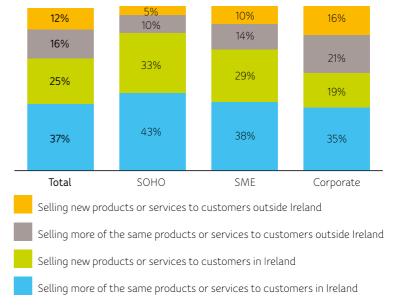


That extra growth – when translated into jobs, exports and tax returns – could be enormously beneficial to Ireland's economy if these numbers were even approximately replicated across all business sectors.

Where will growth come from? Fundamentally, sales can come either from customers in Ireland or customers abroad, for existing or new products. We see from our survey that the majority of businesses expect to generate growth domestically and from their existing product base.



Figure 25: Future markets for growth



^{*}Respondents could select more than one answer

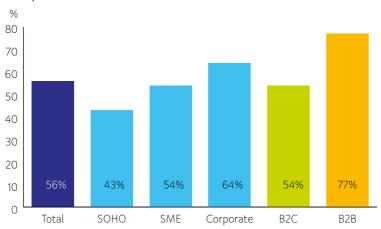
Smaller firms and those in the B2C market are especially focused on the domestic market. However, innovation – in the form of new products or services – will play a key role in generating growth (at home or abroad) for a sizeable minority of Irish firms. It is interesting to see that SOHOs are potentially the most innovative in this regard, perhaps mirroring their start-up approach in response to new opportunities.

For a small market like Ireland, exports currently play a key role in our economic performance – and will be even more important in the future. In our survey, we asked businesses a) whether they expect to sell more to customers outside of Ireland in the next 1-2 years, and b) whether the share of online sales to customers outside Ireland will increase. The results point to a crucial role for digitisation in growing our exports in the very near future:



Figure 26: Online exports potential







Expect to increase share of online sales to customers abroad

15 10 5 25% 19% 25% 27% 22% \cap SOHO B2C B2B Total SME Corporate

Digital Observation: Incentives for Digital Start-Ups

The Government and organisations that support Irish exporters (and potential exporters) should identify and share case studies and testimonials from existing exporters who have used digital channels and products to successfully grow their overseas sales.

As can be noted from Figure 27, foreign owned, larger firms and those operating in B2B markets are more bullish about their export potential, although the potential to grow online's share of sales is more evenly spread.

Digital Skills

%

30

Given the digital growth dynamics we are seeing, we would expect to see an overall increase in demand for staff alongside a shift in the type of staff that will be required. Sure enough, the vast majority (59%) of the businesses in our survey expect to hire new employees in the next 1-2 years. That is up from 55% in 2012. Moreover, that is more than twice the share of employers expecting to hire in a similar survey for Liberty Global plc in the Netherlands (24%).

However, the types of employees Irish firms want to recruit will be expected to have a high level of IT skills. A third of all businesses see IT skills as a prerequisite for any potential candidates (compared to just a fifth of German firms). The types of skills required are increasingly focused on analytics and social media as can be seen from the results in Figure 27.

