THE AGE OF PODCASTING

The age of podcasting

How newsrooms in the United Kingdom are using the iPod revolution to their advantage.

Lessons for New Zealand about podcasting and online audio/video operations

A report for the Robert Bell Travelling Scholarship
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Introduction

The advent of new technology has long heralded significant changes to how the media operates. The introduction of the printing press, the computer and the internet all had a major impact on the media landscape, altering the way news and information was presented and received.

The invention of the portable mp3 player (iPods and other branded players) as well as audio and video players on computers has had no less of an influence on modern-day media. Online audio, online video and podcasts are now a significant part of operations at the world's major media organisations.

The growth of podcasting in the past 36 months has been arguably the fastest development of any new media. In September 2004, as the new technology began to reach the mass-market, a Google search for the word 'podcasts' turned up 24 hits. Little more than one year later, in October 2005, the same Google search resulted in more than 100 million hits. (Gillmor; 2006) As this report was compiled, the plethora of podcasters and their users raise tens of millions of further hits.

Podcasting essentially allows almost anyone with a PC and an internet connection to become their own radio station. Podcasters can post music, interviews, programmes, opinion – basically anything, on the internet. Listeners can download the tracks to their computer or portable device, choosing exactly what they want to listen to and when.

The staggering growth of podcasting poses potentially the biggest threat to live radio audiences since television began, and broadcasters worldwide have been forced to adopt the technology in an effort to fend off millions of individual podcasters and build on their own audiences.

In Britain, major newspapers have also established podcasting services – heralding a major shift for the newspaper industry it builds new audiences outside the readers of printed editions.

It is fair to say many top players in the British media are taking the podcasting and online audio and video market very seriously. In the British Broadcasting Corporation's (BBC) report on new media in 2005, the media giant stated:

"Digital technology is changing the structure of the UK broadcast market by transforming the production, distribution and audiences' consumption of media content. This revolution presents great opportunities and challenges for consumers and citizens alike. But not all the opportunities will be realised by the commercial marketplace alone."

Internet figures from the United Kingdom suggest online audio and video is now well established and has a massive future.

In May 2006, internet audiences downloaded 4.5 million BBC podcasts. In the first three months of 2008 – with the introduction of BBC's iPlayer service, more than 42 million files were downloaded from bbc.co.uk.

One of the technologies driving the revolution – Apple's iPod (the original MP3 file player) is also continuing to flourish in worldwide sales figures, adding weight to suggestions the podcasting phenomenon will only gather strength in coming years.

In 2005, Apple sold more than 32 million iPods – equating to about one every second. (Castelluccio; 2006) Last year the company sold its 100 millionth iPod. Those figures do not include the proliferation of MP3 players produced by other electronics giants such as Philips, Sony and Panasonic – which are all capable of receiving and playing podcasts.

For both radio and print media in New Zealand, podcasting technology has come at a crucial point – offering some hope of a new and wider market, amid declining consumption of traditional media products.

Readership of most New Zealand newspapers has been in decline for several years, and at the end of 2006 major media company Fairfax announced the reduction of around 70 staff from its New Zealand operations.

Kiwi broadcasters have also experienced declining audiences in recent years. Radio New Zealand saw its actual weekly audience drop from 517,000 listeners in 2005, to less than 475,000 listeners in 2006.

At the same time as New Zealand organisations struggle to retain traditional audiences – they have been able to make some advances towards establishing quality digital services. The fact Radio New Zealand was the most popular Kiwi radio website in the year to June 2007 experiencing two million requests for online programmes or portions of programmes, shows that Kiwi audiences are increasingly adapting to the internet as a source for audio content.

This research is a look at the development of online audio and video operations at four of the United Kingdom's largest media outlets. The Daily Telegraph and The Guardian newspapers, the British Broadcasting Corporation (BBC), and the London Broadcasting Corporation (LBC). All of these organisations have been industry leaders in developing online audio and video.

Examined in the report is the technology behind this new media, how it has developed at each of the media organisations, what has been the most and least successful uses of the technology, and what changes it has brought to the product, the journalists, and the original mediums used to communicate.

The information is drawn from time spent at the four outlets, interviews with senior editors, producers and management at each organisation, and information provided by scholars with experience and knowledge relevant to the subject.

The research findings are of interest to New Zealand media as, at this point in time, online video and audio operations remain comparatively in their infancy within the country's major media outlets. Much can be learned from the experiences of the leading companies in the United Kingdom.

