Digital Radio for Ireland: Competing Options, Public Expectations

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Digital Radio for Ireland
Competing Options, Public Expectations

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Brian O’Neill, Head of School of Media, Dublin Institute of Technology
Agata Olbrycht, Research Assistant Athena Media

MEDIA RESEARCH BURSARY SCHEME
BROADCASTING COMMISSION OF IRELAND
SEPTEMBER 2009
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EXECUTIVE SUMMARY

This report arises from research funded under the Broadcasting Commission of Ireland’s Media Research Funding Scheme 2008, and is a collaboration between Brian O Neill, Dublin Institute of Technology and Helen Shaw, Athena Media, both members of the DRACE, Digital Radio Cultures in Europe, research group.

The aim of the research is to contribute to the debate on digital radio by reporting on the sector’s preparedness for digital radio.

The study examines some of the competing options for digital radio against a background of growing convergence and the shifting consumption patterns of Ireland’s ‘iPod generation’ or ‘digital natives’. We report the opinions and responses of senior executives and strategists in the radio broadcasting industry on existing provision for digital audio services, including live streaming, listen again facilities, podcasts, as well as their strategies for further digital radio deployments including terrestrial digital broadcasting and internet radio.

Survey Findings

- Among digital broadcasting technologies, the DAB family of technologies is recognized by the sector as important to the future of digital radio in Ireland and DAB+ is seen as more important than DAB. Digital Multimedia Broadcasting (DMB) is also viewed as quite important.

- There is overwhelming acknowledgement of the significance of the internet and online delivery as an essential component of digital radio and the future of radio.

- Perfect Reception and Lower Transmission Costs for Broadcasters are viewed as the most important features of DAB technology, with Excellent Audio Quality and Easy Programme Selection as the next most important.

- 77% of respondents agreed that multimedia was an important element of radio’s future

- Over 65% of respondents said that DAB+ would be a better choice for digital radio in Ireland. Among commercial radio operators, the figure was 70%.

- In the community and special interest radio sector, 70% said they did not know if DAB was the right choice.

- Over 70% agreed that FM will still be popular in 2020 though there will be some form of digital audio broadcasting in Ireland as well.

- Over 70% agreed that Users will become accustomed to digital diversity, multi-standard devices, and hybrid functionality. 68% agreed that Analogue audiences will continue to decline especially among younger listeners.

- Only 36% agreed that that DAB will be the dominant platform in 2020.
- Nearly 45% of radio operators do not believe that Ireland needs more radio services, more radio is supported by just under 37%. RTE, community and not for profit services are most likely to support more radio services.

- Lack of an industry-wide plan; the current economic climate as well as the perceived lack of public demand were identified as the main barriers to the roll-out of DTSB in Ireland.

- The majority of commercial operators believe radio businesses need to be given incentives to make the transition to digital radio and that these incentives should go beyond the proposed six year licence extension in The Broadcasting Act 2009.

- Over 90% ranked ‘live internet streaming’ as important to their operation and internet-related services were viewed as the most important priority with regard to future investment.

- The most frequently cited reasons for developing web radio services were those of extending the reach of radio beyond the FM franchise area.

**Strategic Interviews**

Interviews with a representative group of senior executives in the radio industry highlighted the following issues:

- There was a strong consensus on the need for a coordinated policy on digital radio to be led by the State agencies and guided by a representative digital radio forum which reflected both stakeholders and interested parties in its membership.

- Most interviewees favoured DAB+ as the optimum technological solution for Ireland’s future based on their understanding of its increased efficiency as a platform over DAB.

- There was broad agreement that incentives for the sector were needed as part of the transition but about half the interviewees made the point that the endgame needed to deliver a broadcast platform which was better than FM, or exceeded the current service to users, if it was to succeed with consumers and create a viable market. In this context, however, it was signaled by a number of interviews that such incentives to enter the digital radio market needed to be married with a requirement to innovate in order to ensure the success of digital radio in the long term.

- Many respondents argued that lessons needed to be learned from the RTÉ-led digital radio trial of 2007-8 and that a more coordinated and consultative approach, emphasizing extensive market research, was required.

- Digital radio was perceived to be not inclusive of all potential stakeholders, particularly small scale operators and community services. There was a lack of information available on digital radio and consequently there was a need for an awareness-raising and educational campaign around digital.

- The question of the economic viability of a future digital radio market was highlighted as was the difficulty in promoting the case for digital radio in the midst of a severe recession that is already negatively impacting on the Irish media sector.
Online Digital Radio

- Of 91 radio services in Ireland audited, 81% have a website (4 of the 22 community, special interest and institutional services did not). Only 9 of the 22 temporary services had a website. The vast majority of all radio websites are of the brochure type and offered some element of audio content on the site but are not seen as Web 2.0 in their content or design.

- In general Irish radio websites are relatively basic in design and functionality. The overall theme is a brochure site, a print centric website with add-on elements such as audio or interactivity. Only about one third of the websites were defined as ‘websites with a dynamic content’. The re-launched RTÉ 2FM website was one example, during the period of the website audit, of a significant shift by a radio station to a more dynamic Web 2.0 approach.

- While the vast majority of radio stations with websites provide some form of audio content, its scale and depth varies greatly. 86% offer live streaming. While at a national level, the websites of RTÉ's 4 FM stations, Today FM and Newstalk 106 all offer podcasts; roughly half of all local stations audited provide podcasts at some level. The majority of community stations (over 60%) do not provide podcasts.

- A survey of over 100 European public radio services online, showed that the vast majority provided some form of audio and all public radio services in the survey offered podcasts and live streaming.

- Live Streaming is the most important form of making audio content available online followed by podcasting and ‘listen again’ facilities.

What Radio Listeners Say

- In an international context, radio listening in Ireland ranks highly. Looking at 2007 data in a comparative context, Ireland had a daily reach of 84% and an average of 29.3 hours listened per week. (The current daily reach according to JNLR is 86%)

- UK research shows that that internet radio and podcasting is helping radio develop a life with younger audiences, under 30 years and it is encouraging people to experiment and try new radio shows.

- In Ireland, most receivers available in Irish households are of a fixed radio (88%) or car radio (87%) type yet there is evidence of a growing diversity of platforms for radio listening with over 40% of the population reporting they can receive radio via TV, on a PC, on a mobile phone or MP3 player.

- Current listenership via devices other than fixed or car radios is low: 15,000 for radio on a mobile phone, 8,000 on an MP3 player, 7,000 on a PC/internet, 7,000 on a TV set, and 4,000 on any other digital format.

- Focus group members reported a diversity of radio listening habits using different platforms. About one third had knowledge of or owned a DAB receiver. While listeners enjoyed the
quality of services, most were disappointed with the range available. Greater content diversity was the most important requirement for future digital radio. Other features such as listen again, pause/rewind, and linking to social networks were also thought to be very attractive and useful.

- In RTÉ-commissioned audience research for the digital radio trial, the two key attributes of DAB to emerge most strongly were the potential for greater content choice and the improved sound quality. Key lessons for future marketing of DAB include: Marketing messages need to focus on the mix of technological attributes; importance of quality demonstrations in in-store environments. There is an acknowledgement that the development of demand for DAB digital radio will be a gradual process.

Conclusions and Recommendations

- Looking forward, one of the main advantages for the Irish radio sector is its current strength and the high level of public support and loyalty. The advantage of late adoption of digital and the establishment of the Broadcasting Authority of Ireland (BAI) provide a new opportunity for the development of a national digital radio policy and strategy. The commencement of the renewal of radio licences, which will begin from 2012 onwards, provides the timeframe for the implementation of this strategy.

- Clearly, the economic downturn, the lack of viable role models internationally and a depressed consumer market represents significant challenges. A further challenge for digital radio in Ireland is to ensure its inclusiveness, and in particular, to ensure that Ireland’s important community and not for profit sector are adequately represented in digital planning.

Recommendations include:

- The establishment of a Digital Radio Forum
- The development of a policy White Paper in 2010
- The commissioning of detailed research on the technology, market economics and socio-cultural dimensions of DTSB
- Close policy cooperation between BAI and ComReg
- An information and knowledge sharing campaign on digital radio for the sector is required
- A broad communications engagement with the public to ensure awareness of the issues, opportunities and challenges as well as the benefits of digital radio. An educated sector and informed public will be the basis for any successful transition to digital broadcasting.
INTRODUCTION

Overview of the project

Radio remains one of the strongest communication media in Ireland. Every day about 86% of the population listen to some radio whether community, local or national\(^1\) and Irish people spend an average of 4 hours a day with radio,\(^2\) one of the highest listenership rates in the world.

But the traditional Irish media landscape is transforming at speed. Digital media, convergence and the rapid growth of online has already altered the global media horizon and with the growing penetration of broadband and the implementation of digital media technologies, Ireland is beginning to follow comparative European trends in both media production and consumption. These trends are linked to a marked shift in media economics with the internet gradually taking larger bites of the advertisement pie as audiences shift online. In the UK online advertisement revenue exceeded radio revenues by the end of 2006 and that pattern is set to replicate itself in Ireland.

In Ireland 27% of the population now has access to high speed broadband\(^3\) and 28% of all adults use the internet every day.\(^4\) 56% of television subscribers have access to digital TV through satellite or cable.\(^5\)

In relation to radio, most Irish stations have an online presence whether from live streaming, listen again streams, to downloads and podcasting but the implementation of a national terrestrial digital radio network has been slow with some false dawns. The first Irish trial in Digital Audio Broadcasting (DAB) was in 1999, led by RTÉ and a DAB forum established with participation from the key stakeholders in the Irish radio industry. DAB had emerged as the European digital radio standard from the Eureka 147 Project and was rolled out in the UK by the BBC from 1996 and by the UK commercial digital radio group, Digital One, from 1999. Following the first Irish trial, a consultancy report by Deloitte & Touche, recommended that Ireland adopt a two year ‘wait and see’ policy regarding digital radio policy which would allow for further spectrum planning, particularly with regard to the use of Band III by analogue television. Ireland at that stage had been allocated two digital radio multiplexes in Band III and a key issue was the fact that analogue TV services were also broadcasting on that waveband.

In June 2004, the Ox Report on Radio Licensing reported that up to 25% of FM spectrum remained unused in the Republic and issued a series of recommendations including maximum spectrum utilisation and a reconfiguration of radio spectrum planning to increase the number of services available.\(^6\) Since its publication, the number of services available in each part of the country has

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significantly increased. Scarcity of spectrum was one of the key driving forces for the implementation of digital radio in the UK from the mid 1990s and as such a completion of the roll out of FM spectrum has been seen as important as a basic first stage in our transition to digital platforms. Most areas now have, in addition to the nationally-available RTÉ services, Today FM, Newstalk 106, a regional youth station and a local station. Cork and Dublin also have a wider variety of services available on the FM band. The multi-city service, 4FM, has also added to the diversity of services available in Dublin and commuter belt, Cork, Galway, Clare and Limerick. A national religious station is due to commence broadcasting early next year using a mix of AM and FM frequencies. A Classic Rock service is also due to launch in Dublin and commuter belt next year. While it is difficult to currently quantify in percentage terms remaining unused spectrum, potential exists for some city wide (but not county wide) services in Dublin. FM spectrum is not available in the Longford, Leitrim Roscommon, Cavan or Monaghan areas for complete local or regional services. A local service with restricted or marginal coverage could be provided in the Louth / Meath / Kildare area. Elsewhere potential exists for further regional or local or city wide FM services. Also community services that are town based and not looking to cover large rural areas can generally be accommodated by the regulator.\(^7\)

In 2006, RTÉ launched a new DAB initiative and began progressively working towards a new trial and additional services.\(^8\) The RTÉ led DAB trial ran from October 2007 to November 2008 and involved 11 broadcasters (Dublin’s 98FM, Digital Audio Productions – All 80s and Mocha, FM104, Newstalk 106-108 FM, Phantom 105.2, Q102, RTÉ Radio, SPIN 1038, Radio Kerry and Today FM). In December 2008, RTÉ launched its DAB services with six new digital channels (RTÉ Junior, RTÉ Gold, RTÉ Digital Radio News, RTÉ 2 XM, RTÉ Choice and RTÉ Digital Radio Sport) in addition to its existing four national services (RTÉ 1, RTÉ 2fm, RTÉ Lyric fm, RTÉ Raidió na Gaeltachta). The commercial independent broadcasters did not continue to broadcast their service on DAB after November 2008 and at this point RTÉ remains the only DAB digital radio broadcaster in the Republic.

This research study and report, funded under the Broadcasting Commission of Ireland’s Media Research Funding Scheme 2008,\(^9\) is the work of a collaborative research partnership between Dr Brian O Neill of Dublin Institute of Technology and Helen Shaw, MD of Athena Media, a digital media company. Dr O Neill and Ms Shaw have been working on digital radio research since June 2004 as part of a pan-European academic research project called DRACE, *Digital Radio Cultures in Europe*,\(^10\) which was established under the COST European research programme (Action A20). They are part of a research team currently producing a book on digital radio in Europe called *Digital Radio in Europe: Technologies, Policies and Practice* for the publishers Intellect.

The provision for digital terrestrial sound broadcasting services in the Broadcasting Bill 2008 provides the immediate context for this report. Yet consideration of a new national digital terrestrial sound service comes at a time of great uncertainty for digital radio. Internationally, the DAB platform is under considerable pressure. While public service broadcasters have been to the fore in European digital radio roll out, the experience has been uneven and some are reconsidering their investments.\(^11\)

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7 This information courtesy of Director of Engineering, Broadcasting Commission of Ireland.
9 See: [http://www.bci.ie/research_reports/MRFS.html](http://www.bci.ie/research_reports/MRFS.html) for further details.
10 See [http://www.drace.org/](http://www.drace.org/)
New technology options, including the improved DAB+ platform, multimedia broadcasting, internet radio and podcasting have created a more diverse media ecology. Ireland’s relatively late entry into the transition from analogue to digital radio places even greater emphasis on the strategic decisions involved and heightens the risk of alienating audiences through failed implementations. We can learn from other people’s experiences, mistakes and success.

Our aim in this research is to contribute to the debate on digital radio by reporting on the sector’s preparedness for digital radio. The project undertook a survey of both radio professionals and potential users of digital radio and assesses the environment within which public expectations for new audio media services are formed. The study examines some of the competing options for digital radio against a background of growing convergence and the shifting consumption patterns of Ireland’s ‘iPod generation’ or ‘digital natives’. We report the opinions and responses of senior executives and strategists in the radio broadcasting industry on existing provision for digital audio services, including live streaming, listen again facilities, podcasts, as well as their strategies for further digital radio deployments including terrestrial digital broadcasting and internet radio. In a sense it is a snapshot of how we think about digital radio, its challenges and opportunities as we envisage the future and consider what might be the best solutions for both the sector and the citizens.

This report follows six months fieldwork and is presented in five separate chapters as follows:

*Chapter One – Survey Findings* presents the results of the online survey of all licensed radio broadcasters in Ireland. This comprised a survey of senior executives and strategists in the radio broadcasting industry on existing provision for digital audio services, including live streaming, listen again facilities, podcasts, as well as interest and strategy for further digital radio deployments including terrestrial digital broadcasting and internet radio.

*Chapter Two – Strategic Interviews* presents a summary of the key issues raised in follow-up interviews held with a representative group of senior executives in the radio industry. We discuss the priorities for any future policy framework in this area as described by our respondents, the technology options as perceived by radio professionals as well as assessing views of the future of radio and the required next steps for digital radio policy in Ireland.

*Chapter Three – Online Digital Radio* reports on two studies conducted as part of this research: one comprising an audit of the presence of Irish radio stations online, and the other a comparative study across European public radio, including the Irish national broadcaster, RTÉ. While the implementation of terrestrial digital radio in Ireland may be at an embryonic stage, Irish radio has a well developed presence on the internet and most Irish radio stations have an online life which ranges from live streaming, listen again facilities to downloads and podcasts.

*Chapter Four – What Radio Listeners Say* discusses research on the needs and interests of the audience in a consideration of digital radio. While there is a relative scarcity of research on the listener in the context of new digital technologies in Ireland, we discuss some of the existing data about the radio listener experience and digital technologies, including research conducted as part of the digital radio trial of 2007-8, provided courtesy of RTÉ. We also present findings from a number of focus groups conducted as part of the project on the themes emerging from the research in relation to FM and digital radio.
Chapter Five – Conclusions and Recommendations presents a summary of the research undertaken and offers some integrated conclusions and recommendations drawn from the research findings and outcomes in respect of the future development of digital radio in Ireland.

Digital radio in Europe today

The original impetus for the development of digital radio was to find a replacement for analogue radio transmission, that is, the system of either amplitude (AM) or frequency modulation (FM) in place since the early part of the twentieth century. Radio, it was argued back in the 1980s when digital broadcasting first became a reality, needed to take a step forward to keep pace with technological developments and shifting consumer expectations. A digital broadcasting system, once implemented, would bring enhancements such as improved audio quality, intuitive and precise tuning, an increase in channel capacity offering more choice to listeners and a range of potential new data and interactive services.

The Eureka 147 system of Digital Audio Broadcasting (DAB) is now the longest established and most mature technology for digital radio. The first successful implementation of terrestrial digital radio broadcasting using DAB was launched in 1995. Internationally, there are now over 1000 services available in over 30 countries, and more than 12 million DAB receivers have been sold worldwide.\(^\text{12}\) Regular DAB services have been launched in a number of European countries with the ultimate goal of moving analogue services onto the digital platform. Notable DAB successes have included the United Kingdom with a receiver base of over 8 million digital radio sets; 13% listen via DAB and over 21% listen via all digital platforms (RAJAR Q2 2009).\(^\text{13}\) In Denmark similarly, strong support from the government and the public broadcaster has resulted in an extensive roll-out of digital radio. Other European countries offering regular DAB services include Belgium, Germany, Ireland, Netherlands, Norway, Portugal, and Sweden. Countries which offer more limited services or which are piloting newer technologies such as DAB+ or DMB include France, Italy, Austria. While the original ambition of the Eureka 147 consortium was for DAB to become a universal standard, some twenty years after its original development, DAB is just one of a number of different digital platforms offering audio and multimedia services operating in a dynamic and fast-changing media market.

For example, Digital Audio Broadcasting itself was originally based on the MPEG Audio Layer II coding, or MP-2 which has since been overtaken by MPEG-4 (AAC) as the norm for digital audio players and live radio streams. An upgraded standard called DAB+ was therefore approved in 2007 using more efficient transmission at lower bitrates. Another important innovation was the addition of video/multimedia capabilities to Digital Audio Broadcasting, allowing DAB to become a digital mobile television platform DMB (Digital Multimedia Broadcasting) as well as a multimedia digital radio platform.

Another standard, Digital Radio Mondiale or DRM, led by a consortium of broadcasters and manufacturers including Radio France Internationale, TéléDiffusion de France, BBC World Service, Deutsche Welle, and Thomson SA, was released in 2001. Digital Radio Mondiale (DRM) is an open

\(^{12}\) Findings as quoted by WorldDMB, the international forum which coordinates the implementation of all Eureka-147-based technologies. URL: [http://www.worlddab.org/](http://www.worlddab.org/)

standard digital radio system for short-wave, medium-wave and long-wave - digital radio for the radio frequencies below 30MHz – and offers near-FM sound quality and has the capacity to integrate text and data with potentially large coverage areas. Countries such as India and Russia have adopted DRM as the best technology for converting their vast broadcasting networks to digital. In 2008, the BBC and Deutsche Welle (DW) launched a new Digital Radio Mondiale radio channel for Europe with 18 hours daily of international programmes in English from BBC World Service and DW. The service is available across much of Western Europe and the signal covers France, Germany, Belgium, Netherlands, Luxembourg and other neighbouring countries. An extension to the standard, DRM+, offers an equivalent strategy for digitalisation in the VHF bands.

In the United States, the proprietary HD Digital Radio system allows existing AM and FM radio stations to transmit both analogue and digital signals on the same frequency allowing an upgrade path for listeners. It enables AM and FM radio stations to simulcast both digital and analogue audio within the same channel as well as add new FM channels and text information.

In almost every market and region, however, the progress of digital radio has been slower than anticipated, characterised by limited consumer awareness and uneven support by broadcasters. Switch-off of analogue transmission networks and replacement by digital systems remains a distant prospect though road maps for a digital transition have been established in major markets such as France and the United Kingdom. In France, a timetable has been established which will require all new radio receivers – including in-car and mobile phones receiver - to be digital-enabled by 2013.14 In the United Kingdom, the government has set 2015 as the target date by which Britain’s national radio stations, and most local stations, will stop broadcasting on analogue and move to Digital Audio Broadcasting. The UK’s Digital Britain report commits the government to a policy ‘enabling DAB to be a primary distribution network for radio’ and creates a plan for a digital switchover ‘when 50% of radio listening is digital and when national DAB coverage is comparable to FM coverage, and local DAB reaches 90 per cent of population and all major roads’.15 Yet, uncertainty remains and the disparaging newspaper headline that DAB may turn out to be the ‘Betamax’ of radio,16 allied to the high profile withdrawal of Channel 4’s offering, or the sale of the commercial multiplex in the United Kingdom, links digital radio uncomfortably with previous failed technology implementations such as AM stereo in radio’s past. Somewhat ominously, a Deloitte report on the outlook for DAB in the U.K. – still the most important market for digital radio – casts doubt on the government’s ambition for a digital transition by 2015 and states that ‘the enduring appeal of analogue radio, combined with the growing power of internet radio, may ultimately lead many consumers to sidestep DAB technology altogether’.17

Digital radio, however, now means more than just the replacement of analogue broadcasting with a digital equivalent. In practical terms, radio now exists as a multiplatform medium with analogue, digital, satellite and the internet being the most important. With the rise of the internet, the wide penetration of broadband technologies and rapid expansion of mobile communications technologies,

there are now numerous alternative ways of providing radio services to listeners in digital form. Live audio streaming via the world wide web and podcasting have become highly successful alternative means of distributing radio on the internet. Internet-only radio stations and the development of a variety of personalised internet radio services such as Spotify or Last.fm have also provided significant challenges to traditional broadcasting. Rapid advances in mobile communications and the development of multimedia services for mobile devices likewise compete with radio as outlets for digital audio services making the market for digital radio a highly complex one.