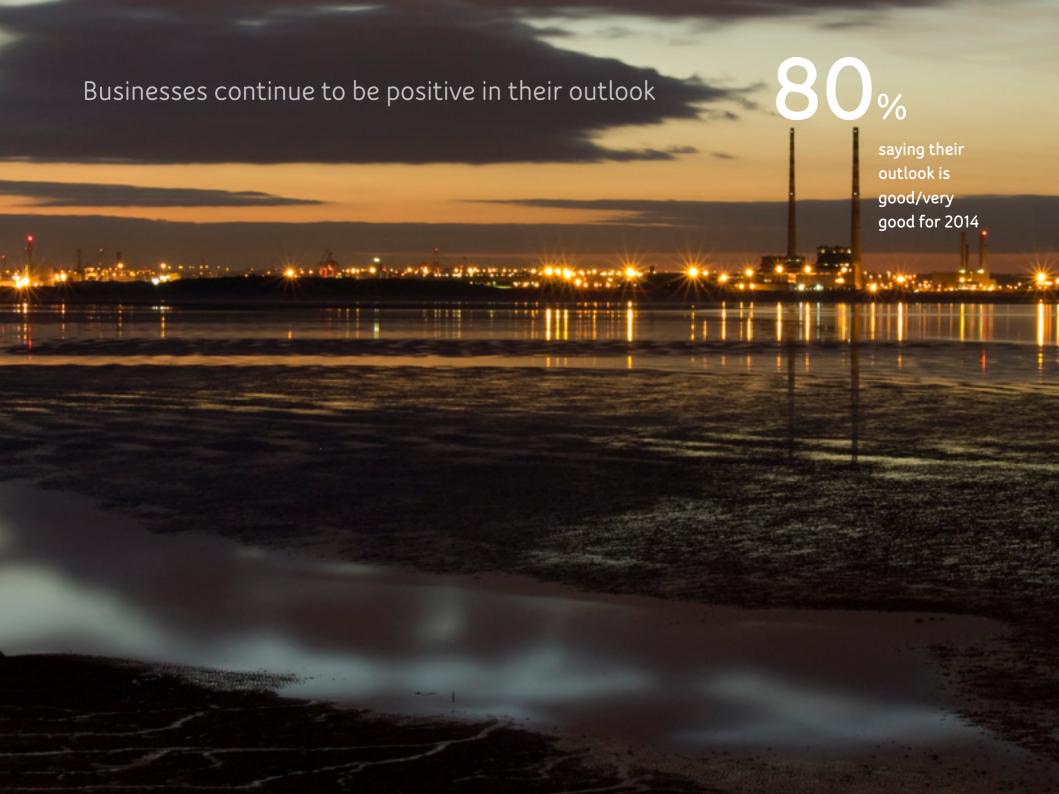
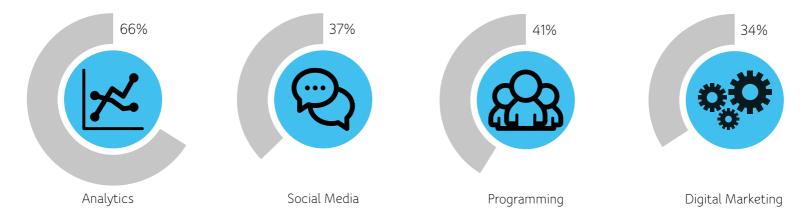


Figure 27: Digital skills requirements

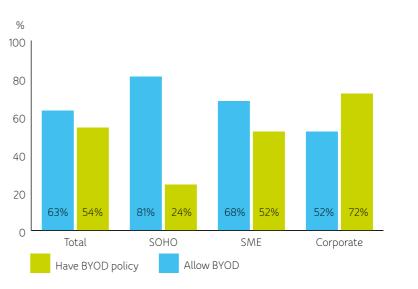


^{*}Respondents could select more than one answer

Several of the trends we noted in relation to digitally-driven working practices have consolidated between 2012 and 2014. These are what we call the new 'digital contract' between employers and employees. As before, over half of firms have staff who work from home as part of their normally contracted hours. In these firms, just under a fifth (17%) of staff do so (similar to 2012).

Another aspect of the digital contract is the incidence of staff being allowed to use their own devices in relation to their work environment (e.g. tablets, mobile phones etc.). This practice is known as BYOD or 'bring your own device'. The vast majority of firms (63%) do allow this practice, though this is down from 71% in 2012. Moreover, the survey shows that just over half of Irish firms now have an official policy in relation to staff using their own devices at work – no doubt arising from recent public debate about the management and security of customer and business data.

Figure 28: BYOD practices and policies



SOHOs and SMEs are much more flexible about BYOD practices in their digital contracts with staff, and are much less likely to have specific policies concerning the practice. However, as the management of data becomes integral to the profitable growth of Irish businesses, it is important that SMEs are aware of the risks associated with the blurring of boundaries between work and non-work practices for digital technologies or devices.

Digital Observation: The Importance of Digital Skills

The continued emphasis on digital skills will ensure the existence of a workforce that is digitally literate. In this regard, the Schools Broadband Scheme which is deploying 100 Mbps to post primary schools nationwide is a very welcome initiative. To enhance the benefits of this investment, the national curriculum must be evolved to ensure that teachers and pupils engage constructively and meaningfully with digital content, digital skills development and ICT usage in general.

A centrally co-ordinated repository of skills and content should be available to the teaching profession including eLearning resources and Continuous Professional Development courses. This should be combined with a focus on the wellbeing of children using the internet and guidance for parents on internet wellbeing.