Although this study offers a wide-ranging report on British online audio and video operations at present and a look at their impact on journalists, it is by no means exhaustive and there will be some aspects of the technology and its impact not considered.

This study is intended to be of use to both an academic and industry audience. Due to the relative freshness of the topic there is very few academic scripts to refer to on this subject, and even less which offer any discussion of value about the new technology. Thus, the report is written primarily as a primary research piece – indicating findings from isolated visits to the aforementioned newsrooms.

The study is still balanced by views from some of the small number of academic texts relevant to this subject and an interview with one scholar involved in training journalists to become adaptable multimedia reporters.

While not having a wealth of academic references restricts the report's ability to seek out and discuss any holistic arguments about any long-term impact of online audio and video on the media landscape, it helps achieve the intended purpose of providing a more specific documentation of the current situation in the United Kingdom at an industry level, and offers lessons from the experience for New Zealand media.

Furthermore, it has become clear during the course of the research that any long-term impacts on the industry from this technology are yet to be discovered as it is simply too early to assess any such shifts. Even in the United Kingdom these services are less than three years old and are still developing rapidly.

Lastly, this study will at some point inevitably require updating due to the quickly changing and developing nature of the technology, and as any longer term trends become clearer.

Podcasting – an overview of the technology

Before discussing the impact of podcasting it is important to define what the technology is and how it works.

The term podcasting refers to audio or video files which are made available on the internet for download to portable mp3 file players. It gained the name podcasting due to the success of Apple's iPod as the most popular mp3 player.

Video podcasts have been coined with the nickname 'vodcasts'.

Such audio or video files can generally be downloaded through the media outlet's website, or through the iTunes store, an online shop where podcasts and music can be purchased.

Many podcasts are free, but some of the more popular shows, such as the Ricky Gervais podcast, have pay-for subscriptions.

Podcasts are largely shows, columns, compacted versions of radio shows, or similar, which are released at regular intervals. This regularity has made the subscription services a success as subscribers can have each new show sent to them via email.

The major difference between podcasts and other online audio and video is that it allows listeners/viewers to listen/watch when and where they choose, from the freedom of their portable mp3 player. Though they can be watched or listened to from a computer, what sets them apart is that they are designed to be downloaded so they can used on portable mp3 players at a time of the listener's choosing.

It is important therefore to understand that not all online audio and video files are podcasts.

Much of the audio and video seen on media websites is not 'podcasting', but simply online audio and video files, which can be played on computers through media playing software. This is often the case with news items, where audio or video for each event may be uploaded to the website and can only be viewed, not downloaded.

While the podcast is examined at length in this research, online audio and video operations are also of high interest, as this is an area where print journalists have a heavier involvement.

This section examines the online audio and video operations of The Daily Telegraph's website (telegraph.co.uk) and The Guardian's website (guardian.co.uk). The research includes analysis of the impact and role of the technology in newspaper newsrooms now and in the future.

New tools and the operation

Establishing online and video operations has been resoundingly more challenging in the newspaper newsroom than in those of radio or television organisations.

Only in the last three years has online audio and video been popular and accessible enough in order for it to be taken seriously. Prior to this newspaper newsrooms had not invested in the resources required to run such operations and as a result, when the technology did become mainstream, a lot of financial input was required to get up to speed.

Experiences at The Daily Telegraph and The Guardian show rather modest beginnings to getting an audio and video operation underway.

Audio editor at The Daily Telegraph, Robert Miller, says the paper's online audio began in late 2005 with a simple microphone plugged into a computer to record audio versions of news, or interviews. Portable mp3 players were also used to record off-site audio.

Similarly, at The Guardian, portable mp3 players and basic microphone set-ups started the audio service. Simple editing software was used to refine the audio and it was published on the site. Both papers began using existing staff members to experiment in creating audio in a trial period, before committing to hiring new staff. The audio produced was largely files able to be listened to via media players on the user's computer.

Fast-forward two-and-a-half years and the landscape has changed vastly.

Though The Guardian and The Daily Telegraph have chosen alternate paths for their online audio and video operations, they are now well-staffed, high-budget, professional departments.

The Guardian produces a service including online audio and video to accompany news stories and a wide-range of podcasts. The audio and video department has more than 20 staff, working in roles including audio production, video editing and production, camera-work, podcast presenting, and management. The department operates as a division of Guardian Unlimited and works with section editors from the paper itself to help devise audio and video content.

Within the department there are multiple objectives. Producing audio and video clips for breaking news stories often takes a precedence to help provide the best online packages for major stories. Outside of this there is video and podcast production, which look to further expand upon the written word using the power of pictures and sound.

