

## Chapter 2

### Radio in the new media environment

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#### **Abstract**

Today, two mediamorphoses are occurring simultaneously: a transition to digital and a transition to information technology (IT). This applies to all aspects of broadcasting: collection and storage, processing and distribution. All now use digital technology in the context of convergence of traditional radio and television, telecommunications and IT. Radio, television, phones and computing all share a number of common characteristics. This technological revolution is so profound that we are talking today about the twilight of the 'old' print and electronic media and the emergence of the 'new'. The critical point in the evolution of the newer media and dissemination via the internet was in the 1990s, because it is the internet - a medium, yet also a powerful information resource - that lies at the heart of the new realities of media and the technologies underpinning them.

For radio broadcasting there is no unique and inevitable future which can be predicted in advance. We can, however, identify trends and tendencies, as a snapshot of the development dynamic. Currently, technology is one of the most important determinants of the development of radio. This chapter considers the possibilities available to radio broadcasters in these evolving circumstances.

**Keywords:** radio, technology, digital radio, web radio, new media, Poland

## Developments in radio

Advances in technology have been accelerating as the digital environment has been evolving. As the European Broadcasting Union Digital Strategy Group II said (EBU 2006:15), 'Digital technology makes possible new ways to produce and deliver media, and brings a wider use of ever more sophisticated multimedia, interactivity, the option of multi-channel services, on-demand services, and the availability of different picture and sound quality options'. The group identified trends in the development of radio as:

- *From analogue to digital*  
Digital audio takes less frequency space and transmitter power, and allows for a wider choice of offer within the same bandwidth.
- *From flow to demand (from linear to non-linear services)*  
Traditional flow radio, formatted for specific programme genres or target groups will be supplanted by a series of on-demand or near-on-demand services, where the listeners can pick and choose the desired programmes when it suits them.
- *From broadcasting to narrowcasting*  
In order to meet the listeners' demands for free choice round the clock, broadcasters must provide a wide range of formats. The same content might be shared or versioned for different channels and outlets – or even automatically repeated in order to serve different listeners in different time slots.
- *From one-platform to multi-platform*  
The radio of the future is a multiplatform phenomenon. Radio will be available on a wide range of technical devices, from racks and hifi's through stand-alones and portables to handheld and pocket receivers. Everything digital – from television and computers to cell phones, mobiles and PDAs – will be able to carry sound, and thus carry radio, too.
- *From one-standard to many-standard*  
There will be no single, winning standard for digital radio. DAB/DMB, DAB+, DRM, DVB – they all have their strengths and weaknesses, which will mean they need to co-exist. Manufacturers will make dual, triple and eventually multi-standard radio sets for the consumers. And the consumers will not have to navigate through a jungle of frequencies or abbreviations, as the tuners will have easy-to-navigate browsers on displays with station brands.
- *From passive listening to active choosing*  
With a broader range of programme and channel offer, and hundreds of thousands of internet radio stations, listeners will be able to pick and choose their favourite programmes or channels, possibly aided by electronic program guides or intelligent 'radio agents'.

(EBU 2006: 29-30)

## The context for developments in radio and other media

The new communications landscape, including the media, can be described as moving from a more vertical, authoritarian, paternalistic model to models involving participation and horizontal dialogue. A new communication landscape, with a much

wider choice of content created by an increasing number of sources is not limited by monopolies but has an impact on established national channels, both television and radio, because customers can seek out niche channels - diminishing the importance of large media corporations that own big media brands. However, this contemporary media landscape, with the ability of audiences to navigate around it, has created a tendency to downplay the traditional media, which continue to play an important role in the lives of a large part of the public. The diversification of the content needs of individuals and communities alike has led to the abandonment of an asymmetrical relationship between broadcasters and audiences. The hierarchical system characterised by the traditional, unilateral, 'top-down' flow of information has been replaced by a horizontal structure which respects the subjectivity of participants in the communication process, and assumes some interchangeability of their roles. While in the traditional media, the message was delivered to mass audiences without their participation, in the case of newer media the most important element has become interactivity and active participation in the community of consumers, creating a 'creative efficacy' (or agency) and this has developed consumers' sense of their own citizenship.