There is, as a result, strong commercial pressure on the radio industry to fully engage with digital convergence in the media marketplace. Radio, as noted in the 2006 European Commission study of the digital content industry,\(^\text{18}\) is often overlooked when thinking about convergence and interactive media.\(^\text{19}\) Online music distribution, by contrast, has developed into a major new industry expected to be worth €1.1bn by 2010 and three times that in the United States. The same study estimated that there are currently 15 million listeners to online radio in Europe, expected to reach 32 million listeners or 7 per cent of Europeans by 2010, and a further 11 million listeners for podcasting also by 2010. Against this, the total revenue anticipated by 2010 for all digital radio will be just 5 per cent of the overall advertising revenues for the radio sector and as a result there is major pressure on the industry to find ways to ensure it builds a higher profile in the digital content market.

**Mapping the future of radio**

In a study published in the *Journal of Radio and Audio Media* in 2008,\(^\text{20}\) the DRACE research group outlined a number of different scenarios for the future of radio post-2015. Drawing on extensive interviews with leading radio professionals and strategists across Europe, the DRACE analysis proposes four scenarios based on two parameters: the nature of distribution and the way radio services are consumed. The majority of radio experts in the study expected that future consumption would be based on free broadcast delivery but over a plurality of different platforms while consumption would remain in real time – the 'Towers of Babel’ scenario. The next most likely scenario, according to the research, is "digital diversity" where a proliferation of distribution networks exist as in the previous scenario but a significant proportion of consumption has shifted to on demand or subscription. This consumption pattern would also be pronounced in the next scenario, "multimedia market", but distribution would be based on a single technology or set of complementary standards. Finally, only a minority of professionals consulted believed that radio would continue as it is today: a dominant technology standard offering linear services (the DAB DReaM').

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The influence of a diverse range of different technologies delivering content on both a real time and on-demand basis is felt across all media sectors and while it may be reasonable to believe that radio as the oldest broadcast medium will continue to prosper well into the future delivering free linear audio content, the underlying rationale for the current study is that preparing for a much more complex and diverse market is an urgent requirement. Chapter 3, outlining the current provision for web-based radio services, illustrates that the needs of the broadband society are beginning to be well understood by the Irish industry. Less apparent is agreement on and commitment to an overarching strategy for ensuring that the primary transmission networks remain capable of delivering the kinds of services and meeting the needs of Irish radio listeners into the future.
1 Survey Findings

1.1 Introduction
For this research, a survey was undertaken of senior executives and strategists in the radio broadcasting industry on existing provision for digital radio and audio services, including live streaming, listen again facilities, podcasts, as well as in and strategy for further digital radio deployments including terrestrial digital broadcasting and internet radio. A copy of the questionnaire is included in Appendix III. A select number of follow up interviews were also conducted and are reported in Chapter 2.

A total of 87 individuals and companies were invited to complete the survey including all broadcast licensed operators. There was a response rate of 47% (41 completions) and included representatives of all sections of the industry from public broadcasting to community radio (see Appendix II for a full listing). The final sample for the survey comprised the following:

Table 1.1: Sample Size and Structure

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</table>

1.2 Digital Radio Platforms: Competing Options

1.2.1 Competing Platforms for Digital Radio
A key objective of the research was to survey respondents’ views of the competing options in the digital radio landscape. We asked participants to give their opinion of the relative importance of a wide range of competing platforms on which digital radio services might be carried.
Table 1.2: Technology platforms and the future of digital radio in Ireland?

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Essential</th>
<th>Quite important</th>
<th>Not important</th>
<th>N/A</th>
<th>Rating Average</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAB</td>
<td>26.3% (10)</td>
<td>42.1% (16)</td>
<td>31.6% (12)</td>
<td>0.0% (0)</td>
<td>2.05</td>
<td>38</td>
</tr>
<tr>
<td>DAB+</td>
<td>45.9% (17)</td>
<td>40.5% (15)</td>
<td>10.8% (4)</td>
<td>2.7% (1)</td>
<td>1.70</td>
<td>37</td>
</tr>
<tr>
<td>DMB</td>
<td>11.1% (4)</td>
<td>47.2% (17)</td>
<td>33.3% (12)</td>
<td>8.3% (3)</td>
<td>2.39</td>
<td>36</td>
</tr>
<tr>
<td>DRM</td>
<td>2.8% (1)</td>
<td>30.6% (11)</td>
<td>52.8% (19)</td>
<td>13.9% (5)</td>
<td>2.78</td>
<td>36</td>
</tr>
<tr>
<td>Satellite Radio</td>
<td>11.4% (4)</td>
<td>34.3% (12)</td>
<td>42.9% (15)</td>
<td>11.4% (4)</td>
<td>2.54</td>
<td>35</td>
</tr>
<tr>
<td>HD Radio (IBOC)</td>
<td>5.7% (2)</td>
<td>25.7% (9)</td>
<td>60.0% (21)</td>
<td>8.6% (3)</td>
<td>2.71</td>
<td>35</td>
</tr>
<tr>
<td>DVB-H</td>
<td>8.8% (3)</td>
<td>35.3% (12)</td>
<td>41.2% (14)</td>
<td>14.7% (5)</td>
<td>2.62</td>
<td>34</td>
</tr>
<tr>
<td>DTT (TV)</td>
<td>31.4% (11)</td>
<td>51.4% (18)</td>
<td>14.3% (5)</td>
<td>2.9% (1)</td>
<td>1.89</td>
<td>35</td>
</tr>
<tr>
<td>Live Internet Streaming</td>
<td>76.9% (30)</td>
<td>20.5% (8)</td>
<td>2.6% (1)</td>
<td>0.0% (0)</td>
<td>1.26</td>
<td>39</td>
</tr>
<tr>
<td>Podcasting via RSS Feeds</td>
<td>48.7% (19)</td>
<td>46.2% (18)</td>
<td>5.1% (2)</td>
<td>0.0% (0)</td>
<td>1.56</td>
<td>39</td>
</tr>
<tr>
<td>Programme Downloads from website</td>
<td>64.1% (25)</td>
<td>30.8% (12)</td>
<td>2.6% (1)</td>
<td>2.6% (1)</td>
<td>1.44</td>
<td>39</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

answered question 40
skipped question 1

Of the broadcast technologies listed, the DAB family of technologies is recognized as important to the future of digital radio in Ireland and that DAB+ is more important than DAB. Digital Multimedia Broadcasting (DMB) is also viewed as quite important. Of particular note, however, is the overwhelming acknowledgement of the significance of the internet and online delivery as an essential component of digital radio.

This pattern of response is consistent across each of the sectors - public, commercial and community – with DAB+ being signaled as the most important broadcast technology, with additional interest in DMB, and Live Internet Streaming and Programme Downloads from the station’s website regarded as an essential component of the digital radio mix.

- RTÉ views a combination of DAB/DAB+ with internet delivery as essential to the future of digital radio in Ireland, with DMB and DTT being ‘quite important’.
- Among commercial operators, 75% regard live streaming as essential to the future of digital radio, 58% say programme downloads are essential, and 43% say DAB+ is, with a further 43% regarding DAB as ‘quite important’. A similar proportion say that the original version of DAB is ‘not important’ to the future of digital radio.
- For the community sector, 73% say live streaming on the internet and 64% say programme downloads are essential to the future of digital radio. 40% see DAB+ as essential, and most other digital broadcast technologies as being ‘quite important’.
1.2.2 Which is the most important and why?

A range of responses were offered to the open question ‘which is the most important and why?’ reflecting a more general uncertainty regarding the future of some of these technologies. The DAB family of technologies (DAB, DAB+, DMB) was cited for reasons of availability of receivers, quality and increased capacity:

DAB/DAB+ as the primary platform of the future - free to air, universally available, mobile and digital.
[RTE]

DAB+ - it is the future of Audio Broadcasting
[South East Radio]

DAB and DAB + in the immediate future, as there are a lot of receivers already available in UK owned retail stores such as Argos, Homebase Dixons/currys etc.
[Total Broadcasting Consultants Ltd.]

DAB is very important for the amount of choice and bespoke programming it can offer listeners. DAB + could be even better if it wasn’t for the compatibility issues with existing receivers and the broadcast codec etc. The other long-term benefit of DAB is the cost savings in transmission for the industry and an assumed saving in environmental impact of analogue transmission.
[Spin 103.8 Dublin]

DAB only because it appears to be the format chosen but I have concerns that there is already a better system already available DAB+ This is not back compatible so the obvious concern is that we are going ahead with old technology around since 1985.
[Tipp FM]

DAB+. DAB is now outdated and, even though used in the UK, must not be considered, irrespective of what the UK has. DAB+, while not back compatible with DAB, is MUCH more efficient. DAB+ can also provide high quality audio with as low a bit rate as 64kbit/s. Reception quality will also be more robust on DAB+ than on DAB due to the addition of better error correction coding
[Clare FM]

DAB+. A new broadcast platform that "just works" is needed. Podcasting, Streaming etc can lack user friendliness. Something that is as simple as FM from an end user point-of-view (an 'on' button and a volume control set-up) is vital.
[Star Broadcasting Ltd / Country Mix 106.8]

With regards to the technologies involved we believe that key to the advancement of digital radio broadcasting in Ireland ..will be the future proofing of the industry through the implementation of one or more advanced terrestrial digital platforms such as DAB+, DMB / DRM and DVB-H rather than the retrofitting of the already outmoded and outdated DAB solution suggested.
[Communicorp Group Limited]
A number of responses, particularly from the community and special interest sector, regarded the internet (live internet streaming, programme downloads, podcasting) as more important than others as a readily available and accessible technology with proven demand and the ability to expand capacity with relatively little expense:

*Perhaps live internet streaming. Currently DAB is only available in major cities in Ireland. Obviously this is going to change. However, I’m unsure whether all future generations will readily buy a DAB radio unit when they can listen online so easily.*

[Raidió Corca Baiscinn]

*Live internet streaming is vital to us - we are a student station and new technology is second nature to students. RSS goes hand in hand with this.*

[Flirt FM 101.3/College Campus Radio]

*Live Internet Streaming. It is already a part of every day life in Ireland. DAB has still not caught on.*

[Beat 102-103]

*I think that the programme downloads are the most important as they allow the listener to add flexibility to their programming.*

[IRFU]

1.2.3 **Features of DAB Family of Technologies**

With reference to the various features, attributes and assumed benefits of DAB technology, respondents were asked to ranked in order of importance (1= very important; 2= important; 3= not important; 4= irrelevant) the following items:

**Fig 1.2: Features of DAB**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Importance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfect reception</td>
<td>3.2</td>
</tr>
<tr>
<td>Lower transmission costs for broadcasters</td>
<td>3.1</td>
</tr>
<tr>
<td>Excellent audio quality</td>
<td>3.0</td>
</tr>
<tr>
<td>Easy programme selection</td>
<td>2.8</td>
</tr>
<tr>
<td>Wide choice of receivers</td>
<td>2.7</td>
</tr>
<tr>
<td>Multiplatform receivers</td>
<td>2.6</td>
</tr>
<tr>
<td>DAB as a purpose-designed system for terrestrial</td>
<td>2.5</td>
</tr>
<tr>
<td>Added programme associated data</td>
<td>2.4</td>
</tr>
<tr>
<td>New information services</td>
<td>2.3</td>
</tr>
<tr>
<td>Targeted or rich music or data services</td>
<td>2.2</td>
</tr>
</tbody>
</table>

19
70% ranked Perfect Reception as very important; 68% viewed Lower Transmission Costs for Broadcasters as very important; and 63% say Excellent Audio Quality as the most important. A wide choice of receivers and easy programme selection were reported to be very important (60% each). Added programme-associated data, new information services, and multiplatform receivers were thought to be important by over half of all respondents.

1.2.4 Multimedia Capability

Following on the announcement in September 2008, by WorldDMB and the European Broadcasting Union of a set of standard receiver profiles for the European, emphasizing multimedia capability of the DAB family of technologies, respondents were asked how important multimedia was important to the future of radio?

Over 77% agreed or strongly agreed that multimedia was an important element of radio’s future with only 2 respondents disagreeing.

Fig.1.3: How important is multimedia to future of radio?

Elaborating on this, the following are some of the comments offered:

Radio will remain primarily an audio medium, particularly as it allows people to do other things while listening. However, radio stations need to deepen and widen their offerings to have a credible and popular place on platforms such as the web.

[RTÉ]

If it is to compete with the plethora of digital media consumer platforms currently available or coming online in the next decade digital radio cannot only be about digital audio as it goes forward. Stations will need to have extended data/multimedia functionality to compete with
other digital offerings such as Digital Satellite, Cable and Terrestrial Television, not to mention IP-based technologies such as the web and wireless telecoms.

These extended services, interactivity and functionality must be combined into a market ready consumer product which off-the-shelf receivers can present via a screen that can utilise rich meta-data, allows synchronisation between this data and the audio broadcast and can do so with the high quality audio that Irish listeners are used to from BCI-regulated FM transmissions.
[Communicorp Group Limited]

Increasingly broadcasters are linking audio streams to deeper content experiences online as hand held, in car and desktop technology allows, broadcasters will increasingly want to deliver rich multimedia content simultaneous to their broadcasts.
[SPIN 1038 Dublin]

Radio needs to be as colourful and usable as an iPod, mobile phone or television EPGs. If we don’t - we die. Simple.
[Digital Radio Ltd]

Consumers are becoming used to accessing additional visual content through the internet. This expectation will remain through the development of future digital broadcast platforms. Digital radio stations should use whatever multimedia options are available in order to compete with the increased choice of services that the consumer is being presented with. Radio will run the risk of being left behind, if it cannot evolve on multimedia platforms.
[Dublin Rock Radio Limited - Phantom 105.2]

Especially with youth stations, it is not enough to just provide the sound, there needs to be a strong online presence, and interactivity.
[Flirt FM 101.3/College Campus Radio]

Music on demand through portable Mp3 players is a huge threat to traditional radio. The new features on digital platforms, such as text, images, tagging, etc, provide a unique selling point to radio in the battle against the iPod.
[Midlands 103]

Only a couple of dissenting opinions were offered:

Radio is a fantastic medium in and of itself. I see multimedia developments in radio as a distraction to the core purpose of the medium.
[Raidió na Life 106.4FM]

Radio continues to be primarily an at home / in car experience. Better multimedia sources are available in the home... and in car it is a distraction and likely to be curtailed.
[Today FM]
1.3 DAB vs. DAB+

The endorsement of DAB+, rather than the original DAB platform, as a better option for digital radio in Ireland was re-iterated when respondents were asked if they agreed that DAB was the right choice for terrestrial digital broadcasting in Ireland at this time? or alternatively if DAB+ would be a better choice.

**Fig 1.4: Is DAB the right choice?**

**Fig 1.5: Is DAB+ a better option?**
45% of respondents replied that they did not know if DAB was the correct choice for digital radio in Ireland at this time while nearly 30% believed it was not the right choice. Among individual sectors:

- RTÉ strongly believes that DAB is the correct choice for digital radio in Ireland at this time and disagreed that DAB+ would be a better choice.

- Among commercial radio operators, 70% said that DAB+ would be a better choice for digital radio in Ireland. 40% disagreed that DAB was the right choice at this time while 35% said they did not know.

- In the community and special interest radio sector, 70% said they did not know if DAB was the right choice; 50% felt that DAB+ would be a better choice though a third still said they did not know if this was the right option.

Supporting the current adoption of DAB as a digital radio platform in Ireland, the following are some of the comments offered:

*No other digital platform can provide the advantages of FM, mobile, universal, free to air, domestic etc as well as the advantages of a digital platform.*

[RTÉ]

*Low cost and general availability of receivers originally designed for the UK market. Many of the receivers now available in Ireland through branches of UK retailers already have DAB technology supplied as standard. RTÉ are already developing a DAB platform and introduction of another platform at this stage will cause confusion for the consumer.*

[Dublin Rock Radio Limited - Phantom 105.2]

*It enhances the availability of radio choice to the listeners and allows stations such as ours be easily available to listeners outside our broadcasting area*  

[West Limerick 102FM]

*As a long-term replacement for national FM networks, DAB will bring a wider choice of listening to the whole country with existing and new national services. It will also clear up to two-thirds of the existing FM band for use by local/regional/community broadcasters. The data side of DAB will bring a much improved radio experience to listeners.*  

[Digital Radio Ltd]

Against this, a large number criticized DAB as a format and its suitability as a digital radio platform for Ireland:

*Fidelity at common bit rates is worse than FM, error concealment is poor making mobile reception patchy.*  

[Total Broadcast Consultants Ltd]

*We believe that in-car reception is essential and the problem with digital services is that do not fail gracefully. In fringe areas digital systems either work or they don’t.*  

[UTV Media plc]

*The power of the DAB transmitter. In the UK they adopted a network of low-power mux’s meaning you need several transmitters to cover the London area. That is madness. We need to*
make DAB transmitters as powerful as existing FM.

[Digital Radio Ltd]

The technology could be superseded within 2 years.

[4FM]

Outmoded & outdated audio codec
Not future proofed with DAB+ & other later digital formats
Spectrum inefficient
Poor reception
Poor signal correction
Expensive transmission costs
Rapidly losing International industry support

[Communicorp Group Limited]

More generally, some respondents commented negatively on the digital options currently available or their supposed benefits for the sector, particularly evident in the case of commercial and community radio:

I do not currently see, nor can I see in the medium term a demand for it.

[KCLR 96fm]

Not important at this time. It is of no major benefit to the contractor or listener.

[Radio Kerry]

I have yet to be convinced that digital radio is going to be good for either my listeners or my business. My experience of DAB in Northern Ireland is not good and it represents a significant cost burden with little or no payback.

[oceanfm]

The set-up and maintenance costs would almost certainly mean complete exclusion of the community/non-profit/special interest sector. This in turn would lead to a narrowing of the range of types of radio stations and types of radio programming accessible to the public, albeit while at the same time receiving multiple times more radio stations and programmes (all commercial or State).

[Raidió na Life 106.4FM]

It is too expensive for community broadcasters and when it comes to assignment of channels in the DAB system, community radios have been left at the very end of the queue.

[Near FM]

Because of the costs involved, it would seem that DAB is a medium very much geared at the commercial broadcasting sector, with little or no thought given to the future implications for community and special interest stations who would not necessarily have the financial capability to join DAB.

[Raidió na Life 106.4FM]

In addition, a significant number commented on the need to support DAB+ rather than DAB:

DAB is rapidly becoming outdated and outmoded as it was designed in the 1980s, and receivers have been available in many countries for several years...Since tests finally began
worldwide for the much improved HE-AAC codec for DAB+ it has been found that virtually none of the current DAB receivers support the new codec thus making them obsolete once DAB+ broadcasts begin. Would it not be better to launch DAB in Ireland with the improved standard and consumers purchasing the relevant receivers to pick it up?

[Communicorp Group Limited]

I would like to see a DAB+ initiative….not DAB.

[Today FM]

DAB+ is the way forward as the UK are spearheading the development and we naturally have to follow.

[South East Radio]

Elaborating on why DAB+ would be a better option at this time (33% agreed, 30% strongly agreed), the following arguments were put forward:

Availability of sets, All Ireland reception. However, we should establish a migration strategy with retailers and manufacturers that will allow us to make the distinction moot for the consumer, ie. that all radios from a certain point should be DAB+ enabled.

[RTÉ]

The radio industry in the UK is expecting DAB+ stations to launch between 2010 and 2013, and podcast services using the DAB+ format will be launched in the UK in 2009. There is also a great deal of interest in using DAB+ in Asian countries where DAB was not launched aggressively to date. This situation would mirror Ireland’s and provides us with the opportunity to launch with a future proofed and advanced digital radio platform in parallel to the TV ASO/DSO process.

[Communicorp Group Limited]

It is more efficient. It uses a better encoding method which results in higher quality audio at lower bitrates. It would be insane to roll out standard DAB at this stage. DAB+ leaves it in the dark.

[Beat 102-103]

It is the technology that will be most widely adopted in Europe. Car manufacturers will most likely include it in next generation vehicles. The UK has signaled it will move to DAB+ shortly.

[Today FM]

DAB+ will allow for more stations but crucially it will allow headroom to provide programme related data services.

[Digital Radio Ltd]

1.4 Future of digital radio in Ireland

In this section, we sought opinions about possible scenarios for the future of radio in Ireland using 2020 as a target date. Using a scale of 1 (strongly disagree) to 5 (strongly agree), respondents were asked to give their opinion on a range of factors including the enduring popularity of FM, the competitive threat from the internet and likelihood of DAB as a dominant digital platform.