The podcasts are generated on a daily or weekly basis and include specialised podcasts, such as sports or science, as well as a generalised daily news podcast.

Beyond breaking news, videos are produced to accompany some audio stories and for Guardian Films.

Video editor at The Guardian, Robert Freeman, stresses the videos are not designed to compete with television.

"We have made the decision not to compete with rolling news channels. We make illustrative video which goes with a story."

- Robert Freeman, guardian.co.uk video editor

Freeman says there is also no intention to try to replicate the picture quality of television. He says the videos are designed to offer quality in content and add value to existing stories, or offer a new angle perhaps not possible through the written word. He feels consumers are not expecting top quality pictures on the internet and therefore there is something actually refreshing about their style of video.

Resource-wise The Guardian is well equipped, but with an obvious lean towards audio, rather than video. There is currently two recording studios, one of which offers for multiple guests, and an editing suite. There is also mp3 recorder packs for reporters to take audio. The video department has two semi-professional 3CCD cameras and computer editing software.

In terms of how the operation works, most of the audio and video is filmed, edited, reported and produced from within the department, with guidance from the paper's reporting staff. Reporters are not required to appear on camera and are only called upon for involvement to discuss stories they may be working on in a podcast. While their interviews may be used and they may have to intermittently collect audio while out on a job, their roles largely remain as writers for the paper, and they are not required to professionally voice any audio.

Audio editor Tim Maby admits The Guardian does not have the best resources relative to its competition, but he says it is focussed on producing the best quality content. "We have had to build it up quite slowly, but we're getting there. We are still learning and developing all of the time."

The Daily Telegraph has taken a signicantly different approach from that of The Guardian.

It has poured resources into online video and audio and also created outside relationships to enhance its product.

Perhaps the most significant deal The Daily Telegraph entered into is a contract with major British television station ITV. On a limited term deal ITV provides video for the newspaper's website. This includes edited versions of broadcasted reports, as well as specially-made web content.

Despite the ITV provision of online content this has not slowed The Daily Telegraph's advancement of its own operations. The Daily Telegraph's online audio and video resources are arguably the finest in the United Kingdom.

The newsroom, based upon the concept of a hub – with the editorial meeting desk at the centre of the room, has each section of the newspaper extending out from the centre like the spokes of a wheel.

The online audio and video departments boast three recording studios, including a six-seater round table, all individually microphoned for panel discussions, and another studio with an ISDN line. There is also a full television studio, where the daily business show is recorded, and a well-equipped television editing suite. The studio is also used for crosses to The Daily Telegraph from television news channels.

Aside from the business show, further in-house video content is also produced with smaller, portable cameras. This uses reporters from the paper to present particular stories of interest. Not all reporters have taken part, it is only a small group who do on-camera work.

Like The Guardian, The Daily Telegraph's audio operation is two-fold – providing both material from in the field to accompany written news stories, and a thorough podcast service.

Audio editor at The Daily Telegraph, Robert Miller, says the focus of the video and audio is to seek different angles to those already explored in the written copy.

"It's important not to go over the same ground. We are not trying to be the BBC. The journalistic criteria for stories is the same – but the way you do it is different."

- Robert Miller, telegraph.co.uk audio editor

While the podcasts mainly involve outside talent, for instance, motoring experts for the Formula One podcast, there are also journalists involved in the shows. These are generally specialist reporters, offering their specific knowledge of the relevant story and the background to it.

The audio department is working towards having all of the journalists trained to do voicing and using high-quality portable recorders, so more audio and video content can be produced with news stories.

It is fair to say that the audio and video operations at The Daily Telegraph have dramatically changed how the whole newsroom operates. With the massive resource and physical space which has gone into it, audio and video is being viewed as a major part of the firm's future.

The department currently employs eight staff of its own, involved in camera-work, video editing, presenting, audio editing and managerial positions. There are no full-time 'video reporters', but instead as mentioned, several reporters from the newsroom are often involved in doing video stories.

(See appendices for photos of The Daily Telegraph's online audio and video set-up, widely regarded as one of the best in the United Kingdom.)

Impact upon the product

Online audio and video operations are undoubtedly having a positive effect on the already mammoth website readership at newspapers, but any impact they are having upon the readership of the printed paper is difficult to determine.

This is essentially the major economic question created by the online audio and video generation and indeed the growth of websites in general – Are the websites sapping the original products' readers and exacerbating the already existing decline in readership?