Many pupils who can now avail of high speed broadband at school do not have access to the same services at home. The Government's National Broadband Plan will ensure that all parts of the country will have access to a minimum of 30 Mbps and will reduce this current deficit.

Digital Observation: Businesses should consider introducing BYOD policies

Irish SMEs should look at their current BYOD practices from a data management perspective and implement policies that retain the flexibility they bring without creating avoidable risks in the future.

The Micro-Future

Growth comes to every economy one sale at a time, one job at a time. It is the accumulated impact of discrete business and customer choices that ultimately shapes the wider, macro-economy. Therefore Ireland can only grow if we have a healthy micro-economy at the level of individual firms and business sectors. The good news – from the UPC survey – is that Irish businesses of all sizes and backgrounds are already embracing digitisation and look forward to sustainable growth in the months and years ahead. How that will ultimately shape our economic future is the subject of the next section.

Passax Business Systems

Case Study



Passax Business Systems is an indigenous company that has been offering managed IT services to local and multinational companies in the Galway region for the past 25 years. In 2012, it installed a UPC 30 Mbps broadband connection. Since that time it has increased its broadband speed to 250 Mbps.

"The benefit in having access to a high speed broadband connection cannot be overstated. It means we now have the ability to download large files – what used to take us minutes to download now just takes seconds! Because we support a lot of our clients remotely, having a faster internet connection has made it so much easier and more efficient for our engineers to serve our customers. A lot of software we offer is stored in the cloud and high speed broadband is necessary to download that software.

"Simply put, having a faster internet connection means can also get more work done in a shorter period of time – leading to an increase in our own productivity as well as general operational efficiencies for the office as a whole. Our internet connection is so fast it's like having all of the world's computers in your office!"

Padraig Murphy, Managing Director of Passax Business Systems

Public Wifi

Case Study



EastPoint is home to a vibrant mix of indigenous Irish, multinational and Fortune 500 companies. Set in 40 acres, it has approximately 6,000 employees. In March 2014, the management of the EastPoint Park and UPC launched a free public wifi service accessible to all employees and visitors to the site.

"We're delighted that EastPoint is the first office park in Ireland to be fully wifi enabled. This new service is a fantastic and welcome addition to the existing range of on-site amenities available to employees and visitors, which makes their experience here even more rewarding.

"The interest and demand for the service has been remarkable. In the short time it has been available we have had over 1,117 unique users register to the service – that represents almost 20% of the entire EastPoint Park workforce. It is interesting to see the spike in demand that happens when the sun comes out. On the day of our launch, users consumed the bandwidth equivalent of watching 11 high definition movies. If you consider the business park is only open during working hours and employees tend to be out and about mainly during the lunch hour period, that level of consumption goes to show how industrious the EastPoint workforce really is!"

Jane Cross, EastPoint Park Manager



The provision of superfast broadband in schools is essential to ensure that Ireland's students are equipped with the technological resources they need to flourish in today's modern school system and digital economy. UPC is supplying its superfast 100 Mbps fibre broadband to schools throughout Ireland under the National Schools Broadband Scheme including Adamstown Community College in County Dublin.

"Adamstown Community College is a vibrant and modern new school delivering the highest standards of learning and education. Information technology facilities at the school are state-of-the-art including computer tablets, broadband wireless internet access throughout, an advanced design and communication graphics classroom, a student information data base which has parental access and radio frequency I.D. cards (RFID) for students (including e-commerce transaction capability).

"The school uses all of the latest advanced educational systems and methodologies to ensure the best possible learning experience for students. The library also has a major literacy enhancement initiative in place using specialist education technology.

"With a capacity for 1,000 students, Adamstown provides educational programmes for the junior certificate, transition year and leaving certificate cycles. It was built through a €14m investment by the Department of Education and Skills under the patronage of Dublin & Dun Laoghaire Education Training Board (DDLETB). In 2014, students from Adamstown helped UPC to launch 'The Web We Want' – an educational handbook written by children for children aged 13-16. This is an EU initiative produced in co-operation with partners including UPC and the European Schoolnet.

"The National Broadband for Schools Programme is managed by HEAnet and the 100 Mbps High Speed Schools Network is co-sponsored by the Department of Communications, Energy & Natural Resources and the Department of Education and Skills."

Des Newton, School Principal



Our 2014 UPC surveys have revealed extraordinary changes underway in the personal and business lives of Irish people. What does it mean for the future?