The averaged responses signaling greatest agreement were as follows:
The overall impression to be formed is a strong belief in the persistence into the future of a familiar landscape for radio with FM remaining as the dominant platform. The highest level of agreement was for the statement *FM will still be popular in 2020 though there will be some form of digital audio broadcasting in Ireland as well* (46% strongly agreed, 26% agreed). Similarly, over 70% agreed with the statement: *Analogue switch-over is not on the horizon for radio and FM will persist well into the future*. Conversely, a large number (65%) disagreed with the view that radio would lose out to other media or platforms including online.

That said, there is a recognition of the growing diversity and possible fragmentation of the environment for radio in the future:

- Over 70% agreed (30% strongly agreed) that *Users will become accustomed to digital diversity, multi-standard devices, and hybrid functionality.*
- 68% agreed (20% strongly agreed) that *Analogue audiences will continue to decline especially among younger listeners*
- 68% agreed (23% strongly agreed) that *DAB, online and other technologies will be implemented in complementary ways.*
There is much less certainty regarding the future of DAB in 2020, with:

- only 36% agreeing but 40% neutral on the question of whether \textit{DAB will be the dominant platform in 2020}
- 40% agreeing with the statement \textit{DAB, will succeed mainly because of the strong support by the public service broadcaster}

1.4.1 Analogue Switch-off

While noting that the introduction of DAB is not linked to an analogue switch off (ASO), we asked participants how critical they felt ASO might be for a successful launch and development of DAB? Only 12% of respondents thought it was essential, 41% saying it was `quite important’ but as many as 45% saying it was either not important or irrelevant.

\textbf{Fig 1.7: Analogue Switch-Off}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{analogue_switch_off}
\caption{How critical is ASO for the successful launch and development of DAB?}
\end{figure}

For those who signalled a switch-off date as an important element of digital strategy, the following indicative timescales were mentioned:

\textit{Milestones should be set rather than timescales, e.g. percentage of take up etc. An overall ambition should be to review the future of FM in roughly 2015.}
[RTÉ]

\textit{The roll-out of Digital Radio, though preferably not DAB, should be in parallel to the roll-out of the ASO / DSO process across the country. This would allow for maximum efficiency with regards to the project streams of testing / trialing, public awareness, transmission network roll-out, spectrum management and commercial launch of both the digital radio product and the receivers required.}
[Communicorp Group Limited]

\textit{A very long timescale.}
[KCLR 96fm]
Giving reasons as to why it was not particularly important, the following comments were offered:

*I don’t think ASO is either practical or desirable for at least 20 years. It would give a ready made audience for illegal broadcasters due to the millions of legacy analogue radios in existence. ASO could actually harm the advancement of more choice and digital radio viability*

[Total Broadcast Consultants Ltd]

*ASO is a television matter. It does not apply to radio and there are no plans for it to do so in the next 10 to 15 years. In the 80s we had MW and FM. We see the future as FM and DAB.*

[Digital Radio Ltd]

*I will not support the ASO switch-over.*

[NearFM]

*DAB and analogue CAN co-exist, although the cost saving benefits are eliminated. Also the UK has seen healthy uptake of DAB sets and listening increase with ASO not yet 100% confirmed or promoted.*

[SPIN 1038 Dublin]

1.5 The economic, regulatory and market landscape for digital radio

1.5.1 Does Ireland need new radio services?

On the assumption that the introduction of digital radio in Ireland would offer more services to the listening public, we asked respondents whether they agreed that Ireland in fact needed more radio services. Overall, there were mixed responses to this question with a sharp difference between the responses of commercial licensed operators and the community sector. While nearly 45% of radio operators do not believe that Ireland needs more radio services, more radio is supported by just under 37%. RTÉ, community and not for profit services are most likely to support more radio services while those most opposed are the commercial national, quasi national and local radio operators. Nearly 93% of all local radio operators who took part in the survey were against the development of more radio services. Where nearly 70% of community radio participants agreed overall that Ireland needs new services (38% strongly agreed), the reverse was the case for commercial sector with over 70% disagreeing that new services were needed.
Some of the reasons offered as to why Ireland did not need any further expansion of services/service providers included:

*If we don’t allow indigenous providers to build market share, it is likely that services will be provided from sources abroad, as the various digital delivery methods become more viable. Especially internet and 3G, and possible satellite / DTT.*
[Total Broadcast Consultants Ltd]

*Full Commercial Services: Already more services per head of population than UK.*
[Star Broadcasting Ltd / Country Mix 106.8]

*The financial stability of some stations are at risk currently and I believe that we as an industry should pull together and keep what is on air, on air. A lot of employment is at risk if the industry is flooded with further choice.*
[Galway Bay FM]

*The latest set of commercial licences have had real difficulties funding their businesses. We are likely to be close to the limit of sustainable radio services.*
[Today FM]

*Consumer research needs to be undertaken. Do listeners want more services? If so, what type of additional services do they want?*
[Dublin Rock Radio Limited - Phantom 105.2]
we don’t believe that, if the constraints that are placed on current FM license holders continue into digital radio licensing, the Irish market can support any more commercial services.

[Communicorp Group Limited]

In support of offering new services for listeners, the following are some of the arguments put forward by radio operators:

*The costs and obligations involved in running an FM service can tend to restrict variety (as opposed to choice). Thus we have few niche or special interest services and few speech based services. If terrestrial radio does not expand to offer wider variety then internet radio will grow in attraction as such services are available on the web.*

[RTÉ]

*There doesn’t seem to be a huge amount of variety with the services available, yet the market seems somewhat clogged.*

[Raidió Corca Baiscinn]

*Half our population lives in an area of 1,500 people or less. Typically these people have one local station, one regional station and six national stations to choose from. Eight stations total .. most doing the same thing.*

[Digital Radio Ltd]

*diversity in language and culture and listening preferences*

[Dundalk FM]

1.5.2 Barriers to further roll-out of DAB

With reference to the current regulatory and market environment for digital radio, respondents were asked to identify what they felt were the barriers to a further roll-out of DAB in Ireland. A summary is provided in Table 1.3:

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTE</td>
<td>Lack of an industry-wide plan; current economic climate</td>
</tr>
<tr>
<td>National/Quasi national radio</td>
<td>Investment in the current economic climate</td>
</tr>
<tr>
<td>Regional radio</td>
<td>Lack of public demand, FM seems to be a good solution at this time; high transmission costs, economic challenge facing independent radio licence holders</td>
</tr>
<tr>
<td>Local radio</td>
<td>Cost, demand; lack of a defined policy; lack of unity between independent broadcasters</td>
</tr>
<tr>
<td>Community radio</td>
<td>Cost for broadcasters, multiplex operators and consumers</td>
</tr>
<tr>
<td>Other</td>
<td>Lack of Band III frequency space until TV analogue closedown in 2012 Too much politics going on around this issue</td>
</tr>
</tbody>
</table>
Illustrative responses indicate a variety of economic and practical constraints such as:

Costs for broadcasters who only have a certain time-line in relation to contracts with the BCI. Hard to take a 20yr view with 5 yrs remaining on a broadcast contract.
[Star Broadcasting Ltd / Country Mix 106.8]

The main barriers are regulatory. The lack of a defined policy has hindered the cohesive development of a DAB platform, to the point where RTÉ is now developing its own network - with no independent sector participation. Some of the RTÉ services currently being carried have the potential to compete with independent licenced services. A co-ordinated approach needs to be implemented urgently with consideration for the participation of all licenced broadcasters. Other factors for the independent sector such as rollover licence renewal for digital platform development also have to be considered. If a DAB platform development is to result in more efficient spectrum management, then some incentive must be offered to the independent sector in order to make an effective transition to a DAB platform.
[Dublin Rock Radio Limited - Phantom 105.2]

Availability of DAB+ receivers in cars, work, home etc. There would have to be a MAJOR roll out plan. FM seems to do the job perfectly fine at the moment! Is the reason to roll out digital to give a more diverse range of services? Or to simply move with the times?
[Beat 102-103]

The continuing popularity and commercial value of AM & FM services;
The slow growth in the sale of multiplatform or DAB specific receivers;
The slow growth in the availability of DAB receivers in vehicles;
The continuing economic challenge facing National, Regional and Local independent radio license holders;
The lack of a clear timeline to digital service availability from RTÉ Television and Radio with or without the impending ASO deadline;
The lack of a clear route to digital service provision for Regional and Local stations dependent on independent transmission networks;
The inherently and exorbitantly high transmission costs associated with digital networks including all forms of DAB.
[Communicorp Group Limited]

1.5.3 Incentives for Digital Migration
At the time of the survey, the Broadcasting Bill 2008 proposed a four-year licence extension (subsequently 6 years) for broadcasters who decided to migrate to a terrestrial digital platform such as DAB. Respondents were asked if this was a sufficient incentive. Overall responses were mixed but looking specifically at the responses of commercial licensed radio operators, a negative response was received with 62% disagreeing (24% strongly disagreeing) that this was sufficient incentive.

Articulating further on why this was not sufficiently attractive, respondents commented that it was ‘not enough time to recoup the investment required’; ‘It’s a huge investment for a 4 year extension’; and that ‘If there is the risk of losing a licence in the short term it is difficult to justify the necessary investment to provide new services’. Longer periods for a licence extension - 7 to 10 yrs were indicated as being more appropriate. Further comments included:
There will be a period of awareness building for the introduction of a new digital platform and it may be some time before it is commercially viable - commercial operators need to obtain an incentive in order to ensure that the migration does not threaten their sustainability in the short term.

[Dublin Rock Radio Limited - Phantom 105.2]

Given the transmission, reception, marketing and audience transition costs involved a 4 year extension is not incentive enough to move the industry as a whole quickly onto any one platform.

The benefit of such an incentive is also relative to the remaining balance of the original license; a license recently issued or reissued would have 14 years. An acceptable period in which digital radio should and will come into its own. However a station nearing the end of it's license period would have less than half that time to make a successful play for a share of digital audience.

[Communicorp Group Limited]

**Fig 1.9: Incentive for Digital Migration (Commercial Sector)**

The majority of commercial operators believe radio businesses need to be given incentives to make the transition to digital radio and beyond the proposed six year licence extension in The Broadcasting Act 2009. Asked what other incentives could be given the commercial sector to enter the DAB market, suggestions included technology and content grants to assist the transition and incentives for new and innovative content or use of the digital spectrum.
Table 1.4: What other incentives could be the commercial sector given to enter the DAB market?

<table>
<thead>
<tr>
<th>RTE</th>
<th>Reduced burden of parallel transmission and incentivized provision of new content</th>
</tr>
</thead>
<tbody>
<tr>
<td>National/Quasi national radio</td>
<td>Share of RTÉ licence fee</td>
</tr>
<tr>
<td>Regional radio</td>
<td>Relaxed BCI programming regulations for stations who migrate</td>
</tr>
<tr>
<td>Local radio</td>
<td>Financial contribution for smaller stations; Grants; Increased certainty of licence renewal</td>
</tr>
<tr>
<td>Community radio</td>
<td>Better information campaign for the community sector; Free audience monitoring; Grant aid.</td>
</tr>
</tbody>
</table>
| Broadcasting groups | Support for purchase of equipment  
Automatic issue of full-term, full-service digital radio licenses to existing licence holders.  
Automatic prolongation of existing FM licenses in parallel with these digital service licenses.  
Supplementary public funding for licence holders to transition studio & transmission technology, staff and audiences to the new technology;  
Additional digital licenses for new and niche services |

1.5.4 The Digital Radio Trial

Of the commercial licensed radio operators survey, 39% per cent or 9 of the 23 respondents had participated in the digital radio trial in Ireland (2007-8) which provided services on the DAB (Digital Audio Broadcasting or Eureka-147) platform on both the RTÉ and a national commercial multiplex. The trial ended in November 2008 when RTÉ launched its own DAB services and commercial operators decided not to continue offering DAB services.
A variety of experiences and views on the success of the DAB trial were recorded in this question. Positive responses included:

*We learned a great deal about the provision of content, the technology and the public proposition.*

[RTÉ]

*Very positive feedback from listeners for our very specific niche stations. Surprisingly positive feedback about sound quality and ease of use which we weren’t expecting. On the downside, we purely got to provide a service but did not have the opportunity to provide data services to go with our programming.*

[Digital Radio Ltd]

*Well received by the public and overall a useful experiment.*

[Radio Kerry]

*We received a reasonable listener reaction to what was a fairly low public profile trial. We operated a real time relay of our FM output, but would have liked an opportunity to trial additional programming options such as repeats and highlights of music artist interviews. I believe that additional specific content is essential in developing a viable DAB platform - people will need a reason to tune off FM and additional programming content is a strong motivator.*

[Dublin Rock Radio Limited - Phantom 105.2]
The trial was too limited in scope to be of real use to the Group in formulating its digital radio strategy. The use of the outmoded form of DAB as the platform for the trial also limited the services that could be offered for trial. This in turn effected any demand for service & market survey results from the trial. [Communicorp Group Ltd]

Without formal measurement only subjective assessment is possible. Throughout the trial we were not aware of any positive reaction from listeners. [UTV Media plc]

There was no quantitative / qualitative feed back on the trial. It was useful only to show the technology works. A 'trial' is not a substitute for strategy. [Today FM]

We would have participated had we been requested to do so. [Galway Bay FM]

1.5.5 Investment Plans for Digital Radio Services

Asked how likely they are to invest, or continue to invest, in a range of digital radio services in the next 5 years (Scale: 1=Very Likely to 4= Most Unlikely), it was clear that internet-related services were viewed as the most important priority.

Fig 1.11: Investment in Digital Radio Services
Within individual segments of the industry:

- RTÉ signaled its intention to continue to invest in a combination of digital broadcasting and internet delivery technologies.

- For commercial radio licensed operators, over 50% said they were unlikely to invest in DAB, though 40% said they are likely to invest in DAB+; nearly 70% will invest or continue to invest in live internet streaming and 60% in podcasting and new digital or online-only content.

- In the community radio sector, a large proportion signaled no interest in digital broadcast technologies but over 70% said they were likely to invest in live internet streaming.

For those who had indicated no interest in investing in digital radio, the following were some of the reasons given:

*I have some level of interest, but it is insignificant to me in the short to medium term, both on a personal level and on an organisational level, as there are far more pressing issues in need of my immediate attention*

[Raidió na Life 106.4FM]

*I am very concerned about the cost and I don’t see how it is going to benefit our service which is very local and run on thin resources.*

[Ocean FM]

*I am not convinced that there is sufficient demand from the public to warrant the investment*

[4FM]

### 1.6 Internet Radio

Given the significant interest and current activity in internet radio services, a separate section of the survey was devoted to the topic of internet radio. The vast majority of respondents reported involvement in some form of internet radio with many offering live streaming radio services for periods of 10 years or more, and a number further developing a presence on social networking sites.

When asked which internet radio services companies currently offered, and asked how important each was to their current operation, internet content directly related to live radio programming was the most significant. On a scale of 1=most important to 4=least important, over 90% ranked live internet streaming as important, and 85% ranked programme-related website content as important. Approximately 60% view podcasting and programme downloads as important while just a third viewed online only content as important.
The most frequently cited reasons for developing web radio services were those of extending the reach of radio beyond the FM franchise area – offering access nationally to audiences with an interest in the local community, as well as reaching out to a global diaspora being the most important trends. In addition, an internet presence is now recognized as part of a radio station’s brand and an essential component of its marketing strategy. Most report being satisfied with the success of the internet radio dimension to the company’s FM provision, in particular the provision of local news and general promotion of programmes, live sports commentaries, on-demand catch up and podcasts, and special event sites. Successful podcasting was recognized to involve greater levels of technical support and some stations reported difficulties in perfecting their approach. Most reported surprisingly high levels of interest from overseas and radio stations have used the opportunity to log and record overseas hits and downloads and compiled a database of listeners outside the franchise area.

While the majority (45%) of respondents do not see internet radio as a serious competitor for traditional radio, more than a third believe it can compete.
Fig 1.13: Internet Radio as a Competitive Threat

This view is stronger among community radio operators, over 40% of whom believe the internet offers a serious competitive threat. Among commercial licensed operators, over 50% disagree that the internet offers a challenge to traditional radio, whether analogue or digital. Almost all of the radio operators offer internet radio service and the majority of respondents see online radio services as complementary to traditional FM radio rather than either a competition or replacement. Those who see it as serious competition regard it as having the potential to shift audiences away from traditional linear radio without the regulation and controls on terrestrial radio.
### Table 1.5: Internet Radio

<table>
<thead>
<tr>
<th>Internet radio is a serious competitor to terrestrial radio</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>YES</strong></td>
</tr>
<tr>
<td>RTE</td>
</tr>
<tr>
<td>National/Quasi national radio</td>
</tr>
<tr>
<td>Local radio</td>
</tr>
<tr>
<td>Community radio</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

In general mainstream broadcasters see internet radio as an ‘add-on’ to traditional radio rather than a competitor. It is defined as niche platform rather a broadcasting one and allows the broadcaster an opportunity to target specific audiences, or use it as a ‘brand extension’ for terrestrial radio.

*Present indications are that internet radio has a strong novelty factor arising from the wide range of content available. This accounts for the first wave of adoption of recent years. It is not clear yet whether actual radio station listening is changing (e.g. there does not appear to be any significant effect on JNLR figures) or whether the majority of listeners will prefer the mobility and simplicity of terrestrial radio.*

[RTÉ]

*I think internet radio is a competitor to terrestrial radio, but not a massive threat. I think most people still listen to their favourite programmes on terrestrial radio and will continue to do so, albeit while mixing their radio listening with the more varied options available to them through internet radio stations. I think that terrestrial radio will remain the cornerstone however.*

[Raidió na Life 106.4FM]

One submission suggested that the internet could signal a more profound change in radio habits in a direction that is as yet undetermined:
The variety of listening options available on the internet is staggering. Until recently however access was limited to those of a reasonable technical proficiency and had to be undertaken at a computer terminal. The development of Wi-Fi and associated receivers has now put the internet radio firmly on the kitchen table and in direct competition with the standard FM radio. Irish listeners can now access unlimited music genre stations playing whatever they want to listen to - without 20% speech content rules. The poor broadband service penetration in this country has hindered the take-up of Wi-Fi receivers, but as technology and access develops, internet radio will become more of a threat to Irish terrestrial broadcasts.

[Dublin Rock Radio Limited - Phantom 105.2]

While most of the radio operators surveyed measure their online audiences through their websites, none has measured any potential shift in radio listening from linear to non linear; through listen again, downloads or podcast facilities.

Fig 1.15: Measurement of Online Audiences

<table>
<thead>
<tr>
<th>Are you measuring your online/ podcast audiences?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
</tbody>
</table>

Fig 1.16: Shift to Non-Linear Listening

<table>
<thead>
<tr>
<th>Have you measured any shift in radio listening patterns - for example from linear to non linear listening?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
</tbody>
</table>

When asked about how digital or online radio services are being funded most say the activities are being funded through marketing budgets. RTE’s digital and online radio services are being funded from the combined of TV licence fee and broadcasting commercial revenue but in most other sectors
marketing and marketing spend is defined as the source of funding. 40% say online advertisement is an important source of funding while over 34% mention sponsorship.

**Table 1.6: Funding for Digital Activities**

<table>
<thead>
<tr>
<th>How are you funding your current digital activities?</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTE</td>
</tr>
</tbody>
</table>
| National/Quasi national radio | Marketing budget  
FM revenues  
Internal sources; part of marketing cost of existing stations |
| Regional radio | Marketing; digital expenses are part of the expenditure programme |
| Local radio | Advertising revenues; analogue revenues; digital activities funded as promotional expenses |
| Community radio | Mostly no funds available; exceptions – donations and yearly grants from funders |
| Other | Subsidy from other business activities  
Private investment |

Over half of respondents said that their online radio activities were not generating any revenue. A smaller number reported online advertisement and sponsorship as being of some importance. Copyright issues were identified as a significant barrier to further development of internet radio services, in particular podcasts, and many stations found this a major constraint in making their broadcast output available on a listen again basis and curtailed the development of a commercial revenue model.
2 Strategic Interviews

2.1 Introduction
Following the survey stage of the research, a number of strategic interviews were held to explore in
detail key questions relating to the implementation and roll out of digital terrestrial radio in Ireland. In
total, 12 interviews were conducted between April and May 2009 (see Table 7 below). These consisted
of a representative number from the survey group (RTÉ, UTV Media plc, Today FM, one local, one
community and one digital radio service supplier) as well as the three State bodies involved in policy
and decision-making - the BCI, ComReg and the Department of Communications. A further three
interviews were conducted with external experts on digital radio from the EBU and WorldDMB. Each
interview was conducted separately and lasted 1-2 hours. All interviews were recorded and
transcribed and a copy of the question path used is in the Appendix. Interviews were sought with a
further 2 representatives from the survey group but they decided the survey had been sufficient.\textsuperscript{21}

<table>
<thead>
<tr>
<th>Name</th>
<th>Position and Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phil Laven</td>
<td>Ex- Director, EBU Technical Department; DVB Chairman,</td>
</tr>
<tr>
<td>Robert McCourt</td>
<td>Director of Engineering, UTV Media PLC</td>
</tr>
<tr>
<td>Ronan McManamy</td>
<td>MD Irish Radio, UTV Media PLC</td>
</tr>
<tr>
<td>Kevin Griffiths</td>
<td>Station Manager, Claremorris Community Radio</td>
</tr>
<tr>
<td>Susan Fleming</td>
<td>Digital Media/DTT/BCI Officer</td>
</tr>
<tr>
<td>Kevin O’Brien</td>
<td>Principal Officer, Broadcasting; Department of Communications Energy and Natural Resources</td>
</tr>
<tr>
<td>Dusty Rhodes</td>
<td>Managing Director, Digital Audio Productions</td>
</tr>
<tr>
<td>Paul Byrne</td>
<td>CEO, Radio Kerry</td>
</tr>
<tr>
<td>JP Coakley</td>
<td>Head of Operations, Radio, RTE</td>
</tr>
<tr>
<td>Celene Craig</td>
<td>Director of Broadcasting and Deputy Chief Executive, BCI</td>
</tr>
<tr>
<td>Neil O’Brien</td>
<td>Director of Engineering, BCI</td>
</tr>
<tr>
<td>John Doherty</td>
<td>Chairperson, ComReg</td>
</tr>
<tr>
<td>Michael Mullane</td>
<td>Head of Radio News, Sport and New Media, EBU</td>
</tr>
<tr>
<td>Willie O’Reilly</td>
<td>CEO, Today FM; Chairperson, IBI (Independent Broadcasters of Ireland)</td>
</tr>
<tr>
<td>Quentin Howard</td>
<td>President of the Steering Board, WorldDMB</td>
</tr>
</tbody>
</table>

\textsuperscript{21} John Boyle, Group Marketing Director and Lucy Gaffney, Chairperson of Communicorp and Athony Dinan,
Group Managing Director of Thomas Crosbie Holdings
A number of key themes emerged from the interviews and are elaborated on in the following analysis and discussion:

1. *Policy*: A strong consensus emerged on the need for a coordinated policy on digital radio to be led by the State agencies and guided by a representative digital radio forum which reflected both stakeholders and interested parties in its membership.