Members of the new 'involved and independent media culture' have introduced such neologisms as 'prosumers' (Toffler 1980). They are needed here for two reasons. Firstly, the mass audience is not as passive as it is assumed to be in the theory of 'a mass society'. Secondly, in the context of new media, any statements about audience involvement, interactivity and their consequences must be considered in the context of the fundamentally changing 'real' user experience. Increasingly, ordinary consumers of media have changed from 'buyers-only' into content providers, publishers and broadcasters, such as bloggers, participants in forums and discussion groups, members of online communities, and even radio broadcasters, publishers and video presenters. Note, however, that such a model does not accommodate the importance of the so-called media institutions. Mainstream media organisations, with the professional experience of their staff and their professional skills, as opposed to those in alternative media, have little in common with participatory media communities, so some very optimistic assumptions about the extent to which participatory processes occur in the media exaggerate reality. Social networking does, however, in many of its forms, represent a clear challenge to the conventional representation of audiences as masses, creating communities and fundamental social groups.

In general terms, new technologies have the following properties: the use of digital recording and data processing, the integration of different networks of communication, and interactivity between users or between the user and the content producer. This means that the broadcaster and receiver roles have become interchangeable, and interactivity can give a consumer complete control over the pace, structure and content of communication. The integration of the communication network involves all content elements, such as video and audio data and metadata. This complexity has significantly disrupted the routines of analogue technology and traditional vertical, linear relationships between content production and distribution. Now, development, transfer and distribution of content using new technologies and associated software are decentralised and individualised, having created both multimedia and hypermedia, and the space opened up is a cyberspace defined as a communication space, open to operation on a global scale, integrating media content production and distribution with

computing and data transmission. In addition to established telecommunication services, such as telephony and fax, the widespread use of digital technology with broadband and high-capacity distribution networks using various transmission media and signal processing techniques, allows content to be conveyed repeatedly in megabits, including the transmission of visual information, such as video conferencing, multimedia, e-mail and file-sharing. Now commonplace on the media landscape are increasingly individualised interactive multimedia, such as video and audio on demand, pay TV and radio, computer games, teleshopping, banking, ticket booking, educational services, medical consultations and many others, the provision of which has become possible thanks to technological convergence, the development of broadband internet access and the standardisation of network devices using IP (Internet Protocol).

However, according to the authors of *From Public Service Broadcasting to Public Media Service*, while television and the internet are often experienced as mutually competing platforms, radio and the internet are complementary by their very nature. Among young internet users aged 25-34, 36 per cent listen to radio while searching the internet (EIAA 2008). FGI research conducted for Danmarks Radio (DR) found that young people do not always conform to the audience groups as defined by radio producers, because they are more individualistic. DR has experimented with a personalised internet radio platform, a mix of radio on-demand and podcasting, on which listeners can create their own radio stream by picking and mixing different kinds of content (Heiden 2009). Another example is combining multiplatform and mobile radio - so-called Pod Radio - where mp3-browser and player combine to play podcast content from Swedish public radio through Wi-Fi or 3G (Torberg 2009).

Concerning the much-discussed distribution platforms and technical standards of radio, many platforms and standards do and will continue to co-exist. Practically every radio broadcaster has had an online presence for a number of years, offering simulcast services of their broadcasts, enabling listeners to access their stations via a computer. However, new devices such as smartphones or other mobile devices and Wi-Fi enabled radios are giving broadcasters new ways of reaching listeners as well as enabling new market entrants to offer services other than traditional radio.

An analysis of digital and online radio consumption in five countries, France, Germany, Sweden, the UK and the USA, revealed the following trends:

- In general, radio listening via broadcast AM or FM networks is declining and the average listening time per listener is decreasing. The decline in the number of radio listeners and the time spent listening is most marked among younger generations.
- Online audio streaming is growing in most countries, driven in particular by personalised interactive music services such as Pandora, Spotify, Last.fm etc.
- The advent of the smartphone, bringing with it rapid growth in the availability of radio apps and the increase in popularity of interactive music services, is driving growth in radio listening on the mobile phone.
- Mobile apps are making radio more interactive and personal.
- The impact of social media networks is growing. Listeners, particularly younger generations, are increasingly accessing radio via social network sites such as Facebook and Twitter.