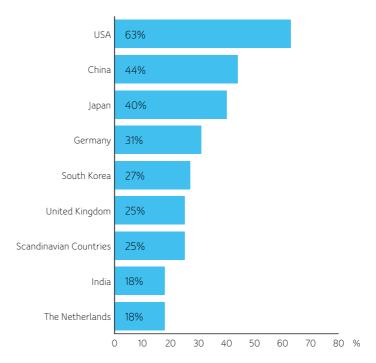
Clearly the economy has improved since 2012, with growth returning (though not uniformly), unemployment falling and confidence improving. Looking ahead, simply sustaining the improvements we have seen in our own surveys – let alone the wider economy – will deliver real growth and more jobs. But we sense a bigger opportunity, one that can put Ireland at the forefront of digitisation, giving us access to new sources of growth, job and wealth creation that will secure real benefits for citizens and businesses alike

What is that bigger opportunity? The answer lies partly in what is happening elsewhere. For example, several of the Liberty Global plc markets we have surveyed are demonstrating the benefits of investment in world class broadband infrastructure and the emergence of digital entrepreneurs creating products and services with global potential. It can be helpful to compare ourselves with others when it comes to benchmarking opportunities for the future. Indeed, in our business survey respondents ranked nations outside of Ireland in terms of digital leadership.

Unsurprisingly, the United States ranks highest among the world's digital leaders in the eyes of Irish businesses. More surprising, perhaps, is that China ranks in second place.

Clearly, the opportunity for Ireland is to effectively leverage the power of our success in digital Foreign Direct Investment to enhance and create indigenous digital competences. There are many examples of this happening already (e.g. in Irish incubators and accelerators). A more focused approach to connecting and multiplying digital inward investment with digital export ambitions will unlock higher levels of growth in the future.

Figure 29: Digital leaders



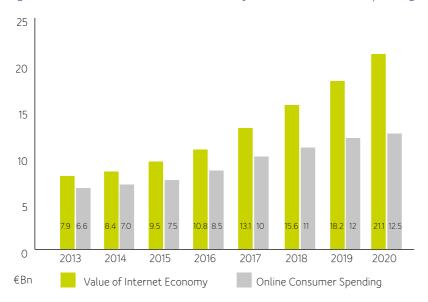
^{*}Respondents could select more than one answer

Digital Observation: Ireland's Digital Ecosystem

Policy makers should leverage the growing momentum of Ireland's expanding digital ecosystem to support the attraction of Foreign Direct Investment and other economic opportunities which will help to create a multiplier effect in terms of exports and job creation.

The innovation and skills that are apparent among Irish digital start-ups and among digitally enabled established businesses have a strong appeal to inbound companies. Incentives for the acceleration of Irish digital start-ups are achieving results and should be maintained.

Figure 30: The value of the internet economy and online consumer spending



Sizing the Digital Prize

Ireland's internet economy - that part of GDP driven by the internet - has grown rapidly in recent years. The internet economy's share of Ireland's GDP was estimated at 4.4% in 2012, or about $\ensuremath{\in} 7.1\ Bn.^{18}$ Looking ahead, the best guide to the future size of Ireland's internet economy is to compare our own experience with that of other developed economies. According to Boston Consulting Group (BCG), the internet economy is well on the way to comprising 5.3% of GDP of G20 countries by 2016. 19

We have combined the IMF's medium term forecasts for Ireland's GDP with Amárach estimates for the share of the internet economy in line with BCG projections to derive an estimate of the value of Ireland's internet economy from 2013 - 2020.

By 2020, the internet economy will account for 10% of Ireland's GDP, and be worth an estimated €21.1 Bn. While this may appear to be a 'bullish' forecast, it is worth noting that BCG projects the UK's internet economy will account for 12.4% of its GDP as soon as 2016. Our forecasts for Ireland may in fact prove to be conservative if we were to close the gap with the UK in the interim period.

Another important consequence of a thriving internet economy in Ireland will be the boost to job creation. A recent study by Emota estimates that 1.5 million e-commerce jobs will be created throughout Europe over the next five years.²⁰ Roughly speaking, for every 1% increase in the value of e-commerce activity in Europe there is a 1% increase in direct e-commerce employment.