2. *Technology*: Most interviewees favoured DAB+ as the optimum technological solution for Ireland’s future.

3. *Incentives and the need for Innovation*: There was broad agreement that incentives for the sector were needed as part of the transition but about half the interviewees made the point that the endgame needed to deliver a broadcast platform which was better than FM, or exceeded the current service, if it was to succeed with consumers and create a viable market. In this context, however, it was signaled by a number of interviews that such incentives to enter the digital radio market needed to be married with a requirement to innovate in order to ensure the success of digital radio in the long term.

4. *The Digital Radio Trial 2007-8*: Many respondents argued that lessons needed to be learned from the RTÉ-led digital radio trial of 2007-8 and that a more coordinated and consultative approach emphasizing extensive market research was required.

5. *Inclusiveness*: Interviews with the radio sector, particularly local and community radio, raised the issue that digital radio was perceived to be not inclusive of all potential stakeholders. There was a lack of information available on digital radio and consequently there was a need for an awareness-raising and educational campaign around digital. The view was expressed, particularly by the external experts interviewed, that digital radio policy needed to be inclusive, ensuring fair and equal access for all, if it is to succeed. This echoed one of the core concerns raised by community radio in both the survey and the interview stage that digital radio had the potential to create a two-tiered radio sector leaving community radio behind.

6. *Barriers to Digital*: In terms of impediments to progress, besides the lack of clear, coordinated policy the key issue was the question of the economic viability of a future digital radio market and the difficulty in promoting the case for digital radio in the midst of a severe recession that is already impacting on the Irish media sector.

7. *Views for the Future*: Finally, participants were asked to outline their vision of the future and which direction Ireland should now take in developing and implementing a digital radio strategy.

### 2.2 Coordinated policy, coordinating players

The concern over the perceived lack of policy, direction and leadership in digital radio was raised initially by radio operators in the survey stage and extensively detailed in the interview stage where participants referred to a policy gap or policy vacuum. Paul Byrne, CEO, Radio Kerry put it: ‘There’s has been no direction, no policies, there has been nothing and we’ve just drifted along here in this country for years’. He said Radio Kerry had participated in the RTÉ led trial (March 2007-November 2008) and had learnt a lot from it but did not have a clear direction on where the sector was going. ‘So I think
there needs to be some sort of policy going forward, or at least an indication that this is the platform that we're going to go with – even if it takes us 20 years to get there'. For Dusty Rhodes, the experience of the UK prior to the Digital Britain report should provide a lesson: 'There was never a plan. No one knew where we were going with this. Ok, we're simulcasting on it, but where are going in a long run, do we turn off FM or don't we want to do that. I mean when we have that uncertainty it's bad for regulator, it's bad for broadcasters, it's bad for listeners'

Wille O’Reilly CEO of Today FM argued that, following the legal framework established in the Broadcasting (Amendment) Act 2007, it is now essential to create a coordinating body, a stakeholder group which would constitute a Digital Radio Forum. He saw this group consisting of RTÉ, commercial radio representatives, the regulators BCI (BAI) and ComReg, the Department of Communications, the manufacturers and potentially the distributors of radio sets. ‘You can imagine this is a group of 10-12 people and I think what we need to do is put a certain amount of money in it, with the aim over 5-6 months, of commissioning a certain amount of research and perhaps doing a proper trial’.

The need for a coordinated policy was also raised by Robert McCourt, Director of Engineering, UTV Media and Ronan McManamy, MD Irish Radio, UTV Media, not just from the State down but across the radio sector. Ronan McManamy said: ‘there is a disconnect between RTÉ and the independent sector so I think it’s only when there is one umbrella body in place that we can start driving forward’. The creation of the BAI would facilitate that, he felt, while Robert McManamy added that digital radio is ‘absolutely down the bottom of the pile in terms of our priorities, particularly at the moment’. The recession, and its impact on radio advertising revenues, was raised across the radio sector as a primary barrier to digital progression in the short-term and a reason why little initiative would be coming from the commercial sector. ‘My focus to be honest is on content and running the operations’, Ronan said adding ‘if we’re looking at facing digital, we’ll have to deal with it, but it’s not something we’d be proactive on at the moment’.

In the view of the Department officials interviewed the situation is clear. Policy had been set in the 2007 Act for the potential roll-out and implementation of digital broadcasting, including digital radio. This Act obliges ComReg to allocate multiplexes to RTÉ and the BCI. Kevin O’Brien, Principal Officer, Broadcasting; Department of Communications, Energy and Natural Resources: ‘So we put in place a framework, ComReg have provided a licence to RTÉ, RTÉ have gone ahead with that....the BCI haven’t done so. To be straight, our expectation would have been that they would have done it by now’.

The BCI, in its turn, say the Act clearly prioritizes Digital Terrestrial Television and that they have sought to implement DTT first and then move to digital radio. Celene Craig, Director of Broadcasting and Deputy Chief Executive at the BCI said: ‘I think we’ll be looking for the new authority (the BAI) to decide in terms of our organisational priorities where DTSB (digital terrestrial sound broadcasting) fits’.

The 2007 Broadcasting (Amendment) Act does not specify technology or technological platforms and the question over which digital audio technology represents the best direction for Ireland currently rests with RTÉ, the BCI (or the BAI) and the spectrum regulator ComReg. While RTÉ has opted to implement a DAB platform John Doherty, Chairperson of ComReg put forward the question whether Ireland, drawing on the UK experience, should implement DAB+ rather than ‘looking at technology which has commercially failed, one might argue, in the UK market’. ComReg, he said, had been asked to licence DAB and that is what it was doing but ‘we wouldn’t be big fans of the compression
capabilities that were allowed in the UK’. In his view, a digital solution had to provide better sound quality than FM and optimum spectrum efficiency.

While ComReg’s preference may be for DAB+, John Doherty emphasized the importance of facilitating innovation ‘because we don’t think that regulators or Government are very good at picking winners. Our role is to enable as many approaches as one can and then allow, if you like, the market to determine which is successful’. He echoed the need for a coordinated approach, including the regulators, the sector and the Department but argued that it ultimately needed a champion. ‘That champion would have to have the support of the sector. The sector itself would be one of the driving forces behind it’.

Celene Craig described what the BCI see as the three layers of any future policy structure for digital radio. ‘There is the technology piece, the technology including spectrum, there is the economics piece, the ability... to sustain the digital radio industry and... what the impact may be on the existing quite successful radio industry ... and then there is the content piece...what’s the potential for content and the potential add-on for listeners’. Celene Craig and her colleague Neil O’Brien, Director of Engineering at the BCI outlined a window of opportunity with both the new Broadcasting Act 2009 and the commencement of radio licence renewals in the period 2011 – 2013.22 The new legislation offers incentives for the sector to move into digital radio by granting them six year extensions on their FM licences23 Celene Craig summed up the challenge in shaping a policy: ‘It’s really a question of us coming up with the model that balances all those.....that gives you something that’s vaguely economically viable, that makes a good, efficient use of spectrum and that also creates some value for listeners in terms of either additional material or a better listening experience’.

Given the consensus on the need for coordination and for an agreed policy framework, Paul Byrne of Radio Kerry articulated the next step required for involved consultation and recommended that the regulator should issue a White Paper and open a process of consultation: ‘And that’s crucial. And I think that would be step one...We may have a view on that policy when it comes out, but certainly the starting point would be ‘Here is what we propose and now let us have your views and thoughts on that, and we’ll progress it from there’. With that, he offered an optimistic outlook for the prospects of developing digital radio: ‘I think that if everyone got behind it and pushed it, and if everyone was singing off the same hymn sheet in terms of the platform, than I think that is something that could very quickly be established in this country, because I do think that we’re quite open to things like that’.

2.3 Technology: DAB versus DAB+?

In a sense, there is little technological debate amongst the interviewees about the choice between DAB and DAB+. RTÉ’s view is that it chose DAB because it was a proven technology with widely-available receivers. It also wanted to be in harmony with the technological platform available in Northern Ireland and recognises that in the long run DAB+ will be the preferred platform. ‘We will all

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23 Houses of the Oireachtas. ‘Amendment of sound broadcasting contracts for listed simulcast services.’ Broadcasting Bill 2008 [Seanad] As Passed by Dáil Éireann, Houses of the Oireachtas, June 2009, p.139: The increase in period during which an existing sound broadcasting contract continues in force under subsection (7)(a) shall be not more than 6 years.
end up on DAB+; I mean everybody knows this, right?’ JP Coakley, Head of Operations, Radio, RTÉ said. His argument for opting for DAB was that in the meantime Ireland needed to have the same platform as the UK. ‘For the purposes of innovation we should link ourselves to our biggest and nearest neighbour for the purposes of technological movement. What we also have to do is work with the manufacturers and with retailers to remove DAB/DAB+ as an issue’. He said they were spending time with retailers to try and encourage ‘a software link’ which would allow DAB radio sets to be upgraded easily to DAB+.

‘So I think in time we’ll move to DAB+, there’s no doubt it’s attractive, however, I would say that every argument to do with DAB+ is usually to do with spectrum and engineering rather than to do with benefits to the listeners,’ he added.

The case for the efficiency of DAB+ in terms of costs and spectrum is outlined by Phil Laven formerly of the EBU, one of the key forces behind European digital radio strategy. ‘Today DAB is out of date and the right solution I have to say is DAB+. That’s not just because the technology is better but also because it works for everybody. It’s cheaper for the broadcasters, the receiver manufacturers....in 12 months time the differential will be zero because it will not be worth making separate DAB+ radios. All of them will be DAB+. ...So manufacturers can make it at trivial extra cost and you can reduce your transmitter costs by having DAB+ probably by a factor of 2’.

2.4 Incentives and the need for Innovation

There is wide agreement amongst our interviewees that the commercial radio sector needs to be actively involved and engaged in digital radio for it to succeed. The issues raised by the sector in the survey and in the follow-up interviews relate to the lack of incentive for commercial operators to move into digital both within the perceived additional costs and the lack of consumer interest or demand at this point in time. The new Broadcasting Act 2009 has created an extension of six years for existing licence holders who move into digital when their licence comes up for renewal.24 ComReg has outlined incentives for the multiplex operators (ComReg intends to proceed with a licence duration of 10 years for its Digital Sound-Broadcasting Multiplex Licences). 25

Interviewees acknowledge the imperative behind incentivizing participation of the commercial sector in future digital radio roll-out. The licence extension, JP Coakley of RTÉ acknowledged, ‘plays to the shareholder value of the FM licence and it allows the company to have what is essentially a bankable incentive to go up on DAB’. While the long-term benefits of a much more economic and efficient transmission system are self-evident, there is an identifiable additional burden of having to support a dual FM and digital strategy and incumbents/participants will need to be supported during this phase. One suggestion, according to JP Coakley, might be to give broadcasters, who find themselves on two terrestrial platforms, and platforms (DAB and FM), tax relief against the greater cost...as acknowledgement that they’re involved in simultaneous transmission’.


Not all respondents agreed with the emphasis placed on incentives to attract commercial radio. Kevin Griffiths, Claremorris Community Radio among others, argued that investment in digital would ultimately be a commercial decision which if it was to their commercial advantage, companies should pay for. What is required, though, is ‘some element of Government support that protects interests of non-profit broadcasters’.

The question of incentives to encourage industry-wide participation in a new digital roll-out is, however, only part of the equation. The UK experience of incentives such as automatic licence renewals was in that in many cases it did not lead to any new content. The need to create a culture of innovation, therefore, within the proposed digital radio policy was raised by a number of respondents including ComReg, the BCI, the Department of Communications, RTÉ and Dusty Rhodes, Managing Director of Digital Audio Productions. For Dusty Rhodes, lessons needed to be learned from previous strategies that had attempted to transition a whole sector by migrating existing services to new platforms: ‘There’s no point in saying if you simulcast on DAB, we’ll extend your licence - because there is no point in only simulcasting on DAB. It should be if you simulcast on DAB and do X, Y and Z to actually improve the service to the listener, then we’ll extend your licence. Simulcasting alone...What’s the point?’

This point was echoed by John Doherty of ComReg who argued that additionality, bringing something new, would be central to developing the business case for digital radio: ‘I think that the UK experience would seem to demonstrate that it’s a quite difficult business case, even for the incumbent operator...[it’s] difficult for commercial operators to build a strong business case around... you have to future-proof it, look at new technology, look at content and look at what actually would underpin a business case to actually make it a successful product launch out there’.

Similarly, Quentin Howard referred to the UK experience, in that while they had incentivized the major brands to move into DAB, it had not linked that transition to the need to innovate, to change radio. Phil Laven put it: ‘radio needs to be doing something different...if broadcasters don’t react by offering new content tailored to their particular audiences people will start to go off air because they can’.

JP Coakley of RTÉ argued that ‘the key to regulation of DAB is some sort of balance between the protection of the existing market versus competition and innovation- new competition, new services, new innovation. And that I think explains the fear or incapacity, or unwillingness of regulators to engage with this. Because it essentially means inventing a new market... while protecting the existing. So that is difficult’. For him, Australia was proving a digital radio role model. ‘I think what’s new about Australia is the mandating of innovation. The mandating of new content. You get your licence, you get your transmission, but you’re also compelled to bring something new to the table’.

Several of our interviewees spoke of the need for digital to deliver something ‘better’ than FM and concern was expressed about the UK model where multiplexes had been pushed to carry more services at lower sound quality. For John Doherty at ComReg this was one of the lessons Ireland needed to learn from the UK. It has to mean more than spectrum efficiency, it has to make a difference to the end-users. ‘What is the difference, if you like, that they can look from this technology over an existing radio set that has....been around now for nearly a hundred years. If they’re going to

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make those decisions in going forward…one is going to ask ‘where’s the beef?’”. Doherty made the point that a new development in radio has to provide what the old one did (for example be available everywhere including cars) and yet do something more; be better. At the same time, he said, lots of new user facilities were opening up on the internet and while these did not provide a replacement for broadcasting, they offered enhancements which any new digital platform would have to match.

JP Coakley at RTÉ said that while FM was ubiquitous and had served radio well, radio needed an enhanced functionality for its future. ‘Why do I say that FM is not enough? Because I think very simply it’s analogue and we’re going to need to do better than that. It’s gonna need to be storable, transferrable, sharable, linkable - all those things. And DAB offers that’. Dusty Rhodes similarly pointed to the potential of digital: ‘DAB is a digital broadcasting, basically it’s a transmitter and it spits out ones and zeros. Now, ones and zeros can be pictures, could be video, could be text, could be traffic information, it could podcasts, it could be anything that we have on the internet can now be broadcast. This is a big advantage that DAB has over FM’. The difficulty, he argues, with many current approaches to thinking about radio is that they have failed to innovate: ‘One of radio’s strengths is that it’s easy to use. But FM radio is not keeping up with the digital age. It doesn’t record, it’s not showing you what’s playing now, it can’t show you the picture of who the presenter is nor giving you the bio of the guest who’s on air at the moment.’

### 2.5 The Digital Radio Trial 2007-8

The digital radio trial which ran from mid-March 2007 to the end of November 2008 was initiated by RTÉ following the 2007 Act which obliged ComReg to grant RTÉ a multiplex licence. RTÉ invited other broadcasters to participate and ten did (Dublin’s 98FM, Digital Audio Productions – All 80s and Mocha, FM104, Newstalk 106-108 FM, Phantom 105.2, Q102, RTÉ Radio, SPIN 1038, Radio Kerry and Today FM). A forum - digitalradio.ie – was also established and was open to all participants in the trial. The trial formally concluded at the end of November, 2008, at which point RTÉ launched its own DAB services, the commercial operators choosing not to continue on DAB, leaving RTÉ with the only DAB services on air on Ireland.

RTÉ’s view is that the trial was successful in getting its digital radio strategy back on track (an earlier RTÉ DAB launch took place in 1999) and that it had learnt a great deal from the period. Representatives of the Department of Communications agreed that the digital radio trial was very important from a national perspective and demonstrated the capacity of existing technology, spectrum allocation and legislative provision to support a fully-fledged digital radio broadcasting service. Radio Kerry, as one of the participants on the trial, found it to be a very positive learning experience: ‘we wanted to be on the inside, and we wanted to understand what DAB was all about, we wanted to understand the equipment that was involved’. Consequently, Radio Kerry feels it gained a good insight into the potential for new services and is better prepared for a digital future.

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27 See: [http://www.digitalradio.ie/index.htm](http://www.digitalradio.ie/index.htm)

Others like Willie O’Reilly at Today FM said the problem was that for the commercial sector there was too little involvement: ‘A trial has to have a feedback loop, where information is gathered and assessed, where you look at who is representative in the group and you ask what are you trying to achieve, you look at measurements and you try, in some sense, to come to a conclusion. That wasn’t a trial’.

Other commercial operators, including UTV Media plc and Digital Audio Productions made the point that they did not feel they got access to information or feedback. For UTV Media it was a surprise that the BCI were not involved. Ronan McManamy said ‘the trial became very much about additional RTÉ services’. In a sense the commercial operators were expecting the RTÉ-led trial to be a combined public broadcaster and commercial initiative and pulled out when it became clear to them that it was an RTÉ operation and are now waiting for the BCI or BAI to take things forward. UTV Media, for example, said it had wanted to put some of its UK services on the multiplex but had found a closed door to that. While the cost implications were an issue with the commercial operators, it was not the primary reason they stopped broadcasting on DAB at the end of 2008. McManamy: ‘that decision was taken quite clearly because it was an early stage. There weren’t receivers in the marketplace. I mean most of the stations barely heard themselves in the trial. So because it was an early stage, because the BCI/BAI hasn’t got involved – that’s why the decision was made. But I wouldn’t draw any too many conclusions for the long term’.

Given the lack of clarity for the commercial sector and the lack of roll-out of the commercial multiplex the decision was inevitable according to UTV Media. For Willie O’Reilly at Today FM, and Chairman of the Independent Broadcasters of Ireland, it was important for the commercial sector to stop supporting an initiative in which it was not an equal partner. Through the IBI, he said his view was: ‘guys, why are we propping up RTÉ? What we’re doing is giving Government a belief that the commercial sector and RTÉ will work on DAB, and a belief that we have a proper trial’. O’Reilly maintains that the commercial sector needed to assert its position and not drift into a technology which could be a costly mistake. ‘My view would be that we probably need to gather the stakeholders, then agree the appropriate technology.’

2.6 Equal access for all. Is it possible?

Kevin Griffiths, Manager of Claremorris Community Radio and Chairperson of the Community Radio Forum of Ireland (CRAOL) made the case that if community radio is to be part of the digital network, it needs to be an equal partner but that international examples were not very clear on the role of community radio. ‘I’m aware that in Australia the community sector was a sort of add on at the end of the process and there are a lot of community stations out there that are missing in bandwidth’.

Quentin Howard of World DMB stressed that any digital policy must aim to be inclusive of everyone and must allow for a transition where everything that is currently available on FM is available on the new platform. This was for the benefit not just of the operators but also the consumers and the long-term viability of any digital marketplace. ‘Unless you find a way to be inclusive …then you end up with a discriminatory process that is not good for the radio industry. From a consumer point of

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view...someone buys a digital radio, they turn it on and expect every station that is there on analogue plus some more...if it’s ‘I can get 70% of the analogue stations but I can’t get x, y or z’, then that isn’t a very good system’. For him the answer is in the level of innovation used in the building of networks and equally that DAB+ allows for greater spectrum efficiency; therefore fewer transmitters needed to service more people.