It is no secret newspaper readership in the United Kingdom and throughout most of the world has been in decline for a number of years. A recent report in Britain suggested the nation's major daily papers had lost five million readers in the last 15 years.

Meanwhile, website traffic is continuing to grow at an accelerating rate since the introduction of online audio and video.

Guardian.co.uk's audio editor Tim Maby said the site averaged about 350,000 audio downloads per week – a sizable portion of the overall online readership.

Maby added that, with the improving compatibility of computers and the increasing number of people regularly using the internet, those numbers will continue to grow.

"We are confident there's a solid future in this area, and early signs show this to be the case."

- Tim Maby, Guardian Unlimited audio & video editor

Although it appears the websites are contributing partly to the decline of the printed papers, the companies themselves are still gaining from the online growth, and there is some evidence to suggest that the increase in web traffic is not replacing the readership of printed papers.

Research results from the UK's Audit Bureau of Circulations (ABC) show that much of the increase in website readership at some papers is foreign-derived, and therefore can not be seen as taking away from newspaper sales in the UK itself.

The ABC reported that last July The Guardian had an average daily circulation of just over 362,000, while guardian.co.uk (Guardian Unlimited) drew an average of over 830,000 unique visitors every day.

Interestingly, only 37 percent of the website impressions were from the United Kingdom – the rest, from around the globe. Therefore, the ABC concluded that as most of the online growth is occuring overseas, where fewer than one in seven papers is sold, then web growth is not replacing traditional newspaper sales. In other words, readers within the UK are not giving up the printed edition in favour of going online.

Content-wise, audio and video editors at both The Guardian and The Daily Telegraph believe their operations are having no impact on the printed paper.

All of the editors spoken to viewed the online operations as separate and said they had not altered the editorial direction of the original product. The general consensus seems that, if there has been a change, it has only been the extra work reporters are having to do seek fresh angles for the paper.

The concept is that the instantaneous nature of the websites means most news breaks online immediately, so the journalists need to find alternative angles for the next morning's paper.

Tutor in newspaper journalism at Cardiff University, Glyn Mottershead, said the change to instant news did herald a new era for the editorial direction – suggesting the printed editions are now more about providing more detail to stories than breaking news.

"As convergence kicks in the uses of each (medium) will change, for example The Guardian is more about backgrounders than breaking news – that takes place online."

- Glyn Mottershead, Cardiff University journalism tutor

There is agreement from the editors that the introduction of online video and audio has signalled a considerable step by newspaper companies away from the printed edition.

As evidenced by the website traffic figures - which dwarf the conventional readership, the online department has become one of the most pivotal strands in a media outlet's service.

Guardian.co.uk's Maby said there needed to be more research done to find out what part the audio and video departments were playing in the increasing demand, but he felt initial signs were that they had a major impact.

"There was a lot of money spent to get the audio and the video set up… they have already paid for themselves and make quite a bit of money," he said.

Maby believed the printed edition of newspapers remained each company's 'flagship' for now, but said the public appetite for instant news across all mediums meant the websites were only going to strengthen.

Cardiff University's Glyn Mottershead believed newspapers were now being marketed more as 'brands' than as a product. She used the example of The Sun – which advertised itself on television as 'The Sun – paper, mobile and web'.

This displays, Mottershead said, how the focus has turned away from the product of the newspaper itself and has become more oriented towards the overall branding and what the name offers.

Impact upon journalists

Print journalists, compared to their broadcasting counterparts, have been by far the most affected by the launch of online audio and video services.

The new technology has meant upskilling for many print journalists involved and an increased workload in their roles.

Tutor in newspaper journalism at Cardiff University, Glyn Mottershead, said they had already begun training students in a wide range of skills so they are equipped to work in online journalism.

"We're already training our prospective journalists in video editing and filming to make them increasingly saleable to news editors.

"We also teach online journalism but have this year expanded it to include mobile journalism – effectively reporter generated UGC (if that isn't an oxymoron) – to allow for immediacy of output. Effectively they can record video or voice and post it to a site without coming back to base to edit," Mottershead said.

Senior lecturer in new media at Birmingham City University, Paul Bradshaw, believed the modern journalist needed to be able to assess stories in terms of their online potential.

Bradshaw states a good online journalist should be able to see a story and think:

- 'That story would have real impact on video';
- or: 'A Flash interactive could explain this better than anything else';
- or 'This story would benefit from me linking to the original reports and some blog commentary';
- or 'Involving the community in this story would really engage, and hopefully bring out some great leads'.