The internet economy in Ireland directly employed the full-time equivalent of 49,000 people in 2012.²¹ Given our projected increase in the value of the Irish internet economy (more than doubling to 2020), this equates to 128,000 full-time equivalent jobs by the end of the decade. That is 79,000 extra jobs directly employed by the internet economy in six years' time.

In terms of indirect employment – i.e. jobs created elsewhere in the economy because of the impact of the internet economy – every 10 new direct jobs create 9 indirect jobs (based on Indecon's calculations in 2012). Applied to our forecast of 79,000 direct full-time equivalent new jobs, the contribution of Ireland's internet economy by the end of the decade to employment could be as much as 150,000 extra jobs when direct and indirect impacts are combined.

The largest single contributor to the internet economy is online consumer spending (see earlier commentary and forecasts). In general, consumer spending is not expected to grow as fast as GDP over the rest of the decade due to unemployment, debt and tax constraints. Nevertheless, even assuming a modest rate of recovery in line with recent forecasts and the IMF's central scenario for Ireland, then we can expect steady growth in the value of consumer spending to 2020 after recent years of decline.

¹⁸ Assessment of the Macro-Economic Impact of Internet/Digital on the Irish Economy - Indecon International Economic Consultants, February 2013

¹⁹ The Internet Economy in the G20 - Boston Consulting Group, 2012

²⁰ Emota: The European E-commerce Association http://www.emota.eu/ - 5th Annual E-commerce Conference 2013

²¹ Assessment of the Macro-Economic Impact of Internet/Digital on the Irish Economy - Indecon International Economic Consultants, February 2013

That said, the share of online consumer spending in Ireland's internet economy will decline over the rest of the decade due to GDP growth rising faster than consumer spending, and the increase in online expenditure by the Government as well as the growing share of digital expenditure in total investment and trade. We project the share of online consumer spending in the total internet economy will decline from over 70% in 2014 to less than 60% by 2020.

Conclusions

The internet economy - driven by digital technology - will play a key and growing role in Ireland's economic success over the rest of this decade. Consumers and businesses will each play their part but so also must Government through its enabling role as a user and promoter of high speed broadband, digital technology and related services. By maximising the digital contribution of consumers, businesses, Government and exporters we can reap the benefits of the digital future sooner rather than later in terms of growth, jobs and entrepreneurship.

We have seen the size of the prize: we just have to seize it.

Appendix 1 - Summary of Digital Observations

The role the internet plays in the average citizen's life is immense now. The rate of growth in terms of internet enabled devices looks set to continue as does the availability of high speed networks to accommodate demand. Keeping up with this demand is essential to ensure a successful digital economy.

The National Digital Strategy has identified that 25% of Irish adults have never used the internet, i.e. well over half a million people. The Government is correctly prioritising actions to reduce this deficit including business incentives and awareness programmes. These will complement the Government's plans under the National Broadband Plan to invest in fibre in over 1000 locations across the country.

The following areas also merit consideration by all stakeholders with an interest in securing Ireland's digital future.

Future proofing broadband infrastructure

The rate of growth in terms of internet enabled devices looks set to continue to grow exponentially. It is notable that already today consumers place a much higher value on their broadband service than they actually pay for it. It will be important that infrastructure is future proofed to satisfy consumer demand.

The role of traditional media in the digital world

Traditional media and content providers face significant competition as Irish adults become more comfortable with multi-screening and consuming content from new online sources. Consumer interest in these services is only on the increase and will result in continued demand for higher broadband speeds. For broadcasters, print media, online media and producers of content, creating a comprehensive multimedia experience for consumers is essential to retain audiences and maintain market share. It is imperative that the media sector thrives in the digital age to ensure widespread access to information and vibrant discourse in society.

Children and the web we want for them

As more devices are capable of going online and consumers are increasingly able to access higher broadband speeds, society should ensure the appropriate tools are available to parents and guardians to allow them create a safe environment for their children. Equipping parents with the right knowledge and digital tools to protect their children is essential. It is clear that parents are already taking proactive steps to ensure the online safety of their children, however there is a desire for more information from authoritative sources (e.g. schools, online sources). As part of Ireland's Digital Agenda and its work in relation to the protection of children online, the Government could explore options that would publicise and facilitate the sharing of educational or informational material that may help parents and schools protect children online. Industry too, should ensure that any parental control tools and/or information materials it provides can be easily located, are user friendly and clear in the description as to the level of protection that is offered.