Quentin Howard put it: ‘There has to be a mechanism for it to be inclusive. You may need when you build networks to have some kind of transitional funding structure so that people who have not got the money to begin, but you need them there for the good of the platform, will effectively get a subsidized ride for a few years’

While Quentin Howard made the case for equal access to digital, not everyone in the interview group saw this as essential or possible within the limits of a DAB network. Dusty Rhodes of Digital Audio Productions argued in favour of digital terrestrial multiplexes being used solely for national radio. ‘There’s no need for local radio to transfer onto digital broadcasting’, he said, maintaining that the freed up FM spectrum could be used for the expansion of local and community radio. He saw FM and DAB existing in the same way AM and FM did until recently with people moving back and forth between the two.

JP Coakley of RTÉ argued that it made more sense to plan for DAB implementation nationally and regionally in the first instance on the basis that there is sufficient room in these allocations to include every existing broadcaster in the country and still have spare capacity for new services. There might be a need for local multiplexes in large cities but otherwise ‘local multiplexes do not make sense’.

Michael Mullane, Head of Radio News, Sport and New Media, EBU agrees that DAB will not be the answer for local and community radio. He sees a combination of DRM and DAB, a multiplatform solution but admits there are no working models yet which show this in action.

Quentin Howard is not so optimistic about the marriage between DRM and DAB. The problem he sees is that receivers will not carry both platforms so consumers will not have the ability or choice to switch from one to another. ‘Until a major regulator says DRM is the choice for us and we are going to put it into our country, and they have special clout to create a sizable market which the manufacturers will respond to, I don’t think DRM will ever happen’, he said.

Howard’s solution for community radio with small niche audiences is the internet. A DAB+ radio with a Wi-Fi connection is, he believes, a more realistic model given that manufacturers will see the appeal of combining a digital terrestrial offering with internet access. Wi-Fi access will also, he maintains, enhance radio’s ability to measure its audiences. ‘So my approach would be to get a manufacturer like PURE who has an internet radio and DAB and put the measurement system in – which would give us real time figures’.

For Kevin Griffiths the issue remains one of rights rather than the market. Any proposed policy needs to protect those rights as well as ensure a viable market. ‘I think they should protect the right of everyone to be able to broadcast. And that means that if radio moves to a new technology that is expensive that the rights of community to broadcast are not interfered with and not disadvantaged in any way from being able to deliver very important services’.
2.7 Barriers to Digital

Despite nearly two decades of DAB technology one of the key barriers is the lack of successful DAB markets which might act as role models to best practice. According to Michael Mullane aside from the United Kingdom, Norway and Denmark there are few examples of working digital radio marketplaces. While DAB+ offers a new window of opportunity for digital radio it is a window which has opened in a global recession. ‘When you’re looking at the investments that need to be made or that have to be made by governments I think, to be honest, that radio is going to be fairly low down on the list of priorities. I think it’s going to slow things down. I wouldn’t expect things to be remarkably different to the way they are now five years down the road’, he said.

In Ireland one of the barriers was described as the lack of integrated and coordinated digital planning across the sector. While the Department described its role as fulfilled in the legislation, the core issue has been to determine which digital technology will be employed or used and then how it will be implemented. John Doherty at ComReg said he envisaged the integration of ComReg and the broadcasting regulator (BCI/BAI) at some point in the future. ‘We see that’s something that will inevitably come and that we would be better to take steps to recognise it and deal with it’. The push for integration was, he said, driven by the coming together of content and networks. ‘Going forward ...it won’t be possible to separate content and networks in the way we currently do; it will narrow the space to the point it will become illogical not to have that type of body in place’.

2.8 What direction should Ireland take? Views for the Future

2.8.1 The external view

Phil Laven’s advice to Ireland is to take the long-term view; evaluate what is happening in other markets and assess what is the best long term position for the country. ‘It’s very easy to take short-term views ...the argument will be let’s go with DAB because the receivers are readily available today but that means the broadcasters will end up paying more. ...I think the right solution with the benefit of hindsight ...will say DAB+ was the right solution’.

Michael Mullane at the EBU is less concerned about the battle between DAB and DAB+. He sees the logic of Ireland sticking closely to the UK model and moving to DAB+ with the UK. ‘I’m a great believer in a multiplatform future for radio. What that means is that community radio, local radio will be moving to a platform like Digital Radio Mondiale which combines quite neatly with DAB...consumers don’t care about the technology they are listening on. They just want access to content and they want choice’.

Content is at the heart of the matter, according to Laven. ‘The lessons we should learn for the future? It’s all about content. And probably only content. If it were only about the best technologies we would all be using Apple Mac computers. So it’s not about technology, it’s not about the ultimate audio quality...it’s about content that is attractive and appropriate to consumers.’

For Quentin Howard the choice is clear for Ireland. ‘The sooner you come out and say DAB+ is the direction you are taking, the sooner the manufacturers will respond’. By the end of 2009 all sets with Frontier Silicon chips will be DAB+ and this will mean the receivers are in place by the time Ireland launches a full DAB+ network. The danger for him is that if Ireland is going to move to DAB+ and continue to push the sale of DAB receivers based around the RTÉ multiplex then you increase the
number of consumers who may be affected by the shift to DAB+. In the UK where there are now 7.6 million DAB receivers the challenge will be to migrate consumers by selling upgrades or trade-ins on the old sets. Howard’s advice to Ireland is to make the call for DAB+ before the consumer numbers become a problem that will have to be solved. With just 20,000 sold in Ireland and with sales relatively slow in 2009 it would, he maintains, be easier to simply start with DAB+ from 2010 when every receiver is likely to be DAB+.

2.8.2 The internal view

According to most respondents, including the Department representatives, the relevant legislative framework, established first in the Broadcasting Amendment Act (2007) and in the Broadcasting Act (2009) provides everything that is required in order to develop and roll out digital radio or digital terrestrial sound broadcasting. What is missing is the strategy and agreed policy framework within which to implement it. In current deep recession, there will be little immediate appetite for undertaking new challenges or new investment in infrastructure and content. However, in the words of some respondents, the very real current economic constraints should not be an excuse for doing nothing. What is required, interviewees argue, is a definitive statement by the relevant regulatory authorities of the goals and targets which will direct this new digital radio policy. All concerned stress the need for positive steps based on research and dialogue with all interested parties and stakeholders to ensure long-term success.

Dusty Rhodes points to the example of France where “in order to make digital accessible to everybody they have said that by 2013 every receiver sold in the country must have digital radio integration”. Similarly, the EBU/World DMB mandating receiver profiles that are interoperable across Europe has been an important step beyond legislation which indicates the kind of initiatives needed for a successful digital migration strategy. Immediate next steps from the Irish point of view are to put the policy together and use DAB to the maximum: ‘Carry existing services, carry new services, go niche, data displaying on screen - crucially important’. The timescales involved will not be immediate however: ‘In 5 years time we’ll be probably just starting the trial on the digital roll-out...You’re probably looking at 2012 before anything really starts to get going and it’s going to take at least 5 years for it to grow from that’.

This indicative timeframe was repeated in a number of interviews. JP Coakley, RTÉ, predicted that by 2017 there would be an emerging framework and set of targets and deadlines for an orderly transition and eventual switchover from analogue to digital. Accordingly, ‘in the next 7 or 8 years we need sufficient cohesion and momentum to bring us to the point where we can say ’Ok, we’ve reached that target’.

For Willie O’Reilly at Today FM, given that digital radio, whether DAB or DAB+ is not widely available, for example, in the hugely important car market, there is little immediate urgency to rush with an implementation. ‘What are the negatives for the consumer or the country if we do nothing? ...in my view none’. His argument is that a properly cast trial would allow research and experimentation. ‘So technology is in a kind of flux. What we have is a heritage technology that is performing very well. So we should be slow to change. We should experiment... but very slow to damage something that we have that is so successful and which is so well regarded by the public. That’s the thing. We have something that’s very well regarded by the public...and in a democracy that’s key. So be slow to change’.
JP Coakley, RTÉ, argued that while audiences for digital at the present time might be small, this is changing. He admitted that ‘we could arguably now close every platform other then FM, even though we are on something like 10 platforms at this stage...we can close all of them and it will not effect our market position significantly. That won’t be true in 5 to 10 years’. Therefore, the time to prepare for a digital future is now and this will mean recognizing DAB and online ‘as complementary platforms, as complementary content propositions, as part of the single ecology around this content proposition and this relationship with the audience that is radio’.
3  **ONLINE DIGITAL RADIO**

3.1  **Overview**

While the implementation of terrestrial digital radio in Ireland is at an embryonic stage, Irish radio has a well developed presence on the internet and most Irish radio stations have an online life which ranges from live streaming, listen again facilities to downloads and podcasts. As part of our research we conducted two studies: one comprising an audit of the presence of Irish radio stations online, and the other a comparative study across European public radio, including the Irish national broadcaster, RTÉ. Our aim was to map how broadcasting radio is using online to market its services, connect with its audience and finally to create a new delivery platform for radio.

In Ireland 32.3% of the population have internet access, 27% have access to high speed broadband and recent research shows 61% of Irish people spend 5 – 11 hours time online every day.

**Figure 3.1 Number of Hours spent online per week**

Our online audit of Irish radio is based on an analysis of 91 Irish radio stations (10 public, 2 commercial national, 31 commercial regional and local, 25 community, institutional and special interest and 22 temporary services).  

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In each of the radio website audits we analysed online content across three categories:

- The website’s thematic focus
- The website’s interactive tools
- Provision of audio content; whether linear or non linear (live streams/downloads or podcasts)

In terms of the thematic focus of a radio website we created four categories:

a) Brochure model; with columns/pictures and categorisation of content
b) Promotional model; limited to one or two pages with just information about the station.

In terms of the thematic focus of a radio website we created four categories:

c) Advertisement model – where advertisement was the dominant function of the site.
d) Cultural model – where an information service is a dominant function of the site as, for example, in community radio or not for profit stations.

Several stations would have a range of indicators across those thematic functions but the audit has highlighted the primary indicator. Of the 91 number of radio stations audited, 81% have a website (4 of the 22 community, special interest and institutional services did not). Only 9 of the 22 temporary services had a website. The vast majority of all websites were of the brochure type and offered some element of audio content on the site.

### Table 3.1: Website Content Provision

<table>
<thead>
<tr>
<th>Website</th>
<th>National Public Service Broadcaster (4 FM stations; 6 DAB stations)</th>
<th>National and quasi-national radio services (2)</th>
<th>Local and regional, and multi-city commercial services - (31)</th>
<th>Community, special interest and institutional radio – (26)</th>
<th>Temporary Services – (22)</th>
<th>Total</th>
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32 A full list of all services is included at the end of this chapter.
Figure 3.2: Website content comparative chart

Figure 3.3: Example of promotional website with basic information

Source: http://www.lit.ie/wiredfm/, July 2009
3.2 Website Interactivity

We assessed the interactivity of radio websites on the basis of potential for audience feedback and engagement as well as on the presence of entertainment and interactive ‘fun’ content. Independent commercial stations were the most likely to offer the widest variety of fun interactivity from polls to competitions, games and quizzes. Polls, games, playlists and competitions are among the most popular form of entertainment interactivity while several music based stations offer DJ blogs, community alerts, song rating or a studio webcam. Some connect to social networking websites. In terms of feedback interactivity it ranged from station to programme contact.
Table 3.2: Interactive Website Content

<table>
<thead>
<tr>
<th>Interactive and entertainment content</th>
<th>National Public Service Broadcaster (4 FM stations; 6 DAB stations)</th>
<th>National and quasi - national radio services (2)</th>
<th>Local and regional, and multi-city commercial services - (31)</th>
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Figure 3.5: Example of Website with low level of interactivity
3.3 Website Audio Content
While the vast majority of radio stations with websites provide some form of audio content, its scale and depth varies greatly. We audited the provision for podcasts, downloads and listen-again facilities and live streaming on Irish radio stations’ websites. We also noted the variety of different streaming solutions being offered.

Figure 3.7: Website Audio
While at a national level, the websites of RTÉ’s 4 FM stations, Today FM and Newstalk 106 all offer podcasts, the situation is more mixed in local radio with roughly half of all local stations audited providing podcasts at some level. The majority of community stations (over 60%) are not providing podcasts. None of the temporary services provide podcasts. All the national, regional and local stations provide live streaming but only half the community stations currently offer it.

<table>
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<th>Table 3.3: Audio Content Provision</th>
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<table>
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<td><strong>Real Player</strong></td>
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<td><strong>iTunes</strong></td>
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<tr>
<td><strong>Streamthefuture</strong></td>
</tr>
<tr>
<td><strong>Other-embed</strong></td>
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In general Irish radio websites are relatively basic in design and functionality. The overall theme is a brochure site, a print centric website with add-on elements such as audio or interactivity. Only about one third of the websites were defined as ‘websites with a dynamic content’. The re-launched RTÉ 2FM website was one example during the period of the audit of a significant shift by a radio station to a more dynamic approach although RTÉ Radio 1’s development of a new on demand portal for its documentary content also showed elements of a dynamic shift in the Radio One online presence.
3.3.1 The RTÉ 2fm website re-launch

In May RTÉ 2fm relaunched its website, moving away from the brochure style of RTÉ Radio which is marked by static features, information and few real-time functions and little connection with on-air radio. The new RTÉ 2fm is built around the community of music and its listeners, allowing listeners to listen live, listen again, replay (whole programmes or songs), podcasts and download. A key innovation is the ‘catch’ button which allows you to add a song you like to a personal playlist on the website and creates the possibility of sharing the music you like with your friends. Listeners can send links to songs or shows using social networking portals like Facebook, Bebo or through email.

The new site also adds video, related artist video, competitions, games, a gallery of events (music festivals and presenter events). It integrates with YouTube and MySpace and allows musicians to upload their own podcasts. The site creates a concept of social networking around the audience of
RTÉ 2FM in a similar way to National Public Radio (NPR) in the United States where the core website has gone far beyond promotional, marketing and add-on services to building a community centred on the content of the station involved. RTÉ 2fm uses Twitter, Bebo, Facebook, MySpace, YouTube to extend and ‘share’ its content and creates a ‘sticky’ connectivity with its listeners by being where they are in a real time online sense.

The development of RTÉ 2FM’s new platform ‘radio 2.0’ plays with the concept of radio content convergence, the mobile phone and wireless internet. In March 2009, new media company Catch said RTÉ 2fm was set to use its ‘radio 2.0’ platform and this basically has allowed DJs to move effortlessly from the studio into cyberspace, using blogs, podcasts and ‘what’s new’ updates with minimum technical knowledge and effort.

Figure 3.9: RTÉ 2fm Website prior to relaunch


33 Everhart, K. ‘Listeners will be invited into NPR Community this week’, Current, September 29, 2008.
3.4 Connectivity and Interactivity

Increasingly, a website’s attractiveness depends in large part on how much connectivity it can accommodate. People want to be connected with each other via the internet, but also, they want a connection with the content published online and, in the case of media, they want to connect with broadcasters. That is what the interactive ‘fun’ content on the website is for. It not only attracts consumers’ attention and keeps their interest, but also allows them to get more information about shows and presenters, engages them in the creation of programmes and facilitates communication with other listeners. Local and regional radios are the main providers of online entertainment, focusing mostly on polls (14), games (12) and competitions (15), but also offering links to Facebook and other social platforms (6 stations). Community radio stations focus mostly on the social aspect – four of them opened forums for their listeners, for example, facilitating communication between people within the same area. Chats, trading and ‘lost and found’ spaces available on the number of regional, local, and community stations’ sites play a similar role of providing communication platforms.
for people within the same locality. Among other entertainment features found were DJ blogs, popular photo galleries (29), weather forecasts, as well as film reviews and a space where listeners can rate music played by the station.

Feedback is another interactive way of attracting and engaging web page visitors. Stations prefer to provide general contact information only (not addressed to any particular person – 56 stations) or impersonal email forms, which are ready-made and as well not addressed to particular staff members (27 stations). A limited number of stations provide detailed contact information with different staff members’ names and emails or phones being listed (10). Several stations placed a guestbook on their web page, itself a form of a feedback as well. Few stations offered an actual ‘feedback form’.

Following its revamp, 2FM is now a model of a dynamic website: it uses the web page as a tool, a guide to discovery of Irish music and culture. Not only does it provide classic features such as videos, games, links to Facebook and other networking sites, it also shows the playlist of songs presented on air, with information about each artist and links to musicians’ pages. Moreover, in the 2FM space listeners are able to comment on station-related musicians’ pages, but they can also communicate with DJ’s who have become online personalities and are now required to actively participate in the creation of content online.

3.5 A comparative online audit of European public broadcasters
Following the audit of Irish radio websites, we conducted an audit of 103 European public broadcasting radio stations (Ireland, Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Poland, Spanish, Swedish, Switzerland and UK). The same analytical categories (thematic focus, interactive tools and audio content provision) were used. All of the radio services audited had a website and 79% were described as having ‘dynamic content’, multimedia interactivity.

| Table 3.4: Audit of European Public Radio Websites |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | IE | DK | FI | FR | DE | IT | NL | NO | PL | ES | SE | CH | UK |
| Number of PB Services analyzed | 10 | 4 | 7 | 7 | 11 | 9 | 7 | 14 | 4 | 7 | 7 | 6 | 10 |
| Yes | 10 | 4 | 7 | 7 | 11 | 9 | 7 | 14 | 4 | 7 | 7 | 6 | 10 |
| No | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Website category | | | | | | | | | | | | | |
| Basic info | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Basic info + interactivity | 6 | 0 | 1 | 0 | 8 | 0 | 2 | 0 | 4 | 0 | 1 | 0 |
| Dynamic content | 4 | 4 | 6 | 7 | 11 | 1 | 7 | 12 | 4 | 3 | 7 | 5 | 10 |

34 A full list of all stations is included at the end of this chapter.
In terms of Interactivity we again looked at the presence of interactive entertainment content and facilities for audience feedback as indicators of levels of interactivity.
Figure 3.12: European public radio – interactive entertainment content

Interactive Content (%)

![Bar chart showing Interactive Content (%) for different categories like Videos, Playlists, Forums, Polls, Games, Portal for mobile, and None.]

n=103

Table 3.5: European public radio interactive tools

<table>
<thead>
<tr>
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In terms of the provision of audio content the vast majority provided some form of audio and all public radio services in the survey offered podcasts and live streaming.

Table 3.6: European public radio provision of audio content

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Figure 3.13: European public radio provision of audio content

Audio content (%)
Analysis of FM-only stations’ websites and those of radio services available on both FM and DAB showed little relationship between the platform and level of station’s online activity. Despite the fact that some Finnish, French, Italian and Polish stations are not on DAB, they still provide podcasts, most of them also provide a listen-again facility and downloads. They also offer a variety of interactive entertainment content, similar to stations available on DAB and are categorized as having ‘dynamic content’. The exceptions here are public radio services in Italy with low levels of interactive content (4 stations don’t offer any at all) and content which is described as ‘basic information +interactivity’.

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3.5.1 Radio convergence

The vast majority of the public radio websites analysed can be described as ‘brochure websites’, magazine in terms of style, with add on features like audio and limited interactivity (polls/competitions etc). All of the websites offered podcasts and live streaming but some also offered video, webcams and photo files. 33% (34 of the total) offered videos on their sites.

European public radio station websites tend to provide national news, information about the radio carrier and its content (i.e. shows). The level of online advertisement is very low as many of the stations do not earn commercial revenue. Nearly a third (31) of the radio services surveyed online also played a cultural role: providing information about books, film, events, music etc., often seeking to create a national cultural portal (Polskie Radio, France Culture or BBC 6).

The radio station websites surveyed offer a number of different approaches to interactive entertainment content, such as videos and playlists (two most popular options, provided by 35 stations), competitions, chats, stores, games and polls. Forums work as a means for user-to-user communication and are also provided by a large group of stations (27). Netherlands offers the widest range of ‘fun activities’ – listeners can find all kinds of entertainment on Dutch websites. Some countries pay more attention to provision of music and videos rather than competitions, stores, polls or games (Denmark, France, and Germany). Ireland’s public radio websites focus also on provision of music-related news and singles charts. Germany, Finland, Denmark, Netherlands and Poland offer an alternative version of their radios’ websites for use on mobile devices. Among other less typical entertainment features we can find: photo albums, blogs, newsletters, traffic and weather
information, as well as e-cards and ringtones. Some of the Spanish, Swedish and Swiss stations offer SMS alerts/broadcast reminders and information about currently played shows, as well as songs, provided via text messages.

Live Streaming is the most important form of making audio content available online followed by podcasting and ‘listen again’ facilities. 87 stations provide ‘Listen again’ facilities, whereas only 25 allow downloads via the station’s own website (Sweden offers downloads either to computer or phone). Podcasting via RSS feeds is, however, offered by almost all the stations (96 out of 103).

Feedback is another interactive way of attracting and engaging web page visitors and is also a way for listeners to express their opinions and establish two–way communication with the content provider. Stations prefer to provide general contact information only (not directed to any person in particular – 68 stations) or impersonal email forms, which are ready-made and not addressed to any particular staff member (45 stations). Limited number of stations offers detailed contact information with different staff members’ names and emails or phones (only 15 out of 93 stations). Several stations placed guestbooks on their web page, which is a form of a feedback as well. Few or none prepared an actual ‘feedback form’.
4 WHAT RADIO LISTENERS SAY

4.1 Introduction
While the main focus of this report is on the response of the radio industry to the opportunities and challenges posed by digital radio, a key element of this concerns the audience, a fact brought up many times within our survey and in interview discussions. There is no question but that digital radio means nothing if it does not meet listeners’ interests and needs and experiences of digital radio policies elsewhere reveal the imperative of ensuring that the interests of the listener are at the heart of any roll-out plan.