(Bradshaw [online], 2007)

The Daily Telegraph has been an industry leader in training all of its journalists to produce online audio and video material.

Audio editor Robert Miller says a training programme has taught the paper's writers about using portable recording devices and some of the simple aspects of attaining good quality audio. They are now required to record audio on selected jobs. The journalists in satellite offices in the USA and other parts of the UK and Europe are also equipped with audio recording equipment.

Further to this, some of the journalists have become involved with on-camera work. While none are required to do the camera-work or editing, the employees involved have been given professional training in presenting and voice-work.

Most of The Guardian's journalists have also been trained in using audio recording devices, and they are also regularly used as experts in the podcasts. Guardian.co.uk's audio editor Matt Wells said the journalists had not been fully trained in voice work, but they were used in the podcasts as talent, to add knowledge and background about specific stories of interest.

The site's feature audio, the daily news podcast, is presented by former radio hosts or voice-trained journalists, who frequently interview the paper's journalists.

Wells said there were plans to eventually get all of the journalists formally trained in voicing and using portable recording devices.

Tutor in newspaper journalism at Cardiff University, Glyn Mottershead, contended that the impact of the online audio and video era upon print journalists had been "massive".

"A lot of small UK papers expect their reporters to take pictures. Now they're having to develop video skills. Traditionally it has been a very different sort of person who went into print than went into broadcast," Mottershead said.

The European Journalism Centre has just recently stepped into what it viewed as a gap in the market for teaching newspaper staff about how to capture professional video. Just last month (April 2008) it offered its first training course for newspaper journalists on how to record good quality video.

These changes and new requirements have further increased the workload of already busy, deadline-driven journalists.

The requirement of filing audio, voicing an audio or video report, or participating in a podcast has added significantly more pressure to some journalists as they try to fulfil their regular jobs writing for the paper and in some cases providing immediate reports for the website.

It will be explained later how this escalating workload has been challenged by some journalists, and how in many cases contracts have had to be amended to fit the new era.

It is however, suffice to say the overall upshot of the online audio and video era for print journalists has been a broadening of their skills. Once just writers, newspaper journalists are now fulifilling the roles of radio, internet, and in some cases television journalists. They now have an increased skill set, which is arguably making them more employable in the broadcast media.

However, the increase in skills has not necessarily been received with joy from the journalists themselves.

A study conducted by Dr Andrew Williams and Professor Bob Franklin of Cardiff University reveals the concerns that British print journalists have about their current experiences in the digital age.

Their survey - conducted in the Cardiff newsroom of the Trinity Mirror Group, showed that 86 percent of journalists believed the future of the press involves online news and multiplatform journalism.

But, there were also genuine concerns among staff about what will happen.

Ninety-six percent of respondents believed more staff should be hired to cover the extra work, yet 88% also felt the company would not hire anyone else to do the new jobs. (Williams & Franklin, 2007)

The staff surveyed identified five key areas of concern they held in the new era. They were: that there would be little investment in extra resources, their workloads would increase with the introduction of web-first policies, the quality of multimedia would be poor and reflect badly on the print product, training would be insufficient and that they would not get paid any extra for the new responsibilities.

These responses clearly show how deeply impacted upon journalists feel they have been with the introduction of online audio and video at newspapers.

Although, it must be be noted this concern about online operations among journalists is nothing new.

As early as 1999 scholar Simon Cottle's study found that the introduction of the Internet in the BBC newsroom has caused feelings of stress and unrest among the journalists involved. (Cottle, 1999)

Dutch academic Mark Deuze expanded on that view at the time, saying, "All of a sudden one has to keep the online counterpart in mind, master the new technology, learn the skills and be reflexive about what it means to the values and standards in journalism – not a small task for any professional." (Deuze, 1999).

Effective use of online audio and video

This section summarises the experiences of The Daily Telegraph and The Guardian, focusing on the effective and ineffective uses of the technology, and the issues which have arisen from its application.

The importance of producing high-quality online audio and video can not be understated for a couple of reasons, not in the least the competitive online environment.

Ian Hargreaves commented in 2003 that we live in an age of "ambient news", where news is freely available and all around us. In making the statement, Hargeaves underlines the importance of establishing oneself as the best quality and most reliable source. (Hargreaves, 2003)

Furthermore, the visual and audible result of not displaying good quality and well presented audio and video online have been noted as early as 1995 by website designer Tim Guay.

Guay stated that, "If multimedia is used with no thought as to the reasons why it is being used, or it has poor lay-out or content it can result in a pointless aesthetic fiasco that needlessly hogs bandwidth" (Guay, 1995).