Shopping Online - a trend that is set to grow

The level of online purchases going abroad must be a serious concern for Irish retailers and also for Government. Businesses risk losing revenues and Ireland risks losing out on jobs unless a widespread adoption of digital business practices is promoted. Government needs to scale up this activity supporting Irish retailers to engage in or further develop online trading to remain competitive in the online space while Irish businesses both big and small need to exploit this opportunity.

The potential for eGovernment services

Government departments need to further highlight and promote the range and accessibility of services available to Irish people online. This will create benefits for people and Government alike as greater levels of convenience, service and efficiency are achieved, often with cost benefits for the Exchequer. It should also be a given that eGovernment services are based on trustworthy and secure systems and consumers should be given the necessary assurances that this is indeed the case.

Trust and Security remain an issue for online banking

While 80% of people bank online, over half of our respondents said they prefer to use bank branches. Further work needs to be done to build trust in electronic banking systems. Encouraging people to carry out financial and consumer transactions online forms an essential element of a vibrant digital economy. Banks should further highlight the benefits of online banking and the security of their systems.

Flexible Working

One of the main envisaged benefits of digitisation is that it would allow people work from home. A further benefit is that it would enable employers recruit from a greater catchment area than they may already be doing – therefore allowing for a more regional (employment) balance. Employers need to be open to the possibility of flexible working arrangements which carry mutual benefits for the employees and organisations concerned.

Irish SMEs should also have well defined policies around the trend of Bring Your Own Device (BYOD) and social media usage among employees at work, implementing procedures that retain the flexibility of such practices and mitigating avoidable risks in the future.

Online Feedback - a valuable resource

SMEs and SOHOs should explore ways to get online and use digital feedback to grow sales through cost effective, word of mouth marketing. The Government Trading Online Voucher Scheme being rolled out under the National Digital Strategy presents opportunities in this area and can be accessed by small firms who wish to move online and implement this strategy. It should be marketed more vigorously among this grouping. Additionally, the Government could consider tax reliefs for small businesses investing in their digital presence including websites and e-commerce technologies. This could operate initially on a pilot basis over a set duration of time as part of a concerted awareness and promotion initiative to get more Irish businesses online.

Incentives for Digital Start-Ups

The Government and organisations that support Irish exporters (and potential exporters) should identify and share case studies and testimonials from existing exporters who have used digital channels and products to successfully grow their overseas sales

The Importance of Digital Skills

The continued emphasis on digital skills will ensure the existence of a workforce that is digitally literate. In this regard, the Schools Broadband Scheme which is deploying 100 Mbps to post primary schools nationwide is a very welcome initiative. To enhance the benefits of this investment, the national curriculum must be evolved to ensure that teachers and pupils engage constructively and meaningfully with digital content, digital skills development and ICT usage in general.

A centrally co-ordinated repository of skills and content should be available to the teaching profession including eLearning resources and Continuous Professional Development courses. This should be combined with a focus on the wellbeing of children using the internet and guidance for parents on internet wellbeing.

Many pupils who can now avail of high speed broadband at school do not have access to the same services at home. The Government's National Broadband Plan will ensure that all parts of the country will have access to a minimum of 30 Mbps and will reduce this current deficit.

Ireland's Digital Ecosystem

Policy makers should leverage the growing momentum of Ireland's expanding digital ecosystem to support the attraction of Foreign Direct Investment and other economic opportunities which will help to create a multiplier effect in terms of exports and job creation.

The innovation and skills that are apparent among Irish digital start-ups and among digitally enabled established businesses have a strong appeal to inbound companies. Incentives for the acceleration of Irish digital start-ups are achieving results and should be maintained

Businesses should consider introducing BYOD policies

Irish SMEs should look at their current BYOD practices from a data management perspective and implement policies that retain the flexibility they bring without creating avoidable risks in the future.

Creating Digital Equality in Society

One of the biggest advantages of this technology driven era is its ability to break down barriers and introduce greater equality across society. We cannot afford to allow older people or those who are economically challenged to get left behind. Many private sector organisations are already actively engaged in digital inclusion initiatives but it may also require Government aid for those who are unemployed or economically challenged to ensure that all sections of our society realise the economic, educational and social benefits of digital inclusion.