As part of our research, we include this listener dimension through a three-pronged strategy: firstly, through analysis of existing data about the radio listener experience and digital technologies; secondly, through a number of focus groups on the themes emerging from the research in relation to digital radio; and thirdly, through a discussion of audience data from the digital radio trial of 2007-8 (provided courtesy of RTÉ).

There is to date very little information or research about the impact of new media technologies on radio listening in Ireland. The limited scope of the current research makes only a modest contribution in this regard, and our focus groups, for instance, are illustrative only and are not intended to be representative of the listening population as a whole.

4.2 Digital radio listening – data and comparative context
In an international context, radio listening in Ireland ranks highly. Looking at 2007 data in a comparative context, Ireland had a daily reach of 84% (Figure 4.1 – now 85%) and an average of 29.3 hours listened per week (Figure 4.2). This compares, for example, with a daily reach of 72% in the United States or just 67% in Norway, and an average of 20.6 hours listened per week in the United Kingdom, 18.5 hours per week in the United States or just 12.6 hours per week in Spain.

Listenership to any regional/local radio again stands at 55%. RTÉ Radio One has a weekly national reach of 38%, RTÉ 2FM 31% and Today FM 29% (Figure 4.3).
Figure 4.1: Irish Radio Daily Reach in Comparative Context\textsuperscript{35}

![Bar chart showing daily radio reach comparison]

Daily Radio Reach 2007; Sources: JNLR, RAJAR, NORDICOM, RADAR

Figure 4.2: Weekly listening hours in Europe

![Bar chart showing average weekly hours per head]


While independent audience research for digital radio, and listening via the internet, is not yet available in small radio markets like Ireland, in the United Kingdom RAJAR (Radio Joint Audience Research) has been tracking audio listening via the internet since the final quarter of 2007. These regular MIDAS (Measuring internet Delivered Audio Services) reports, along with research commissioned by the BBC and separately by the communications regulator, Ofcom, give a good comparative view on how radio is being changed by podcasting, just who is listening and why.

By December 2008, the third RAJAR/MIDAS survey allowed us to see a one year trend in podcast usage in the United Kingdom. Across a full year, listening to radio via the internet had grown to a third of the UK population (16.1 million compared to 12 million). But the more dramatic increase had been in podcasting with 7.2 million (14% of the population) saying they had downloaded a podcast and 4.4 million downloading podcasts every week – up from 1.8 million in the first survey. This compares with Arbitron/Edison’s April 2008 figure of 18% of the US population using podcasts and Pew/Internet research showing 19% of all internet users in the US having downloaded a podcast, up from 12% in the 2006 Pew study (Madden 2008).

RAJAR/MIDAS is also tracking how internet listening and podcasting is affecting linear ‘live’ radio. Despite the fears in 2004-05 that podcasting, or internet based radio on demand, would stop people listening to linear radio, the MIDAS survey shows that while some podcast users are listening to less linear radio, far more are being encouraged, by podcasts, to experiment and try out new programmes. In MIDAS 2, released in July 2008, 15% of podcast users said they were listening to more radio compared to 10% who said they were listening less. By MIDAS 3, released in December 2008, 35% said they were listening to live radio programmes they had not listened to before, (slightly down on the previous survey), two thirds of people were listening to much the same live radio while up to 14% were listening less and just 9% say they were listening to more live radio.
Figure 4.4: RAJAR/MIDAS 1-3. Podcast Trends: RAJAR/MIDAS 2008-2009

What the research shows is that internet radio and podcasting is helping radio develop a life with younger audiences, under 30 years and it is, according to both RAJAR/MIDAS and the BBC’s research, encouraging people to experiment and try new radio shows. The profile of online and podcast users, across research in the UK and US 2006-09, shows a clear bias towards young males 15-34 from higher socio-economic classes. While radio broadcasters like NPR and the BBC record high audiences for programmes with a predominately middle-aged audience, the majority of online content and podcast users are under 34 and likely to be well-educated and digital media literate. While this remains the case the emerging trend is showing increased older audiences who have more leisure time to enjoy and use online content, social networking and podcasts (Nielsen 2009).
The BBC has also commissioned research on listening online, including podcasting, (PALVIS 2008)\textsuperscript{36}, which echoes the trends of RAJAR/MIDAS and provides greater insight into the habits of podcast audiences. Of those downloading:

- 43\% listen to podcasts once or twice a week
- Most spend no more than an hour a week listening
- Only one in ten listen for more than two hours a week
- 80\% listen at home, 24\% in the car and 22\% on public transports
- Podcast listening peaks after 4pm
- The majority, over three quarters, listens to podcasts more than a week old

### 4.3 Digital Radio in Ireland

The Joint National Listenership Research (JNLR) survey has for some years gathered evidence of the growing diversity of platforms for receiving radio. In 2008, this was expanded to cover more types of radio including DAB and Figure 4.6 presents twelve months data to July 2009.

\textsuperscript{36} BBC/MC&A (2008) ‘Podcasting and Listening via the Internet Survey (PALVIS)’.
The receivers available in Irish households are unsurprisingly of a fixed radio (88%) or car radio (87%) type yet there is evidence of a growing diversity of platforms for radio listening with over 40% of the population reporting they can receive radio via TV, on a PC, on a mobile phone or MP3 player. The figure of 5% (or 180,000 people) reporting that they own or have a digital radio (DAB) in their household needs to be treated with some caution. There are no official figures available for the numbers of DAB receivers sold in the Irish market. There is no central collection of retail statistics on radio receivers and future research will need focus on this area. The best estimate is that up to the end of December 2008 there were approximately 20,000 receivers sold. Therefore, the 5% installed receiver base is likely to be an overestimate given the relatively early stage of development of the market in Ireland.

A number of retailers were contacted for this research to assess the level of interest in DAB and internet receivers. According to Peats – World of Electronics, DAB radio sets would not be a particularly important consumer electronics item at present though there was something of a surge of interest in them, especially around Christmas time and other holiday periods. According to the spokesperson, given the improvement in broadband availability there was now much greater interest in internet radio receivers particularly among international customers. Retailers report that among the factors that influence purchase most is the ability to receive stations from abroad and frequently the first question a customer will ask when enquiring about radio receivers is: ‘Will I be able to listen to BBC on this?’

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37 Interview, JP Coakley, Head of Operations, RTÉ Radio, reporting retail estimates.
As shown in Figure 4.7, when asked what device they listened to radio on yesterday, 80% in the JNLR survey reported listening on an FM radio (home or car). A further 4% or 147,000 listeners report listening on a LW radio. Listening figures via other devices currently emerge at less than 0.5% and include 15,000 for radio on a mobile phone, 8,000 on an MP3 player, 7,000 on a PC/internet, 7,000 on a TV set, and 4,000 on any other digital format. Total yesterday listenership is in the region of 85-86%.

**Figure 4.7: Device on which listened to station yesterday (Ireland)**

In the much more developed UK market for digital radio, listening on AM/FM now stands at 67.5% with listening across all digital platforms at 20.1%. These figures are not directly comparable however and point to an underlying need for more research on the impact of digital technologies on media audiences. In the survey conducted for this project (see Chapter 1), 85% of respondents in the radio sector say they would support further JNLR tracking of digital radio audiences on DAB and online (podcasting, downloads and live streaming) as in the UK.
4.4 User Focus Groups

To explore further some of the issues raised in the research, we organized as part of the digital radio study two focus groups with serious and committed radio listeners. A convenience sample was used and comprised two groups of radio listeners aged between 13-65 years, both male and female and are mixed in terms of radio tastes. Focus group members are predominantly from an AB social background and have completed or are completing third level education. Each focus group lasted for approximately an hour and a half and were recorded and transcribed. In the following, participants are identified by first name (not their real name), occupation and age group. The objective of the research was to provide a snapshot of how Irish radio listeners think about and use radio today and what their experiences and expectations are for digital radio. The outline question path followed in the focus groups is provided in Appendix V.

The majority of focus group participants listened mainly to linear FM radio in a variety of situations including at home, in the car and at work. Some had already developed strong non-linear listening habits, notably to radio podcasts, and particularly those commuting for longer periods. Nearly all participants used the internet to access both linear and non-linear radio content and about a third in each group had an awareness and some experience of DAB (Digital Audio Broadcasting), having either bought or been given a DAB radio receiver. In general, the focus group participants could be described as radio fans; several were technically very literate and early adopters of new technologies, while two worked from home and spent much of their day online.

4.4.1 What do radio listeners like about radio?

Participants were asked about their average radio day and what radio meant to them. Several spoke about growing up with a strong radio habit. Sean (secondary teacher 36-45) said ‘the radio was never turned off from morning to night’. Gail (marketing manager 36-45) ‘radio was always on in our house’.
People described a relationship and intimacy with radio which is based on the personality of the radio presenters and programmes and which evoked strong visual images for them. Alan (researcher 25-35) put it: ‘radio leaves it open; so that you can create visual imagery yourself rather than with TV where maybe it’s decided already what the pictures are’. Gail added: ‘ten people can listen to the same show and hear something entirely different because we’re all having to use our own imagination’.

Martin (lecturer 46-55) echoed several people when he said he liked having the sound of radio voices in the background. ‘It’s like a bit of company in the background’. Deborah (arts writer 36-45) added: ‘I think people open up a lot more on the radio when you don’t have the camera on. You know just voices...its fantastic’.

Most mentioned that they liked the fact that radio is a passive medium and lets them do other things; whether it is working at home or in the office, driving or even just being a soundtrack, background noise while they are surfing the internet, reading or watching TV. Deborah said: ‘you’re doing a lot of things while listening to radio. It’s nice when you’re making dinner and listening to a radio show’.

Richard (school student 13-19) listens to mainly music radio and said simply ‘I don’t really like to be anywhere without any background noise’. David (paramedic 19-25) listens a lot while working and says radio helps create an easy working atmosphere. ‘I have to work 60 hours a week with the same person so the radio breaks it up and gives us a topic to talk about or some music to listen to’.

For most radio fans the personality or authority of the presenter was a keen reason to seek out a show whether in speech or music programming. Liam (third level student 19-25) a music fan said: ‘in the shop where I work for five hours flat out, it’s just piped music...it gets very monotonous. The whole personality mixed with music is what makes radio good’.

Most of our participants mirrored the national profile of listening to radio for at least several hours per day with radio following them from home to the car or headphones on the walk to work, occasionally listening during the day as background to work in the home or office, and then often listening in bed at night. The only variation concerned whether individuals were listening to linear FM, non-linear ‘listen again’ facilities downloads or podcasts via the internet on their computer, laptop or portable device such as an MP3 player, iPod or mobile phone. Those with long commutes or jobs which involved driving most of the day were the ones who were most active in terms of creating a pre-programmed playout of podcasts whether from broadcast radio stations or from non-broadcasting sources such as newspapers, magazines and new media podcasts.

Sean commutes for two hours in a car every day so he selects podcasts from Irish radio, the BBC and NPR for his player. ‘I’d love to do more local stuff’ he says but often finds the podcasts of his local radio shows are not available. David is a big radio listener in the car during his working day. When on his own, he listens to non-linear music selected via iTunes and played through his iPod. ‘You don’t want to be flicking around especially when you’re driving....so it’s just easier to put it on a playlist’, he says. Podcasts are also a way for him to study while he is driving so he downloads work-related educational podcasts. ‘Instead of reading a book for two hours I can get it all in twenty minutes driving to work’.
For several people the attraction of the internet and podcasts was not just content they wanted when they wanted it but that they could access content from a much wider pool across the world. As Catherine (journalist 36-45) put it: ‘BBC Radio 4 listening online is a godsend, to be honest with you’.

4.4.2 Awareness of DAB

While the majority of our participants were not familiar with DAB, and several knew nothing about it, about a third of people in each group had had experiences of DAB radio and had a DAB radio set. Two of the participants who had DAB sets were extremely disappointed with the offering and had returned their radio sets to the supplier because of what they believed was worse-than-FM sound quality and a poor range of choice once the commercial stations had stopped broadcasting on DAB. Two other participants, in different groups, told us they had tried to buy DAB sets, or had enquired about buying them in separate electronic outlets, and were advised by the shop assistants not to buy them because of the lack of stations on DAB now. One DAB user, Sean, was extremely happy with his radio set purchase and with the additional RTÉ channels.

Sean said he had got a DAB radio receiver at Christmas, paid about €60 for it, and says it works ‘perfectly’. He finds it has increased the amount of time he and his family listen to radio at home. They have a small child and are particularly happy with RTÉ’s Junior channel. His only complaint is that he would like more variety on the channel. ‘It’s kind of like a new toy, it’s all bright and shiny, easy to tune in and switch off….we listen to RTÉ Lyric fm on it. It just seems to come on a lot more now….maybe it’s just a neat piece of technology…I also find that people who are visiting the house tend to go over and say ‘what is it?’….It’s a radio with a kind of modern look’.

While the issue of the sound quality of DAB was raised as a negative by one DAB listener in each group, in general listeners who were not particularly technically literate expressed little interest in sound quality. Sean said ‘I presume that FM stereo is better but I’m not looking for that. I just want something standard’. While Edward (business journalist 36-45) in the second group said ‘the sound quality isn’t so important…presenters always go on about the quality of the line….I don’t think the listener, the majority of listeners, cares too much about that’.

Martin, who is highly technically literate listener, said he had brought his DAB set back to the retail store because of the poor sound quality. ‘I had RTÉ Lyric fm on and the audio quality was just terrible, it was very compressed and I was disappointed with it’. He argued that this was one service where the highest level of audio quality was expected since people were often playing it through high end hi-fi systems in their own home and in this case DAB fared poorly. ‘If they want the hi-fi people to lead the changeover to digital radio then it’s not going to work because the quality is very poor’, he said.

Edward said he had recently tried to buy a DAB set as a gift for a friend. ‘We went to so many shops and eventually when we found one the guy told us not to buy it. It was 70 euro, ridiculously overpriced for getting what you get on an analogue set….the guy in the shop seemed to know a bit about it and said there was a good offering at the start but that it had got worse’. 
Martin said he would spend money on a set ‘if it was better than FM, but it isn’t so why would I?’ He had also heard about DAB+ and was concerned that sets being sold at the moment would not be compatible once DAB+ services were introduced in Ireland.

Paul (broadcaster/sound engineer 55+) said the problem for him was there was nothing new on the DAB service, nothing he wanted. ‘I think if we get genuine new services on it, which are not available, we’ll all be talking about DAB. If you have quality and you’ve got quality services which are adding diversity then there is a market for it. I mean at the moment it’s only RTÉ, it’s not nationwide and it’s not even full coverage within the coverage areas.’

Brendan (digital media manager 36-45) knew quite a lot about DAB and said that for him one of the big problems was that it is not available in cars. ‘The car manufacturers are not putting it in. I think it needs to get into the car or it won’t start’. He said that DAB was inferior compared to DAB+ and at present was not much of an incentive to move to digital. He was also critical of the lack of offering on DAB. ‘It was much better when there were 21 stations in the trial. RTÉ has put 6 stations on top of their standard 4…..it’s all less of an offering than it should have been across many areas and therefore I have a bad vibe about it. I have a DAB radio and I genuinely don’t turn it on. I get Radio One on FM’.

4.4.3 Digital Radio on Digital TV: few fans

Participants were also asked whether they ever listened to radio via their TV set, accessing services available on satellite or cable. While several had tried it and most had access to it, the majority of radio listeners in the groups dismissed it as a way of listening to radio. Gail put it: ‘to me the television is the television and the radio is the radio. And never the two shall meet’. She said she dislikes the graphics on screen when radio was on as it always compelled her to look at it and ‘it just didn’t seem right’. Sean said: ‘I don’t like the idea of having the TV on when there is no picture’ although he sometimes used the TV to listen to BBC digital radio. Deborah said she had radio services on her TV at home but that it would be a real last resort if none of my other radio outlets were working. …I don’t have a digital radio but a listen a lot on my laptop’. Brendan said he used the TV to listen to things like Radio Caroline when he was cleaning the house so he could turn it up really loud from the telly and drown out the sound of the vacuum cleaner!’ Paul said he did use his satellite receiver to listen to radio and tended to use it for radio more than television. Martin picked up the digital radio services being broadcast on the DVB (DTT) trial but was listening to them as a linear stream via his computer and hi-fi rather than the television.

4.4.4 Envisaging the future: What would listeners ideally like?

Participants were invited to envisage radio in the future, and think about services or features they would ideally like to have available. Several people spoke about a pause button or listen back facility on their radio set so they could have the same control over live radio as they did with TV through their Sky+ or PVR, for example. Others mentioned being able to get text or image based content, describing what was currently on, for instance, the name of the person talking, the name of a song or singer,
details about a book being discussed or an event. Many described a radio set which could provide in one place both linear and non-linear content, combining their current traditional radio listening with their newer online habits. Gail said: ‘having a playback facility on your radio set rather than having to go to the computer would be useful. Like our radio is in the kitchen but it’s part of the hi-fi’.

Most of the participants placed content and content diversity at the top of their list. Two of the men, in different groups, spoke about wanting to have a choice from the weekend sports programming that seemed to dominate the schedules. Sean mentioned that he liked documentary programmes and would like to access all the documentaries that had been funded by the BCI, for example, whether on Newstalk 106, RTÉ or local radio, and to have them available on one channel. ‘There’s no central resource for them. I’d love to have a station streaming that stuff – like documentaries from Radio Kerry or wherever. It’s our licence fee money that is paying for it and they play it once.’

Participants spoke about radio sets that would make finding things easier, that could collect podcast feeds as well as offer traditional radio stations with a pause button and a listen again button. Deborah talked about being about to create a station just for her own tastes, collecting all the shows and content she like. ‘I don’t want to be bothered with using lots of energy to find little elements’. Brendan described a radio set that would allow him to link to his social networks so that he could ‘share’ a show or song he was listening to by just pressing a button on his radio set. ‘And if I hold the button in for 10 seconds as I’m driving on the M50 then I really really like it! And then people linked to me can jump from listening to Ronan Collins to BBC Radio 6 music….that’s where it is going’.

One of the focus groups illustrated a clear linkage between media consumption and social networking trends. Several like Brendan, Sean and Deborah spoke about the importance of sharing content and how they were more likely to listen to something one of their ‘friends’ in a social network had shared with them. Brendan put it: ‘so you’re on twitter and you’re putting in ‘oh my God did you just hear what that guy just said?’’. That group discussed the trend of young girls ‘bluetoothing’ favourite songs to each other on the bus and said social networking audio and video links and clips was a similar trend. Brendan said: ‘its like teenage boys and ghetto blasters in the 80s –it’s like their territory. It’s a way of saying ‘this is my music’, ‘this is my sound’ and sharing it’.

David, who knew nothing about DAB but had enjoyed the extra features such as text offered by satellite radio when he lived in the US, said he would welcome the pause or catch up feature which would start recording when you had to leave a live show so you could pick it up when you came back. ‘I mean there would be times when I’m listening to something and then you get called to the patient and you’d kind of love to hear what’s coming up next’, he said. Liam added: ‘yeah something as simple as a track name would be greatly beneficial’. He also thought interactive tools like chat-rooms and creating a community or social network around a radio programme/station was an incentive to listen. Sean agreed with the notion of a listen back facility on a radio but said he didn’t want too emphasis on visual displays. ‘It’s a radio set, it’s something I put on in the background, I don’t really want to be going over and having to check what the displays are saying’.

Catherine said, in the wake of the group discussion about the kind of added value that digital radio could bring to audio content: ‘I think digital radio is what I’ve always been looking for but I didn’t know it. ….whether it’s the information that will come across but also the buttons to say ‘you’ve just heard about this book. Would you like to know more, etc.’”
A concern raised by both groups was that content was being spread too thin and that while the technology allowed, even demanded, more services, the emphasis was not often on quality. Both Deborah and Gail raised the danger of content overload emphasising the need to find the good stuff. ‘I mean on the one hand it’s great to have access to all that but it’s actually trying to pick the ones that are going to be worthwhile and useful for your time’, as Deborah put it. Sean raised the point that RTÉ might have been better to have created one quality add-on digital station rather than six with few resources and computer playlists. While he is a fan of Junior, he says the schedule is extremely thin and heavily rotated. ‘It’s like my child, who is four, he kind of knows what’s coming up next and you’re going ‘this shouldn’t be the way’.

The challenge of how Ireland, as a small country, funds a wider range of quality content was discussed and the difficulties of balancing extra choice with trying to maintain business models to sustain those choices. Gail put it: ‘we want to have all this choice but we don’t want to pay for it’ while others like Alan and Brendan said the public broadcasting licence fee needed to be spent with more effect. For Edward, it is all about content and he argued for a greater share of the public broadcasting licence fee to go towards radio rather than television. Like Brendan in the first group, he said the BCI should create a central pool of publicly funded content from all the services which could be digitally available - ‘A listen back internet based website and live stream for example’.

4.5 The Digital Radio Trial 2007/8 – Audience Feedback

The most extensive research carried out to date on audience experience of digital radio in Ireland has that commissioned by RTÉ as part of the Digital Radio Trial in November 2007 and conducted by tns/MRBI. Key findings from this privately commissioned research were made available courtesy of RTÉ to the team for this study and are reported on in summary form in the following. The overall objectives of the research were to examine the performance of DAB digital radio with respect to the needs and expectations of consumers in the greater Dublin area with a view to providing insights that would enhance the acceptance of DAB as a whole. Focus groups, eight in total, were held in Dublin and Dundalk and consisted of both pre-trial and post-trial discussions.