Firstly, looking at what has been most popular across The Guardian and The Daily Telegraph websites – there is a clear pattern which emerges from both. Sport.

Audio editor at Telegraph.co.uk, Robert Miller, said "sport is quite consistently the most successful" in terms of hits. The Telegraph's Formula One motor-racing podcast is the highest-rating show, drawing tens of thousands of downloads on a weekly basis.

Matt Wells, audio editor at The Guardian concurred on the success of sporting podcasts. He said the paper's football podcast has 60,000 downloads a week. They started doing two football shows per week two years ago and "it's the runaway success", Wells said.

Wells felt the generalised podcasts such as the daily news podcast were not as popular as more specific podcasts.

"The news podcast is not a massive success, though it has had fair growth. It seems what people are looking for is niche. General shows don't do well," he said.

Audio and video editor Tim Maby said The Guardian tried to satisfy many specific communities with its podcasts and vodcasts. One in particular, Islamophonic – a

podcast for the Muslim community was far from being the most popular, but was still a success for the website, he said.

"Islamophonic does not have a huge circulation but it's a big critical success. We're looking for specialised communities to use the podcast as a way of bringing the community together."

- Tim Maby, Guardian Unlimited audio & video editor

Matt Wells said comedy also worked "really well" in podcasts, as did educational shows, which offered listeners a chance to learn at a time of their own choosing and often while on the move.

The shape and timing of a podcast was also critical to its ongoing success, both papers agreed.

The ideal podcasts were anything up to around ten or 15 minutes long, and contained multiple voices. The vodcast, meanwhile, had an ideal length of up to three or four minutes – mostly due to the time required to edit longer pieces and for the ease of downloading by the user.

"The read-through by a single person for a podcast largely doesn't work."

- Robert Miller, telegraph.co.uk audio editor

After initially having a news podcast which was simply a bulletin read by a sole presenter, Miller said telegraph.co.uk had moved towards including experts, reporters and grabs from talent.

Maby agreed with the approach, for his site's daily news podcast, 'Newsdesk'.

Newsdesk was presented by former radio personality Jon Henley and took a daily look at the serious and humourous stories emerging each day. The core of the show was presented by Henley, while there were also interviews and grabs played during the show, which was usually about 15 minutes long.

For the online audio provided with news content – designed for just playing on the site, rather than downloading, both audio editors agreed there was no set rules as to what governed a popular piece.

Key interviews or sounds relevant to a story were useful, but the number of hits on each piece logically depended on how big the story itself was. Therefore, audio content was generally only sought for the biggest stories, affecting the most people.

With the subject, length and form and content of podcasts vitally important, the timing of release has also been established as a crucial factor in the success of particularly the news podcasts.

Telegraph.co.uk's Miller said the time when a podcast was uploaded to a site could "make it more, or not as popular – on an age basis".

Miller said the wider consumer patterns of internet usage tended to be dictated by other media. Therefore, the daily news podcast was released at midday, just prior to the time when hits reach their peak for the day. Miller said if it was released in the morning it would be in competition with radio and stale by lunchtime, and if it was released at night there is television to compete with – and the television networks generally captured most audiences.

The promotion of the podcast service has also been a large part of its success at both companies.

Tim Maby said Guardian Unlimited's podcasts were easy to access from the home-page, which was always an important factor. The podcasts were also promoted through the MySpace social networking site, which had attracted a lot of further interest, he said.

At telegraph.co.uk, Robert Miller and Guy Ruddle, the audio and video editors respectively, both asserted the importance of cross-promotion.

Miller said the opportunity existed with the established print edition to push the online material. In a point particularly pertinent to the British newspaper market, but also with some relevance to New Zealand, Miller said the readers of a specific newspaper were most likely to be the ones going online to the paper's site to seek further content. Therefore, he concluded, the cross promotion through the printed edition and the website was crucial to the success of podcasts.

It was not until The Daily Telegraph newspaper began using its reach to promote the online content that it really took off, he said.

Outside of the newsrooms, other concepts have been applauded by international critics.

The audio slideshow in particular, which is one of the most common forms of multimedia presentations on guardian.co.uk, received high praise from judges at America's 2007 National Press Photographers Association (NPPA) awards.

Judges said the slideshows were helping tell stories in a more effective way and were most impacting when they audio was from the subjects of the story itself. (Myers [online], 2008)

Although, there were also suggestions from the judging panels that still photographers and videographers needed to learn from one another to help the story-telling process. Too many newspaper sites had audio-slideshows which did not explain the full story or had too much information, the judges said. (Ibid [online], 2008)

A further effective use of online video worth mentioning has been highlighted by one American newspaper.