Appendix 2 - Comparison of Data from the UPC Reports 2012, 2014

Consumer

Which of the following technologies or services do you have at home? Please select all that apply		
	2012	2014
Landline telephone	71%	68%
Wifi	60%	78%
Broadband	87%	80%
Paid for TV services (e.g.: Sky or UPC)	67%	67%
Flat screen TV	70%	67%
HDTV	45%	45%
Smart TV (i.e. one which can connect to the internet)	5%	18%
3D TV	4%	6%
PC	50%	44%
Laptop	85%	86%
Tablet or iPad	19%	54%
MP3 Player or iPod	57%	52%
Ordinary mobile phone	64%	46%
Smart mobile phone or iPhone (i.e. one which can connect to the internet and download apps)	61%	75%
Internet enabled games	29%	26%
Portable games consoles	37%	26%
E-reader	17%	23%
Home surveillance system	10%	9%
Digital cameras	75%	66%
Navigation device or GPS	37%	33%

How important is broadband access for your household? Please select all that apply		
	2012	2014
More important than telephone	49%	74%
More important than mobile phone	7%	23%
More important than TV	19%	40%
More important than your car	1%	7%

What broadband speed did you sign up to?			
	2012		2014
1 Mbps - 3 Mbps	13%	1 Mbps - 8 Mbps	19%
4 Mbps - 8 Mbps	29%	9 Mbps - 15 Mbps	8%
9 Mbps - 21 Mbps	12%	16 Mbps - 30 Mbps	14%
22 Mbps - 30 Mbps	12%	31 Mbps - 50 Mbps	12%
30 Mbps - 50 Mbps	5%	51 Mbps - 100 Mbs	11%
50 Mbps+	5%	101 Mbps - 200 Mbps	7%
Don't Know	24%	Don't Know	29%

What speed do you believe you are actually receiving?			
	2012		2014
1 Mbps - 3 Mbps	24%	1 Mbps - 8 Mbps	25%
4 Mbps - 8 Mbps	22%	9 Mbps - 15 Mbps	12%
9 Mbps - 21 Mbps	13%	16 Mbps - 30 Mbps	15%
22 Mbps - 30 Mbps	10%	31 Mbps - 50 Mbps	14%
30 Mbps - 50 Mbps	4%	51 Mbps - 100 Mbs	7%
50 Mbps+	2%	101 Mbps - 200 Mbps	4%
Don't Know	23%	Don't Know	23%

Is your broadband speed sufficient for your current households needs?		
	2012	2014
Yes	69%	75%
No	28%	23%
Don't know	3%	2%

How many devices in your home (PCs, laptops, iPads, smartphones etc.) are connected to the internet?		
	2012	2014
1	17%	8%
2	26%	14%
3	23%	16%
4	15%	16%
5	10%	14%
6+	9%	32%
Average	3.2	4.7

Do you have any TVs in your home?		
	2012	2014
Yes	97%	96%
No	3%	4%
How many TVs do you have in the home?		
now many 1v3 do you have in the nome:	2012	2014
1	24%	29%
2	32%	32%
3	20%	20%
4	14%	11%
5	7%	5%
6+	3%	3%
Average	2.6	2.4

Do you use your TV or a device connected to your TV to access any of the following services on the internet?		
	2012	2014
YouTube	23%	38%
Netflix	11%	26%
ITunes movies	6%	3%
On Demand Television (VOD)	16%	23%
Other video services (specify)	3%	1%
None of the above	62%	28%

When watching TV, how often, if at all, do you use a laptop and/or
tablet and/or smartphone at the same time?

	2012	2014
All the time	8%	10%
Almost always	22%	29%
Occasionally	35%	40%
Rarely	16%	11%
Never	19%	10%

Have you ever bought anything online?		
	2012	2014
Yes	94%	94%
No	5%	5%
Don't know	1%	1%

How often, if at all, do you use the internet to help you find better deals and make better choices when purchasing?

	2012	2014
Always	41%	37%
Often	50%	51%
Rarely	8%	11%
Never	1%	1%

Do you ever use the internet to research products and services online and then buy them locally (i.e. offline in local shops)?

	2012	2014
Yes	80%	72%
No	15%	22%
Don't know	5%	6%

Do you ever research products and services in local shops and then buy them online?

	2012	2014
Yes	58%	51%
No	37%	42%
Don't know	5%	7%

Would you be any more likely to shop online if you could get online help from customer support staff via video or text chat?