- Video viewing and targeted advertising are becoming increasingly common for online radio services.

(EBU 2011: 11)

### Radio and pararadio technologies

*Digital radio* In the mid-1990s it seemed that the only digital standard for the development of radio transmission would be the DAB standard Eureka 147. DAB would be a natural successor to FM, as well as a proven technology with solid foundations to ensure its widespread adoption. Now DAB is no longer the only such audio transmission technology, as other digital audio distribution standards have emerged, and those which can be used by radio can be categorised in four groups:

- terrestrial radio (DAB audio, DAB +, DRM, IBOC)
- terrestrial TV (DVB-T)
- mobile multimedia (DVB-H, DMB)
- systems not dedicated to radio broadcasting (satellite radio, web radio, advanced mobile systems, broadband, podcasting, hybrid systems)

Today, none of these standards are dominant. Some of them will probably disappear, while others will in future be subject to a process of convergence, creating the next generation of digital standards. The growing number of standards is tending to outpace the ability of national regulators and broadcasters to thoroughly evaluate them and the implications for their national digitisation plans.

*Web 2.0* The second wave of technological change has enabled the creation of social networking websites and big projects shaped by users and based on content created by them. This phenomenon is socially beneficial in the sense that it encourages involvement and cooperation. Some even consider this can become a challenge to mainstream media producers in terms of the production, packaging and distribution of cultural heritage. This has advantages and disadvantages. While on the one hand content created and distributed by users can be a challenge to the mainstream media, on the other hand, these established media producers have learned to exploit this phenomenon for their own benefit, as a source of free content. In this context, there are broader questions related to intellectual property and protection of the creators of the web content, as media corporations try to control the content and its distribution. Therefore, internet users have an interest in preventing the appropriation of the internet, such as through the development of the concept of free software licensing termed Creative Commons. Broadly, this concept allows consumers free transfer, copying and use of derivative works in non-commercial ways, while respecting the author of the original work, in order 'to develop mechanisms that can operate a global repository of knowledge - ideas published under protection. Creative Commons licenses are available to all and thus can become a leaven of new knowledge' (Gawrysiak 2010: 99). The most significant characteristics of Web 2.0 are interactivity and user involvement, the sharing of data and content, the common platform, the potential for innovative development through exchange within the network community and support for using the software. Examples are blogs, forums, tools, wikis, other open source projects and the release of source code. API (Application Programming Interface) allows the creation of hybrid

applications known as mashups. This was the second developmental stage of the internet, encouraging rapidly-developing social networking sites like MySpace, Facebook, Bebo and other easy ways to receive individualised content online.

*Blogs* The dynamic growth and the popularity of blogs and social networking sites is one aspect of the social use of Web 2.0 that emerged through the development of infrastructure, faster access to the network and the ever increasing number of computers and other equipment to facilitate direct contact, such as mobile devices. Blogs emerged in the late 1990s. Soon, software was created to facilitate blog creation and the form has evolved, giving rise to such formats as the photoblog, video blog (vlog), mobile blog and the microblog with very short entries, such as Twitter. Another feature of blogs is that they tend to foster interaction and stimulate a sense of belonging to a community. As the *Why it Works* EBU project research showed, listeners appear to be spending more time on the social media profiles of their favourite programmes than on the official websites. The blogs with a strong focus on the presenters were seen to be the most popular. When blogs are personal, informal in tone and frequently updated, they seem to gain (and retain) audiences, as in the case of the Spanish programme *Asuntos Propios*, whose presenter, Toni Garrido, is able to generate a sense of intimacy among his listener-readers. Along with photos and videos, blogs are the best 'Trojan horse' to attract listeners from social media profiles and guide them back into the official website of the radio channel. All eight programmes with blogs used them to publish the links to fresh blog posts on their Facebook walls and Twitter profiles, to draw fans from social media to them. Social media are based on so called 'push'-technology, while blogs are based on 'pull-technologies'. A good strategy for broadcasters is to use these two different models in a hybridised manner (EBU 2011a).