The San Francisco Chronicle's editorial board has harnessed the technology to try to improve transparency at the paper. When the editorial board met with mayoral candidates in the city's 2004 election – a proceeding that is normally closed to the public – the paper took advantage of its site, sfgate.com, to post unedited video of the meetings. In the three days after the videos were posted, the tapes received 35,000 page views. The site also included information on how the editorial board made its endorsement decision. (Glaser, 2004)

With regard to layout and presentation, it is not appropriate to go into lengthy discussion of the plethora of programmes and techniques used for website design, but, there are several important aspects raised by the NPAA judges which have specific relevance to online audio and video.

The judges offered the following advice:

- Don't sacrifice ease of use for something that looks cool.

- The best interfaces preview the content and show users how to navigate through it.

- Too many presentations lack a unifying narrative thread. In the best presentations, the individual videos, slideshows or graphics tell their own stories, and they also connect with the other parts to move the overall story forward.

- Still photographers should incorporate broadcast storytelling fundamentals.

- Don't take control away from the user. Judges complained about autoplays and the absence of stop and back buttons.

- Don't pack too much in. Just because space is infinite online, don't stop editing yourself.

(Myers [online], 2008)

Assessing the overall move to the online audio and video era, it appears to have been a relatively smooth one, in which a swift progression in resources and technology has led to an improved final product and other beneficial opportunites for newspapers such as that outlined above.

However, a couple of major issues have arisen for the companies as the technology booms.

The first of which has been that of journalists' contracts.

Telegraph.co.uk's Robert Miller said there had been some vocal opposition to having to produce or supply audio content from a fair number of journalists.

The journalists argue, Miller said, that given their already busy schedule they do not have the time to produce audio recordings or voice podcasts. They have claimed the workload is already large enough, and some have demanded extra pay if they are to fulfil audio requirements.

That viewpoint had thrown open the issue of whether they were required to provide audio or video by their contracts, Miller said.

He said the issue forced new contracts to be drawn up for journalists, and most agreed to sign. For the small number of predominantly older journalists, who refused to sign, they had been left out of the audio operations, he said.

"If you're not going to embrace it you're simply going to be left far behind." Miller said.

New journalists all must agree to providing content for the newspaper, the website and audio or video services.

Despite that, Miller said the current reality is that only a few of the journalists regularly participate in providing audio, and even less in producing video.

A second issue which had not affected newspaper executives until now is that of copyright over audio and video. Editors from both papers agreed copyright was constantly one of biggest concerns for them in the online audio and video era.

While the issue of copyright has long existed at newspapers with regard to the printed words, audio editor at Guardian Unlimited, Matt Wells, said music and video had heralded a whole new minefield of potential legal issues.

The websites' most significant problem had been with music – as most videos and podcasts were greatly enhanced by using music tracks. However, in order to use a song the company would need to pay for the rights to use the music and/or come to an agreement with the artist.

Wells said most in the inductry had tried to avoid entering such costly agreements – by using only small portions of songs – up to 30 seconds long. By taking such an approach they appeared to be safe from being prosecuted for breaching copyright, he said.

Miler said telegraph.co.uk had experienced a steep learning curve getting accustomed to music copyright.

"It is certainly a massive issue – something which we hadn't realised before. The media need to be very aware of it as it's serious territory and there's a lot of complex legal arguments."

- Robert Miller, telegraph.co.uk audio editor

Both editors agreed video content was also a problematic area due to rights packages often associated with major events in today's age.

Using the example of football, Miller said every Premier League game in England was essentially "owned" by a media company, so as an internet broadcaster you can not simply broadcast highlights or your own camera's version of the game without having rights or permission to do so.

That even applied to audio in many cases. Miller said having your own camera or recorder did not make a difference – the sound and images of the game are owned by the rights-holder.

Both editors suggested prudence around all potentially 'owned' material.

The future of online audio and video

As online audiences in New Zealand continue to steadily increase, it is reasonable to assume the future of the technology here lies in a vaguely similar but slightly smaller-scale version of the services on offer in the United Kingdom.

With broadcasters TVNZ and Radio New Zealand already offering significant on-demand video and audio services, this is likely to drive the newspaper organisations further into the online audio and video market as they compete more directly with the broadcasters for the advertising dollar.