	2012	2014
Yes	40%	23%
No	39%	62%
Don't know	21%	15%

Do you use internet banking?		
	2012	2014
Yes	78%	80%
No	21%	19%
Don't know	1%	1%

Do you use the internet at home in relation to your work?

your work!		
	2012	2014
Yes	45%	47%
No	55%	53%

Business

How would you describe your growth prospects for the next 1-2 years?		
	2012	2014
Very good	15%	14%
Good	65%	66%
Poor	17%	13%
Very poor	3%	3%

Do you intend to hire new employees in the next 1-2 years?			
	2012	2014	
Yes	55%	59%	
No	30%	25%	
Don't know	15%	16%	

How fast is your broadband or internet service at work?			
2012		2014	
1 Mbps – 3 Mbps	9%	Under 10 Mbps	22%
4 Mbps -8 Mbps	17%	11-30 Mbps	19%
9 Mbps – 21 Mbps	28%	31-50 Mbps	10%
22 Mbps – 30 Mbps	11%	51-100 Mbps	14%
30 Mbps - 50 Mbps	7%	100-250 Mbps	10%
50 Mbps+	19%	250-500 Mbps	5%
		501 Mbps+	7%
Don't know	8%	Don't know	13%

What proportion of your staff has internet access at work?			
	2012	2014	
0%	0	1%	
1-10%	6%	6%	
11-20%	7%	6%	
21-30%	4%	7%	
31-40%	3%	4%	
41-50%	7%	4%	
51-60%	3%	2%	
61-70%	3%	0	
71-80%	4%	4%	
81-90%	1%	3%	
91-100%	59%	62%	

About the Report

UPC commissioned Amárach Research to carry out two, parallel surveys in January 2014: the first was an online survey comprising 1,000 adults aged 16 and over, representative of Ireland's population; and the second comprised a telephone and web survey of over 200 IT decision-makers in Irish SMEs and larger corporations, with quotas to ensure a cross-section of companies by size.

The key findings from both surveys are explored in the rest of this Report.

The UPC Story

Today, UPC is enabling a bright future of digital engagement and interaction between hundreds of thousands of people, businesses and content providers at home and abroad. Harnessing the power of our fibre network and advanced technologies, we are Ireland's leading cable company, bringing digital TV, high-speed broadband and phone services to over half a million homes and tens of thousands of Irish businesses. And we are supported by a passionate and dedicated (in)direct employee workforce of 1500.

Over the past 40 years we have built strong relationships with our customers and communities throughout Ireland. UPC has grown rapidly since then, investing over a billion euro in Ireland, creating a next generation network and driving innovation and change throughout our sector. As a result we have transformed business and consumer experiences of entertainment, information and communication technologies. We have been at the forefront of profound change in the Irish digital landscape which has seen a massive transformation in how consumers and businesses engage with digital entertainment, information and technology.

UPC is a strong supporter of indigenous businesses and has several local partnerships with key Irish businesses, broadcasters and content service providers. We are proud to be the first and only telecommunications provider that is a member of Guaranteed Irish which we see as a mark of recognition of the contribution UPC makes to the Irish economy and society as a whole.

UPC's story and continuing progress provide a great example of the important

contribution that a successful Irish and international company can make. As we look ahead, our appetite to invest remains strong and we hope to contribute even more in the future.

Mark of approval

UPC were successful in winning four categories, including the overall Best Broadband Provider, Fastest Home Broadband, Best Technical Support, Most Recommended Broadband in the inaugural 2014 uSwitch.ie Broadband Awards.

During the year, UPC was also presented with the Innovation award for Enterprise Planning at the Customer Contact Innovation Awards, organised by the Professional Planning Forum, celebrating and benchmarking excellence in the industry.

www.upc.ie

Amárach Research

Amárach Research is an independent market research agency, providing a full range of research services to its Irish and International clients. Amárach specialises in turning information into insight; and insight into foresight.

Amárach's experienced team manage online, face-to-face, and CATI surveys (through its call centre); as well as qualitative research including focus groups, in-depths, and ethnographic studies. The agency also delivers a world class field-only service to universities and international agencies.

Now in its 25th year, Amárach has pioneered innovative research techniques and reported on digital trends since the earliest days of the internet.

Amárach invests heavily in understanding current Irish consumer and business trends, and shares numerous, free reports and presentations via its blog and slideshare sites, linked via its main website.

www.amarach.com