*Social media* These have experienced a similarly rapid increase in popularity to blogs and social networking sites. The largest number of users of these services are young people – the 'digital natives', according to Prensky (2001). In June 2011 two stations of Jelli Radio in Las Vegas (KHIJ-FM, KVBE-FM) were the first ever social terrestrial radio stations completely powered by the social web (Jelli 2011). The listeners could choose, in real time, any song on air via Jelli's website or Jelli's free iPhone app. The listeners (users) could vote for songs, share songs on Twitter and Facebook, discuss with the other community members content being broadcast and use two unique Jelli 'power-ups', a Rocket and a Bomb, to further influence the content to be aired next. In addition, users were able to access a much broader selection of music than is typical of radio, and connect with other music fans during special night sequences. Even if social media use has only entered into the production routines of public radio broadcasters over the last few years, they have become a crucial, but also frequently misunderstood and underestimated, tool. In recent programme case studies, a number of similar social media practices, both effective and innovative, were identified. On the one hand, in general the social media strategies used by the analysed programmes showed that most of them had finally understood the importance of social media in nurturing the relationship with their audiences, using social media like an umbilical cord connecting listeners to producers when the radio is off. On the other hand, not all the programmes fully exploit their potential audience reach. Many differences in levels of interaction can be observed from one programme to another, due to their different target audiences and genres, or, sometimes, even due to a simple underestimation of the potential of the tool.



*Podcasting* Podcasting is a form of audio content distribution, periodically received by the consumer's computer on a subscription basis for a fee or free of charge. Since its first phase around 2004, podcasting has become popular among many radio stations in order to provide users with some time-shifted radio content. They are non-linear services, going beyond the limited scope of the traditional broadcast and schedule. In this way, podcasting is a means of extending the coverage and the impact of the station and strengthening the commitment and loyalty of its listeners. It also allows listeners to mix genres and receive them on mobile devices. Podcasting can offer the ultimate mode of consumption of radio, according to the EBU (2007). In the autumn of 2006, in Europe approximately 12 per cent of internet users had downloaded podcasts in order to listen to them in the future. But only one per cent downloaded them on a typical day. In the period 2004-5, many European broadcasters began podcasting. In 2007, Radio France reported 350,000 downloads in a week, and in Italy RAI reported 200,000. This activity concerns largely young listeners who are also active users of mp3 players. Most podcasts are offered by public stations for free, yet they focus on speech content.

This initially posed a number of questions. Is podcasting the future of radio? Is there a missing element in the relationship between radio and the network which the internet radio stations cannot provide? Is the technology really revolutionary or is it just a passing trend, culture-wise? Finally, is podcasting a more democratic system or just another tool to be used by the international music industry? On the basis of just a few years of experience and observation we may now attempt to give at least a cautious response to the last two questions. Currently, podcasting is not yet an effective means of developing media democracy. However, it is valued and used by the record industry, by radio stations and by political and cultural organisations, and it is an important element in promoting and strengthening ties with listeners, supporters and consumers, partly because of its element of active subscription.

*Visual radio* Radio, in the digital world, can now use new technologies and techniques to add a visual dimension to its content. In its simplest form, this consists of the radio station displaying simple graphics on digital televisions, in various applications on smartphones and networking players, (such as the UK RadioPlayer,) and in social media content. Such projects as RadioDNS and dDAB indicate that radio listeners use the screen in order to see information that may be omitted from the audio narrative, such as song titles. However, the RadioDNS system goes one step further and allowed, for example, the London radio station Capital FM to display on-screen information about delays on the Underground and other local information. Trying to visualise entire radio programmes on multiple platforms, in January 2009 BBC Radio 1 experimented with a visual version of two radio programmes, providing live footage of the presenter of the radio programme simultaneously with text messages sent in by listeners via the internet (Spencer & Torberg 2009). Visibility is increasingly being made use of by the BBC - on Radio 1, Radio 2 and Radio 5 Live, for example, but crucially, the technology and its relationship with the audience has evolved to the point where the radio can visualise content without reducing the impact of the audio. It does not need to significantly change the nature of the radio content, as happened in the case of the Polish station PR 4 Czwórka, when the visual element began to dominate the audio.