Among the issues considered as part of the RTÉ research was the consumer radio purchase process. Current attitudes to the purchase of new radio receivers are difficult to establish and the concept of purchasing a stand-alone radio was found to be relatively unfamiliar. Most households have a number of radio sets and rarely need to buy a new one. Priorities for the purchase of consumer electronics items are typically reserved for more complex digital or multimedia devices. Therefore, the threshold for what people are prepared to pay for a new stand-alone receiver is relatively low.

It was found in pre-trial tests that the sound quality of FM was satisfactory for most listeners. Current services available on FM were viewed as good background listening, ideal for multi-tasking – driving, working, doing housework etc. It is a well regarded service that is almost universally available and is free to listeners. Some of the possible weaknesses of current FM radio noted included variable sound quality with ‘hiss’ being a feature at some times and in specific locations. Receivers were criticized for having only a limited number of preset stations. It was also apparent that people rarely planned their
listening and there was little evidence of audience members for instance searching listings for programmes of interest.

It was apparent from the RTÉ research that the overall public awareness of DAB digital radio is very low. Digital radio suggested a number of things to participants and variously might refer to the digital display on a radio set, its digital tuner, radio via cable or satellite TV, or radio on a mobile phone. Those who were aware of it tended to have heard of it either from experience abroad, particularly where they had some familiarity with the service in the UK, or for technophiles who pride themselves on keeping in touch with new technologies and devices. At the time of the research (second half of 2007), no participants had been aware that the service was available in Ireland.

At the pre-trial stage, the feature of DAB that was of most interest to participants was the potential for greater choice, particularly from those who had an interest in UK and international services. The ‘pause, rewind and record radio’ feature of DAB also attracted considerable interest and was regarded as its most innovative feature, linking it most strongly to other digital technologies such as digital TV. Other features typically associated with DAB – ease of tuning, scrolling text, and clearer sound – were perceived to be not inherently decisive factors in attracting interest to the new platform. The quality of FM reception for instance was thought to be very high and deemed to be perfectly acceptable, if not quite CD-quality. Improved sound quality, therefore, was hard for consumers to grasp and rationalize given the current satisfaction. Similarly, the scrolling text feature was thought by listeners at the pre-trial stage to be of limited value and it was hard for audience members to imagine what additional information might be given over what is currently available.

Interestingly, a number of significant shifts occurred in evaluating many of these features at the post-trial phase. For example, participants appreciated the ease of tuning much more after the experience of using DAB. Having all stations pre-programmed was a new experience and considerably eased the browsing of channels. Scrolling text was still perceived to be of limited value, post-trial. While song titles and channel names were beneficial, the overall experience was underwhelming. More advanced text or graphical elements on more sophisticated screens would be desirable but are not available using the current technology. Listeners did appreciate the greater choice of content available with the channels on offer during the trial period. Likewise, the quality of sound, was thought to be significantly better on DAB, and considered to be CD or near-CD quality. The pause, rewind and record feature, available on just one receiver, failed to impress listeners. It was of limited use and not thought to be particularly effective.

The two key attributes of DAB to emerge most strongly from the trial therefore were the potential for greater programme choice and the improved sound quality. Ease of tuning also constituted a noticeable improvement and emerged as part of the marketing proposition with potential for consumer appeal. The receivers used during the trial – including PURE and Roberts models – were deemed to perform surprisingly well given their small size. It was regarded that receivers would appeal most to more affluent, older listeners who are interested in a deeper relationship with radio content and who are more frequent users of stand alone radio receivers. It is this segment, who it is thought, would be the most likely early adopters and indeed the DAB radio receiver was viewed as the ideal Christmas present for this population. However, participants in the trial did not immediately regard radio receivers as a valued or desirable consumer electronics item and would much prefer to see it integrated in other devices that for instance would include CD or MP3 functionality. Many would also prefer to see DAB available in cars and rather than purchase an individual receiver would wait until it was factory-fitted in a car before adopting the technology. The fact that it is not available
currently in cars (without a retro fitted unit not available in the Irish market) indeed hampers the perceived value of DAB as a platform and inhibits listeners’ interests in its services.

Among the conclusions, therefore, to the digital radio trial research that may be relevant in terms of the overall marketing message for digital radio in Ireland are the following:

- Demonstration of DAB features in an in store environment is a must and staff need to be informed and knowledgeable about the technology and the services available
- Programme listings and service information needs to be made widely available
- The development of demand for DAB digital radio will be a gradual process
- Marketing messages need to focus on the mix of technological attributes – superior sound, greater choice, new technical features – that have proven capacity to win over consumers
5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Overview

The findings of this research project capture a snapshot of the Irish radio market and how it is facing up to the transition to digital. The research gathered the viewpoints of radio operators, statutory decision-makers and the radio users/listeners themselves. It was conducted against a deteriorating economic radio market where a key preoccupation of most radio businesses was day-to-day economic survival rather than future planning. Yet there are consistent and recurring themes which present a range of opportunities as well as challenges for digital radio planning in the next 5-10 years.

A wide range of participants flagged a policy vacuum (in both survey responses see 1.5.2 and in interviews, see 2.2) and the need for a coherent, inclusive and coordinated digital radio policy. While the RTÉ digital radio trial and project was recognized to have been useful, the need for a policy-led initiative by the BAI was identified as crucial in order to provide an over-arching strategic framework for the whole sector, both public, private and not for profit. A key outcome of the research was that the majority of radio operators and decision-makers see DAB+ as the best long-term digital radio platform but equally identified the need for centrally-led research and development. The creation of an inclusive digital radio forum which would be anchored under the BAI was widely supported and, it was hoped, would lead to a new combined trial and research project. One of the gaps identified by the sector with the RTÉ trial was the lack of information which flowed to participants during the trial period. A new combined trial was seen as a means of providing research information on technology, costs, content and users.

5.2 Challenges and Weaknesses

5.2.1 Economic challenges

The overriding challenge facing the Irish radio broadcasting industry is unquestionably the current economic recession, which is having a severe impact on the sector and making future planning and investment a very challenging proposition. The capital investments required while not as substantial as those for television will be significant and there will remain the major issue of how to fund a network for digital terrestrial sound broadcasting. It should be pointed out that a full economic cost-benefit analysis was beyond the scope or remit of the current research, and an important priority for future priority is to identify the investment required and the potential benefits accruing in infrastructural and operational costs.

5.2.2 Lack of role models

Unfortunately, in this context there are very few comparable examples of small markets transforming to digital with reasonably significant initial capital investment but where the return is lower. The prominent market examples of the United Kingdom for DAB, or Australia for DAB+ are of a different order of magnitude and are of limited immediate relevance to the Irish situation. Of more relevance is a country such as Denmark where DAB has been a modest success: measured by penetration by households, Denmark overtakes the UK with a household penetration of 30%. All public stations in Denmark are on DAB including some new digital-only stations. Despite initial indifference, commercial
radio began DAB transmissions two or three years after the public broadcaster, DR, and is beginning to develop a substantial presence on the national digital network. The comparable size and configuration of the market, therefore, make more detailed study of such cases vital for further strategic planning in Ireland.

5.2.3 The consumer proposition
In the current very difficult economic environment, the prospects for developing a viable consumer market base for digital radio remain challenging. There will be very limited appetite among consumers for increased charges, taxes or licence fee increases to fund development of digital radio. Likewise, as demonstrated both in the RTÉ audience research and in our focus groups, radio receivers are not at present a strong consumer electronics proposition. The experience to date has shown that there is little awareness or understanding among the public of what digital radio is, why it may be necessary or what it could potentially offer. Indeed, while anecdotal, experiences of consumers reported in this research illustrate examples of where consumers have been treated poorly and where retailers also have a very limited understanding of digital radio.

5.2.4 The community sector
A further challenge for digital radio in Ireland is to ensure its inclusiveness, and in particular, to ensure that Ireland’s important community and not for profit sector are adequately represented in digital planning. As discussed in this report, there are contrary views on how this might be achieved, ranging from re-planning of DAB+ frequencies and/or FM, to better utilisation of the internet for community broadcasting. At present, it is clear that the community sector does not have the information it needs to make an adequate assessment of the options available. Again, the lack of suitable international examples has hindered further discussion and debate of the area. The digital future of community radio requires attention and research and will demand a specific focus from the BAI as it moves towards policy and implementation.

5.3 Advantages and Opportunities

5.3.1 Strength of radio in Ireland
One of the main advantages for the Irish radio sector is its current strength and high level of public support and loyalty. As we quoted in the Introduction, about 86% of the population listens to some radio whether community, local or national and Irish people spend an average of 4 hours a day with radio, one of the highest listenership rates in the world. Commercial national, regional and local radio, while still relatively young in Ireland, has carved out a stable market for itself and there is broad diversity of public, private and not for profit radio services across the Irish media landscape.

5.3.2 Late adoption of digital
Ireland’s relatively late entry into digital broadcasting, while a challenge in terms of the catch-up required overall, may also be considered an advantage and creates opportunities that may not have been available to previous entrants. As in many cases of technology adoption, relatively late adopters have the advantage of being able to learn from the experiences and the mistakes in other markets. In the United Kingdom, for instance, the early adoption and support for DAB has created one of the success stories for the DAB platform but also creates a problem for migration to DAB+ where there is now an installed base of in excess of 8 million receivers and which continues to be a matter of some
debate for the UK industry. In relation to technology adoption, there would appear to be few barriers
to moving to a DAB+ platform, as preferred by the majority of respondents to our survey, or
combination of DAB+ and DMB technologies. With the small numbers of receivers sold, Ireland is,
relatively speaking, a ‘green field’ site and can benefit from a detailed study of lessons learned
elsewhere.

5.3.3 New beginnings: new legislation and a new regulatory body
A key opportunity for the sector is the launch of the new combined broadcasting regulator, the
Broadcasting Authority of Ireland (BAI) and the Broadcasting Act 2009. This provides the sector with
both the legislative framework and the relevant statutory body to implement a national digital radio
policy and strategy. While the current economic recession, which is hitting the broadcasting sector
hard, creates a challenging back-drop for any digital broadcasting strategy in terms of both
commitment and funding, it equally offers an opportunity to use this time period to carry out the
research, development and planning required for any digital implementation.

5.3.4 Radio licence renewals
A second opportunity, with a defined window, is the commencement of the renewal of radio licences
which will begin from 2012 onwards and which offers the opportunity of creating clear, coordinated
incentives for those seeking renewal to develop digital radio and begin a national implementation
plan. The timescale allows for a period of more detailed planning and development, and avoids an
immediate rush to roll out new technologies or new services with inadequate strategic guidance or
policy oversight.

5.4 Recommendations
In conclusion, the following are the main recommendations which arise from the study:

5.4.1 Digital Radio Forum
The BAI creates, leads and chairs a digital radio forum that is representative of current
stakeholders, policy decision-makers, radio consumers/citizens, manufacturers/retailers and
digital media innovators. The Digital Radio Forum needs to be future focussed, inclusive,
independent and structured within a defined and realistic timeframe and tasked to assist the
strategic implementation of digital radio in Ireland. Its remit will be to explore digital radio, across
all platforms including the internet, to envisage the future of radio in Ireland, not just in relation
to technology, but in terms of its future as a social and economic communications medium.

There was a clear consensus across the sector that the establishment of such a forum was a
prerequisite for the development of digital terrestrial sound broadcasting (DTSB) in this country
and that a coordinated approach was essential to its success.

5.4.2 Policy White Paper
In conjunction with the digital radio forum, the BAI should present a policy White Paper by 2010
that will form the basis for consultation with the sector, new stakeholders and consumer/citizens.
The digital radio forum is seen as the crucial backbone to this process.
Arising from the research, many respondents articulated the view that a sense of direction and clear policy objectives need to be formalised and set down in the form a clear policy document that will map the goals, targets and incremental steps required to successfully implement DTSB. The White Paper will be a policy statement which can form the basis for sector and public consultation, feedback and engagement.

5.4.3 Research

The policy for digital radio should be underpinned by detailed and focussed research on the technology, economics and socio-cultural dimensions of this new development in broadcasting and media consumption. Our report highlights the lack of independent research on media consumption patterns and media market economics in Ireland and digital radio policy, as well as media policy in general, will benefit from targeted research.

The first steps arising therefore in progressing digital radio refer to convening the digital radio forum, collating the required research and consulting across the sector. On-going research, for example, in media market, technology and user needs will need to be commissioned and completed to inform a policy White Paper. Comparative modelling with similar sized digital radio markets and benchmarking with strategies being adopted internationally is an important element in this respect. Denmark, for example, has been identified above as providing a good match in a DAB+ market. One issue which clearly concerns the sector is the direct cost of implementing a terrestrial digital radio roll-out and precise costing models need to be constructed to assist decision-making.

5.4.4 Policy Coordination

BAI and ComReg should work closely together on digital radio policy, research and implementation and should coordinate and cooperate with European and international bodies working in this field. While both regulators do currently cooperate we are recommending that there is closer and more defined coordination which will assist public policy. ComReg should be a partner in the digital radio forum and there should be a sharing of knowledge and expertise.

Comments expressed in this report (Section 2.2) support closer integration between agencies involved in broadcasting regulation. We further recommend closer cooperation with bodies such as the EBU, World DMB and other relevant fora involved in digital radio strategy to maximize the opportunity to learn from experiences and expertise from outside Ireland.

5.4.5 Sectoral Awareness Building

An information and knowledge sharing campaign on digital radio for the sector is required to ensure radio operators are fully informed and empowered to participate in the consultative process when the White Paper is presented.

It was clear from the research that while there was a wide general awareness of the issues involved in DTSB, and a willingness to engage in debate on the subject, there was a dearth of
information about the options available, the impending challenges, in addition to conflicting views about the potential benefits or pitfalls. Digital broadcasting, for a variety of reasons, was not a priority for many broadcasters and given the relative lack of depth of information in the subject, many felt inclined to defer any further consideration of the matter. We recommend therefore that an emphasis be placed on information, consultation and awareness-raising to ensure that decisive steps in the post-2012 period are well-informed and have wide sectoral support and understanding.

5.4.6 Public Information Campaign

A broad communications engagement with the public is required to ensure the public is digitally literate, educated and aware of the issues, opportunities and challenges as well as the benefits of digital radio.

In addition to the need for a sectoral awareness-building programme, there is also a more urgent need for public awareness and education. As revealed in this and other related research, there is a low awareness of many issues surrounding the development of digital broadcasting, radio and otherwise. The public policy goals, where they exist, are not well understood and neither are the consequences of the competing options available. Crucially, international experience clearly shows that the success of any digital radio implementation relies upon extensive marketing and communication of the benefits of new technologies and service offerings. In many ways with radio’s own market a combined and integrated digital radio marketing plan is the best and most cost effective way of connecting with the public. At the same time, broadcasters and regulators need much greater information and insight into users’ changing needs and requirements and a two way information flow, based on research and consultation, remains a core requirement. A well briefed radio sector is at the heart of a well informed and pro-active public.
APPENDIX I
GLOSSARY OF TERMS AND LIST OF ABBREVIATIONS

ASO – (Analogue switch-off) means ending the transmission of analogue services.

BAI – (Broadcasting Authority of Ireland). Under proposals of the Broadcasting Bill 2008, the Authority will take over the functions of the Broadcasting Commission of Ireland, the RTÉ Authority, Board Téilifis na Gaeilge (TG4) and the Broadcasting Complaints Commission with new powers to fine broadcasters where it deems appropriate contract breaches require such but do not necessitate premature contract end.

BCI – (Broadcasting Commission of Ireland) is a statutory organisation responsible for a number of key areas of activity with regard to independent television and radio services in Ireland.

Broadcasting Amendment Act 2007 - is an Act of the Oireachtas. It deals with Irish Analogue broadcasting systems and the amendment of legislation on Digital Terrestrial Television dating back to 2001. The Act gives legal status to Irish national public service broadcasters, Radio Telefís Éireann (RTÉ) and TG4, digital terrestrial television obligations and also mandates the licensing of services for carriage on the RTÉ multiplex of Irish free-to-air channels (one, later two multiplexes, the Broadcasting Commission of Ireland for other interested broadcasters using free-to-air and pay-tier multiplexes (three, later four) and ComReg.

Broadcasting Act 2009 (July 2009) - is a government Bill which has been passed by the Oireachtas in the Republic of Ireland, sponsored by the Minister for Communications, Energy, and Natural Resources. The Bill has been passed by both Houses of the Oireachtas and is now awaiting promulgation by the President of Ireland. It will then be known as the Broadcasting Act 2009. The Bill will cover mainly regulation and broadcasting and digital switchover in the Republic of Ireland.

Convergence - Media convergence brings together the “three Cs”—computing, communications, and content. Media convergence represents the coming together of media content from traditional media like print, broadcasting or music and film with information technology and the internet to create multimedia applications.

ComReg – (Commission of Communications Regulation) is the statutory body responsible for the regulation of the electronic communications sector (telecommunications, radiocommunications and broadcasting transmission) and the postal sector.

DAB – (Digital Audio Broadcasting) is a method for the digital transmission of radio signals for mobile reception, developed by EUREKA project 147. It was not only designed for delivering sound, and in practice could include any sort of data like text and pictures, even video clips or web pages. Instead of just one service per frequency as is the case on FM, DAB permits up to nine (or more) services on a single frequency.

DAB+ - Additional audio codec for 'Digital Audio Broadcasting’ based on the new audio coding technology HE-AAC v2 (also known as AAC+ or MPEG-4). DAB+ is backwards compatible with the current DAB standard.

Department – Department of Communications, Energy and Natural Resources (DCENR) has responsibility for the Telecommunications, Broadcasting and Energy sectors. It regulates, protects and develops the natural resources of Ireland.
**Digital One** - a joint venture, backed by Global Radio (the largest British commercial radio company) and Arqiva (a company which provides telecommunications infrastructure and broadcast transmission facilities in the UK. Its main customers are broadcasters and mobile phone network operators, and its main asset is a network of over 1,000 radio and television transmission sites. It operates the largest DAB digital radio network in the world and is pioneering the role of digital radio in the commercial world. It is committed to the long-term promotion of digital radio in the UK and stimulating the market is part of its licence remit.

**Digital radio** - Digital is a way of transmitting sound and pictures as computerized bits of information. This takes up much less space in the airwaves (bandwidth) than the traditional (analogue) system, so there is room for more radio stations and other features.

**DMB** - (Digital Multimedia Broadcasting) is an audiovisual update of the DAB system. It’s a method for the digital transmission of multimedia signals (especially video services) for mobile reception.

**Downloads** - Transfer of data from a server to an individual computer’s hard disk. You can use your browser or an FTP (File Transfer Protocol) program to download files to your computer. A music download refers to the transferring of a music file from an internet-facing computer or website to a user’s local computer.

**DRM** - (Digital Radio Mondiale) was developed to provide near-FM quality sound on AM and it also has capacity to broadcast additional data and text.

**DTT** – (Digital Terrestrial Television System) broadcast entirely over earthbound circuits. DTT signals are broadcast over essentially the same media as the older analogue terrestrial TV signals. DTT provides a clearer picture and superior sound quality when compared to analogue TV, with less interference and offers far more channels, thus providing the viewer with a greater variety of programmes.

**DTSB** - Digital Terrestrial Sound Broadcasting stands for digital sound systems in the terrestrial Broadcasting Service.

**DVB** – (Digital Video Broadcasting) broadcasts programmes to everyone in the same way as traditional broadcasting; but the user can also download on-demand type audio content that is not a strictly live transmission.

**EBU** – (the European Broadcasting Union) is a confederation of 75 broadcasting organisations from 56 countries, and 43 associate broadcasters from a further 25. Members are radio and television companies, most of which are government-owned public service broadcasters or privately owned stations with public missions.

**EPG** – (Electronic programme Guide) is an on-screen guide to scheduled radio or television programmes, allowing a viewer/listener to navigate, select, discover and record content by time, title, channel, genre, etc.

**EUREKA 147** – a technical body initiated under the Eureka R&D development programme. The consortium comprising prominent European public broadcasters, the EBU and technology development institutes developed the original DAB (Digital Audio Broadcasting) System. The Eureka Project 147 was established in 1987, with funding from the European Commission, to develop a system for the broadcasting of audio and data to fixed, portable or mobile receivers. The technical development envisaged a digitalization of broadcasting distribution, which would produce improved reception compared to FM, particularly mobile reception, and with the potential to offer additional
services such as text and other data, conditional access, enhanced traffic services and picture transmission.

**IBI** – (Independent Broadcasters of Ireland) represents national, regional and local commercial radio stations throughout Ireland.

**IBOC** - (In-Band, On Channel) or **HD – radio** - uses the so-called sidebands on both sides of the analogue signal for the digital signal. This makes it possible to broadcast simultaneously a standard analogue signal, plus one near-CD-quality digital signal and a small amount of additional data. HD-Radio was developed by iBiquity Corporation in the United States.

**Internet radio** - (also known as web radio, net radio, streaming radio and e-radio) is an audio transmission service via the internet.

**JNLR** - (Joint National Listenership Research). The objective of the Joint National Listenership Research (JNLR) survey is to provide reliable estimates of audience to National, Regional and Local Radio, as a basis for the planning of advertising schedules. The research is carried out by TNS/mrbi for the JNLR Committee.