## Conclusion

Today, radio is being consumed in new and different ways across a variety of platforms and devices, yet the traditional strengths of radio are undiminished: mobility, ease of access, real-time broadcasting, integration with the community, personalities, entertainment, established journalistic standards and creative audio programming. The challenge is to transpose these strengths and unique attributes into the new media environment. Meanwhile, the threat to radio is that other media and new devices could potentially become substitutes for it in some of these areas. The threat may not be immediate - for example, in Europe radio consumption through mobile phones remains marginal and the rise in internet radio listening has not been shown to significantly diminish broadcast radio consumption. On the other hand, many listeners first experience digital-only radio channels through digital television platforms. Consumers are satisfying their needs in different ways and they naturally seek the easiest and cheapest ways to do so. Few doubt that radio will persist as a medium. Certainly, other media have become more like radio in some respects, as some newspapers now produce audio - and it is also inevitable that radio will exhibit characteristics of other media with its visualisation. Yet, the distinct and defining features of radio will most likely remain.

Radio's digital and internet strategies have been driven by a culture of innovation and technical progress. The environment for media delivery is still changing, and radio broadcasters need to understand, adapt and respond to the changes. Technology today offers a large range of options. Radio broadcasters must grasp those which will best serve their listeners and users. The success of radio in the competitive digital environment depends on whether it is able to provide the content people want on convenient platforms in accessible, customisable and easy-to-navigate ways.

The challenges for radio broadcasters in the future were summed up by the EBU as to: 'support open standards, secure provision of adequate spectrum, secure the free access to digital platforms, secure digital content rights including music rights, provide distinct and competitive content on all platforms, increase availability of programmes in a convenient form, and create new forms of intriguing, innovative, involving and interactive radio formats' (2007: 196).

## References

- EBU (2002) *Media with Purpose*, Geneva: European Broadcasting Union.
- EBU (2006) *Public Service Media for the Digital Age*, Geneva: European Broadcasting Union.
- EBU (2007) *Public Radio in Europe*, Geneva: European Broadcasting Union.
- EBU (2011) *Public Radio and New Media Platforms*, Geneva: European Broadcasting Union.
- EBU (2011a) *Why It Works*, Geneva: European Broadcasting Union.



- EIAA (2008) *Digital Generation Report*, London: European Interactive Advertising Association.
- Gawrysiak, P (2010) 'Wolne idee kontra "świat copyright"', in Jedrzejewski, S & Francuz, P (eds) *Nowe media i komunikowanie wizualne*, Lublin: Wydawnictwo KUL.
- Gorman, L & McLean, D (2009) *Media and Society into the 21st Century*, London: Wiley-Blackwell.
- Heiden, H (2009) 'Delivering innovative services', presentation at *Multimedia Meets Radio* conference, Prague, 5-6 April.
- Jenkins, H (2007) *Kultura konwergencji: zderzenie starych i nowych mediów*, Warszawa: Wydawnictwa Akademickie i Profesjonalne.
- Krzysztofek, K (2010) 'Internet uspołeczniony: Web 2.0 jako zmiana kulturowa', in Jedrzejewski, S & Francuz, P (eds) *Nowe media i komunikowanie wizualne*, Lublin: Wyd. KUL.
- O'Reilly, T (2005) 'What is Web 2.0? Design patterns and business models for the next generation of software'.  
<http://www.oreilly.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html>
- Prensky, M (2001) 'Digital Natives, Digital Immigrants', in *On the Horizon*, Bradford: MCB University Press, October, volume 9, issue 5.
- Radio Nederland (2011) "'First-ever" social radio stations to launch in US', Amsterdam: Radio Nederland Worldwide Newsletter.
- Spencer, B & Torberg, H (2009) 'Thinking multiplatform', presentation at the *Multimedia Meets Radio* conference, Prague, 5-6 April.
- Toffler, A (1980) *The Third Wave*, New York: Bantam Books.
- Torberg, H (2009) 'Delivering innovative services', presentation at *Multimedia Meets Radio* conference, Prague 5-6 April.
- Trappel, J, Meier, WE, D'Haenens, L, Steemers, J, Thomas, B (eds) (2011) *Media in Europe Today*, Bristol: Intellect.