**MPEG Audio Layer II** - an audio codec defined by ISO/IEC 11172-3. It is a dominant encoding standard for audio broadcasting as part of the DAB digital radio and DVB digital television standards, and it is the core of the better known MP3 standard.

**MPEG 4/ HE-AAC v2** - High Efficiency AAC (HE-AAC) is a lossy data compression scheme for digital audio. It is an extension of Low Complexity AAC (AAC LC) optimized for low-bitrate applications such as streaming audio.

**Multimedia content** – content including or involving the use of several media such as audio, video, text and graphics.

**Multiplex** - A multiplex is a block of frequencies containing radio and data services. Using digital technology, more services can be carried within these blocks than can fit into a similar FM spectrum. An electronic system which combines programme material and related and other data in a digital form and the transmission of that material and data so combined by means of wireless telegraphy directly or indirectly for reception by the general public.

**Ofcom** – (Office of Communications) is an independent statutory body which regulates the UK’s broadcasting, telecommunications and wireless communications sectors.

**Podcasting** - combines the MP3-format with RSS (Really Simple Syndication) feeds. It allows listener to transfer files to his computer, laptop or mobile player and subscribe to non linear programmes.

**RAJAR** – Radio Joint Audience Research is the official body in charge of measuring radio audiences in the UK. It is jointly owned by the BBC and the RadioCentre on behalf of the commercial sector.

**Satellite Radio** - Satellite radio uses the 2.3 GHz S band frequencies. Satellite radio broadcasters currently include Sirius Satellite Radio, XM Satellite Radio and WorldSpace.

**SFN** – (Single Frequency Network) is a network of DAB transmitters sharing the same radio frequency to achieve large area coverage.

**TSA** – (Total Survey Area) is the metro survey area, plus all the counties surrounding it, that contribute a specified proportion of their listening to radio stations within that market.
**Web 2.0** - The use of World Wide Web technology and web design that aims to facilitate creativity, information sharing, and, most notably, collaboration among users. These concepts have led to the development and evolution of web-based communities and hosted services, such as social-networking sites, wikis, blogs, and folksonomies.

**World DMB Forum** - an international non-governmental organisation whose objective is to promote, harmonise and co-ordinate the implementation of DAB Digital services based on the Eureka 147 DAB system.
# APPENDIX II

## LIST OF SURVEY RECIPIENTS

<table>
<thead>
<tr>
<th>Public Radio</th>
<th>RTÉ</th>
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<tbody>
<tr>
<td>Broadcasting Groups</td>
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<tr>
<td></td>
<td>Communicorp Group Limited</td>
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<td></td>
<td>TCP</td>
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<tr>
<td></td>
<td>UTV Media plc</td>
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<tr>
<td>National and quasi-national services</td>
<td>Newstalk</td>
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<tr>
<td></td>
<td>Today FM</td>
</tr>
<tr>
<td>Regional services</td>
<td>Beat 102-103</td>
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<tr>
<td></td>
<td>SPIN South West</td>
</tr>
<tr>
<td></td>
<td>I Radio</td>
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<tr>
<td></td>
<td>4FM</td>
</tr>
<tr>
<td>Local services</td>
<td>South East Radio</td>
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<tr>
<td></td>
<td>SPIN 1038 Dublin</td>
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<tr>
<td></td>
<td>KCLR 96fm</td>
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<td></td>
<td>Radio Kerry</td>
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<td></td>
<td>Shannonside Northern Sound</td>
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<td></td>
<td>Tipp Fm</td>
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<td></td>
<td>Dublin's 98</td>
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<tr>
<td></td>
<td>Ocean FM</td>
</tr>
<tr>
<td></td>
<td>Dublin Rock Radio Limited - Phantom 105.2</td>
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<td></td>
<td>Dublin South FM</td>
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<tr>
<td></td>
<td>WLRfm</td>
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<tr>
<td></td>
<td>Star Broadcasting Ltd / Country Mix 106.8</td>
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<tr>
<td></td>
<td>Galway Bay fm , Sandy Rd, Galway</td>
</tr>
<tr>
<td></td>
<td>Clare FM</td>
</tr>
<tr>
<td></td>
<td>Midlands Radio 103</td>
</tr>
</tbody>
</table>
| Community services                  | Connemara Community Radio  
|                                   | Raidió Corca Baiscinn  
|                                   | Community Radio Youghal  
|                                   | Cork Campus Radio  
|                                   | Cork New Life Media  
|                                   | West Dublin Access Radio 96Fm  
|                                   | Raidió na Life 106.4FM  
|                                   | Dundalk FM  
|                                   | Dublin South FM  
|                                   | Near FM  
|                                   | Flirt FM 101.3/College Campus Radio  
|                                   | Wired Fm  
|                                   | West Limerick 102FM  
| Temporary Services                | Irish Rugby Football Union  
|                                   | Total Broadcast Consultants Ltd  
| Digital Radio Service Providers   | Digital Radio Ltd  

APPENDIX III  ONLINE QUESTIONNAIRE

Digital Radio Ireland - Broadcasters' Survey

1. Introduction

DIGITAL RADIO IN IRELAND

BROADCASTERS’ SURVEY

Thank you for agreeing to complete this questionnaire.

The aim of this survey is to assess current interest and activity in digital radio among Irish broadcasters. The research is being conducted by Dublin Institute of Technology and Athena Media, with support from the BCI Media Research Funding Scheme. There are 5 sections:

1. The Digital Radio Landscape
2. Technological Developments: DAB and DAB+
3. Technological Developments: Internet streaming and podcasting
4. Economic, regulatory and market landscape for digital radio
5. Future scenarios for digital radio

The questionnaire should take no more than 20 minutes to complete.

For further information about this research, please contact:

Helen Shaw, MD Athena Media: helenshaw@athenamedia.com

Brian O'Neill, Head of Research at Dublin Institute of Technology: brian.oneill@dit.ie
2. The Digital Radio Landscape

1. In order to ensure representativeness of the survey, we would ask you to please identify yourself.

Name: 
Position: 
Company: 
Email: 

2. Which of the following do you represent:

- RTE national public radio
- National/quasi national radio
- Regional radio
- Local radio
- Community and special interest radio
- Institutional and temporary services
- Digital radio service provider
- Other interest/representative group (IBI, CRAOL, AIRPI)

Other (please specify): 

3. Please briefly explain what you mean by the term “digital radio”?


## Digital Radio Ireland - Broadcasters' Survey

### 4. How important in your opinion are each of the following to the future of digital radio in Ireland?

<table>
<thead>
<tr>
<th>Service</th>
<th>Essential</th>
<th>Quite Important</th>
<th>Not Important</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAB (Digital Audio Broadcasting)</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>DAB+</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>DMB (Digital Multimedia Broadcasting)</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>DRM (Digital Radio Mondiale)</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Satellite Radio</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>HD Radio (In-band on-channel or IBOC)</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>DVB-H (Digital Video Broadcasting-Handheld)</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>DTT (Digital Terrestrial Television)</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Live Internet Streaming</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Podcasting via RSS Feeds</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Programme Downloads from station's own website</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Other (please specify)</td>
<td></td>
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</tbody>
</table>

5. Which do you believe is the most important and why?

6. Would you support JNLR tracking of digital radio audiences on DAB and online (podcasting, downloads and live streaming) as in the UK?

- Yes
- No
Digital Radio Ireland - Broadcasters' Survey

3. Technological Developments in Digital Radio: DAB and DAB+

1. Digital radio trials in Ireland (2007-8) provided services on the DAB (Digital Audio Broadcasting or Eureka-147) platform on both the RTE and a national commercial multiplex. On December 1, 2008 RTE launched six new digital services on DAB.

Did your company participate in the digital radio trial?

- Yes
- No

If yes, please assess your experience of the trial:

2. Do you agree that DAB is the right choice for terrestrial digital broadcasting in Ireland at this time?

- Yes, I strongly agree
- I agree
- I don’t know
- No, I disagree
- I strongly disagree

Why?

3. While the introduction of DAB is not linked to an analogue switch off (ASO), how critical is ASO for the successful launch and development of DAB?

- Essential
- Only Important
- Not very important
- Irrelevant

If you think ASO is important then what timescale should be set?
Digital Radio Ireland - Broadcasters' Survey

4. Internationally, DAB+ has been promoted as a new digital standard. The Australian Government has adopted DAB+ and has planned a commercial roll out for August 2009.

Do you believe that DAB+ would be a better choice for terrestrial digital broadcasting in Ireland at this time?

- Yes, I strongly agree
- I agree
- I don't know
- No, I disagree
- I strongly disagree

Why?

5. What do you understand as the main differences between DAB and DAB+?


Do you agree that multimedia is important to the future of radio?

- Yes, I strongly agree
- I agree
- I don't know
- No, I disagree
- I strongly disagree

Why?
7. How important are each of the following features of the DAB platform (DAB, DAB+ and DMB):

<table>
<thead>
<tr>
<th>Feature</th>
<th>Very Important</th>
<th>Important</th>
<th>Not Important</th>
<th>Irrelevant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy programme selection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perfect reception</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Excellent audio quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiplatform receivers</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Added programme-associated data</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Information services</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Targeted or niche music or data services</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wide choice of receivers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DAB as a purpose-designed system for</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>terrestrial mobile reception</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower transmission costs for broadcasters</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. What in your opinion are the drawbacks of DAB as a standard for terrestrial broadcasting?

9. What are the main barriers to a further roll out of DAB in Ireland?

Please elaborate:
Digital Radio Ireland - Broadcasters' Survey

4. Technological Developments in Digital Radio: Internet, Live Streaming and P...

1. What is your understanding of the term "internet radio"?

2. "Internet radio is a serious competitor to terrestrial radio (analogue and digital)."
   - Yes, I strongly agree
   - I agree
   - I don't know
   - No, I disagree
   - I strongly disagree

   Why?

3. Does your company currently offer any of the following internet radio services?
   How important is each to your current operation?

<table>
<thead>
<tr>
<th>Service</th>
<th>Very Important</th>
<th>Important</th>
<th>Not very Important</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live internet streaming</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Online only digital audio content</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Online multimedia content</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Programmes: Downloads via your radio station's own website</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Podcasting via RSS Feeds</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Programme-related content on website</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Radio service on a social networking site</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Other interactive or user generated content</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

4. When did your company first launch, or when are you planning to launch, internet radio services?

5. What did this consist of?

6. What was the main reason for developing an internet radio dimension to your FM provision?
Digital Radio Ireland - Broadcasters' Survey

7. Which aspects have been successful, and which not so successful?

8. Are you measuring your online/podcast audiences and if so what is the profile of your users/audiences?

9. Have you measured any shift in radio listening patterns – for example from linear to non-linear listening?
   1. Yes
   2. No

   What changes have you found?
Digital Radio Ireland - Broadcasters' Survey

5. Economic, regulatory and market landscape for digital radio

1. 'Ireland needs more radio services'. Do you agree?
   - Yes, I strongly agree
   - Yes
   - I agree
   - I don’t know
   - No, I disagree
   - I strongly disagree

   Why?

2. How are you funding your current digital activities?

3. Are your digital radio activities generating revenue from any of the following?

<table>
<thead>
<tr>
<th></th>
<th>Very Important</th>
<th>Important</th>
<th>Not Important</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online advertisement</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Spot advertisement</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Sponsorship</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

4. The Broadcasting Bill 2008 proposes a four-year licence extension for broadcasters who decide to migrate to a terrestrial digital platform such as DAB. Is this a sufficient incentive?
   - Yes, I strongly agree
   - Yes
   - I agree
   - I don’t know
   - No, I disagree
   - I strongly disagree

   Why?
Digital Radio Ireland - Broadcasters' Survey

5. What other incentives could be the commercial sector given to enter the DAB market? Please justify your answer.


6. What do you believe would be an appropriate annual charge for a service to be carried on a DAB multiplex?


Digital Radio Ireland - Broadcasters' Survey

6. Future of digital radio in Ireland

1. Thinking about the future of radio in Ireland, say in 2020, please indicate whether you agree with each of the following statements:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neither agree nor disagree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>FM will still be popular in 2020 even though there will be some form of digital audio broadcasting in Ireland as well.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Analogue audiences will continue to decline especially among younger listeners.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Digital radio, i.e. DAB, will succeed mainly because of the strong support by the public service broadcaster.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Users will become accustomed to digital diversity, multi-standard devices, and hybrid functionality.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>DAB, online and other technologies will be implemented in complementary ways.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Radio will lose out to other platforms and services like television and online.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Analogue switch-over is not on the horizon for radio and FM will persist well into the future.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>DAB will be the dominant platform in 2020, mainly because of its popularity in Europe and technical strength.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

2. How likely are you to invest, or continue to invest, in any of the following digital radio services in the next 5 years:

<table>
<thead>
<tr>
<th>Service</th>
<th>Very likely</th>
<th>Likely</th>
<th>I don't know</th>
<th>Unlikely</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAB</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>DAB+</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>DMB (Digital Multimedia Broadcasting)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>DRM (Digital Radio Mondiale)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Live Internet streaming</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Podcasting via RSS feeds</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>New digital or online only content</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Multimedia content</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

I'm not interested in digital radio. Please explain why?

3. Are there any other comments you would like to make about digital radio in Ireland at this time?
APPENDIX IV
INTERVIEW QUESTION PATH

1. Name, Title and Organisation and role in relation to Digital Radio.

2. What do you think are the key priorities for:
   A – Your organisation and/or
   B – Ireland

   in developing digital radio in Ireland?

3. What is your view on digital terrestrial broadcasting or DAB as a technology? Do you think it’s suitable for roll out in Ireland?

4. What do you think is the most appropriate regulatory and legal framework for the roll out of digital radio?

5. What lessons can we learn from abroad – particularly UK?

6. What do you see as the key blocks to the implementation of DAB or terrestrial digital radio?

7. How do you assess public demand for digital radio?

8. How significant do you see online as a platform for radio in the future whether streaming or downloads?

9. What steps should policy makers take to best serve the Irish broadcasting landscape and public?

10. How do you think a digital radio network can be funded or financed?
APPENDIX V

FOCUS GROUP QUESTION PATH

1. What are your normal daily radio listening habits? In terms of time you are listening and what you are listening to? (What do you like about radio?)

2. How are you listening? i.e. FM/AM linear radio via radio set or mobile device? Or via the internet? How important is your car radio if you drive?

3. Do you ever listen via your TV set - and if so is it satellite or cable?

4. What about your mobile phone do you use it for radio?

5. If you are listening via the internet do you listen to radios outside your territory - i.e. live streams from other countries?

6. Do you have an internet radio set?

7. If you are listening to non linear - not live - radio are you downloading podcasts/shows or listening to a player online?

8. If you are listening to non linear radio like podcasts or listen again players - how has that changed your radio listening? Do you listen less or more to linear/live radio?

9. Who has heard DAB - digital audio broadcasting - radio? (Explain terms)

10. Who has a DAB set?

11. How do you find it? What do you like/dislike about it?

12. How has digital whether the internet or DAB changed or improved radio for you? What does it offer you?

13. What would you like to see digital offer you? For example what would you like to see on offer in radio? (Give examples)

14. What are the drawbacks of radio for you? Choice? Access?

15. As a listener/user what would your message to the industry and policy makers be?
APPENDIX VI
LIST OF AUDITED RADIO STATIONS

List of audited Irish stations

RTÉ

• RTÉ Radio 1
• RTÉ 2fm
• RTÉ Lyric fm
• RTÉ Raidió na Gaeltachta

RTÉ Digital stations - non-simulcast DAB stations also available via Internet and Digital TV transmitters

• RTÉ 2XM
• RTÉ Choice
• RTÉ Junior
• RTÉ Gold
• RTÉ Pulse
• RTÉ Chill

National radio service

• 100-102 Today FM

Quasi - national radio service

• Newstalk 106 FM

Regional Commercial Stations

• Beat FM
• Spin South West
• iRadio North West
• iRadio North East
• 4FM

Local Independent Commercial Radio Stations

• Dublin’s 98
• Clare FM
• Cork 96FM
• C103
• Dublin’s Country Mix 106.8FM
• East Coast FM
• FM104
• Galway Bay FM
• Highland Radio
• KCLR 96FM
• Kfm
• Limerick’s Live 95FM
• LM FM
• Midlands 103
• Mid West Radio
• Northern Sound Radio
• Ocean FM
• Phantom 105.2
• Q102
• Red FM 104-106
• Radio Kerry
• Shannonside 104FM
• South East Radio
• Spin 1038
• Tipp FM
• WLR FM

Special Interest Station

• Dublin City FM

Community Radio Stations

Community of Interest

• Cork Campus Radio
• Flirt FM
• Raidió na Life
• Wired FM
• Life FM

Community

• Claremorris Community Radio
• Community Radio Castlebar
• Connemara Community Radio
• Dublin South FM
• Dundalk FM100
• Liffey Sound FM
• Near FM
• Phoenix FM
• Raidió Corca Baiscinn (South West Clare Community Radio)
• Raidió Pobal Inis Eoghain
• RosFM
• Tipperary Mid West Community Radio
• West Dublin Access Radio
• West Limerick 102
• Community Radio Youghal

**Institutional stations**

• CUH FM Hospital Radio
• Mater Hospital Radio
• Regional Hospital Radio
• South Tipperary General Hospital Radio
• St. Ita’s Hospital Radio

**Temporary services**

• Ballyfermot College of Further Education
• Belfield FM
• Bray Institute for Further Education (Bray Senior College)
• Colaiste Stiofain, Tramore Road, Cork
• DHDA , Dublin
• DIT Dublin
• Griffith College, Cork
• Institute of Technology, Tallaght . (ITT FM)
• IRFU Croke Park
• IRFU, Thomand Park, Limerick
• LCRFM Liberties College
• Power Media Limited,Dublin City and County
• Radio Inbhear na Sionna
• Raidio Ri-Ra
• Shannon and District Community Radio Ltd.
• South West Donegal community Radio
• Sound Decisions Ltd, Thomand Park, Limerick
• Sound Decisions Ltd, Royal Dublin Society, Dublin
• Space FM, Dublin City and County
• Tallaght Community Arts Centre, Tallaght
• Trinity College Dublin
• Zenith Classic Rock,Waterford, Wexford areas

**List of audited European Public Broadcasters**

**Denmark - DR**

• DR P1
• DR P2
• DR P3
• DR P4

**Finland -YLE**

• Radio Finland
• YLE Radio 1
• YLE X
• YLE Speaking
- Ylen Classical
- Radio Vega
- Radio Extrem

**France - Radio France**
- France Inter
- France Info
- France Bleu
- France Culture
- France Musique
- FIP
- Le Mouv

**Germany - Bayerischer Rundfunk**
- Germany - Hessischer Rundfunk
- Germany - Mitteldeutscher Rundfunk
- Germany - Norddeutscher Rundfunk
- Germany - Radio Bremen
- Germany - Rundfunk Berlin-Brandenburg
- Germany - Saarländischer Rundfunk
- Germany - Südwestrundfunk
- Germany- Westdeutscher Rundfunk
- Germany - Deutsche Welle
- Germany – DeutschlandRadio

**Italy - Radiotelevisione Italiana (RAI)**
- Radio 1
- Radio 2
- Radio 3
- Giornale Radio Rai
- GR Parlamento
- CCISS Viaggiare Informati
- RAI International radio
- Isoradio
- Filodiffusione

**Netherlands - Nederlandse Publieke Omroep**
- Radio 1
- Radio 2
- 3 FM
- Radio 4
- Radio 5
- Radio 6
- Fun X

**Norway - Norsk rikskringkasting (NRK)**
- NRK P1
- NRK P2
- NRK P3
- NRK mP3
- Alltid Nyheter
- KORK Klassik
- NRK Jazz
- NRK Folkemusik
- NRK Gull
- NRK Sport
- NRK Super
- NRK 5.1
- NRK Oslofjord
- NRK SAMI Radio
- NRK Urort
- NRK Storting

**Poland - Polskie Radio**
- Program 1
- Program 2
- Program 3
- Euro

**Spain**

- **Spain - Radio Popular SA COPE**
- **Spain - Radiotelevisión Española**
  - Radio NAcional
  - Radio Classica
  - Radio 3
  - Radio 4
  - Radio 5
  - Radio exterior

**Sweden - Sveriges Radio Ab**
- P1
- P2
- P3
- P4
- News
- RadiospoRTÉn

**Sweden - Sveriges Utbildningsradio Ab**

**Switzerland - SRG SSR idée suisse**
- Schweizer Radio DRS
- Radio Suisse Romande
- Radiotelevisione svizzera di lingua italiana
- Radio Rumantsch
- Swiss Satellite Radio
- World Radio Switzerland

**United Kingdom - BBC**
- Radio 1
- 1Xtra
- Radio 2
- Radio 3
- Radio 4
- 5 Live
- 5 Live Sports Extra
- 6 Music
• Radio 7
• Asian Network

Ireland - RTÉ
• RTÉ Radio 1
• RTÉ 2fm
• RTÉ Lyric fm
• RTÉ Raidió na Gaeltachta

RTÉ Digital stations - non-simulcast DAB stations also available via Internet and Digital TV transmitters
• RTÉ 2XM
• RTÉ Choice
• RTÉ Junior
• RTÉ Gold
• RTÉ Pulse
• RTÉ Chill
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