Most New Zealand newspapers now have audio and video that can be streamed from the website – although many still encounter problems with files which take too long to load and some which are not compatible with the various different computer formats.

While it can not be expected that Kiwi companies invest in audio and video services to the levels of their British counterparts – some areas will likely be brought up to speed in order to attract audiences.

Podcasts are one area yet to be fully explored, and are relatively cheap to set up, while simple video and audio to accompany news stories to a higher standard than currently being presented is also achievable.

Although the immediate future of New Zealand's online landscape appears somewhat predictable and budget-constricted – the future for the United Kingdom shapes as being only limited to the bounds of what is technologically possible.

Several editors and managers in the United Kingdom online industry agree that the next development in the UK will be an expansion of online television services.

Robert Miller, audio editor at The Daily Telegraph said the move further towards online television was a logical next step for the newspapers engaging in online broadcasting.

"Television (online video) will inevitably get many many more hits than audio. That's why people will develop online television, because it will be popular."

While Miller was sure that sports and comedy podcasts would continue to be an important part of the audio service, although he said there was still some unknowns.

"I don't think it's easy to say what's going to become the most popular for podcasts as nothing is really certain yet."

At guardian.co.uk, despite a different approach to video operations, audio and video editor Tim Maby agreed that video operations would play a major factor in the future.

Maby also felt that searching for new niches to bring communities together via podcasts would be the most successful use of that technology.

While there is some enthusiasm at the industry level for the future of online video, some scholars believe that further engaging in video would become too resource-intensive and far too costly for newspapers to maintain.

Cardiff University's Glyn Mottershead said several companies had stopped using video as regularly as it took too long to produce. Mottershead believed that was partly behind The Guardian's decision to only provide 'illustrative video'.

Perhaps the most significant aspect of podcasting, is what technology may one day allow the service to do.

American media commentator Deborah Potter suggests that media must establish podcasting services now, as they could become a much more influential part of all media outlets than currently is the case.

"While podcasting can't replicate the live, up-to-the-minute quality of broadcast news… when portable players go wireless and can download on the fly, "news-on-demand", bothe audio and video, will be a reality.

"And the news organisations that buy into the idea now may ensure their own future," Potter said. (Potter, 2006)

Senior lecturer at the University of Sunderland and author of a paper looking at podcasting, Richard Berry agreed that the future of online audio, video and podcasts was strong.

"The way in which mobile technology has taken off, and with the development of mobile broadband… that will have a big impact on the future," Berry said.

Berry said it was likely that some podcasting material would disappear, but he felt the concept had the ability to stay on a long-term basis.

PART TWO: Radio and podcasting

This section examines the development of podcasting and online audio and video services within the radio and television environment. Research has been conducted through visits to the British Broadcasting Corporaton (BBC) and London Broadcasting Corporation (LBC).

New tools and the operation

Aside from some deficiencies in online knowledge, radio stations have been largely well-equipped for the rapid rise of podcasting and the increasing demand for online audio and video.

The broadcast organisations were the first British media to develop podcasts – with the BBC launching its first podcast in October 2004 – more than a year before other radio organisations and the print media.

The swift arrival of the podcast in the broadcast media was largely due to the fact the organisations already had access to most of the tools required to set up the service.

Creating high-quality audio was always the broadcast media's job – so it was necessary to learn only what to post online, and how, when and where to do it.

Senior podcast editor at the BBC, Sarah Prag, said no new production staff had been initially required to get the podcasting service running.

The service first began late in 2004 and was a permanent feature across the BBC's websites by May 2005.

She said the only major change in establishing the service was getting some of the more long-standing staff to understand the concept.

"We have had to get some senior programme makers to realise this is not just about sticking radio content on the internet."

- Sarah Prag, BBC podcast editor

The editing for the BBC's podcast service was conducted by current show producers using the existing audio editing tools, Prag said.

However, with the service expanding and looking to offer the best possible podcasts, Prag said for every BBC radio station there was now a small interactive team, deciding upon and implementing podcast strategy.

While all of the BBC's podcasts were free, they only went up on the site for seven days after the original broadcast, she said.

Regular figures showed more than two million podcasts were being downloaded from the BBC every week, she said.

At the London Broadcasting Corporation (LBC), manager Rob Hooker said his station had made some unique advances in their podcasting service.

After starting a podcast in October 2005 and launching a subscription service in January 2006, in-house computer technicians at the LBC had since created two programs specifically for producing podcasts.

The two pieces of original software 'Pod-drop' and a specialised audio-editor, allow producers to easily edit the existing audio and save them as .wav files (via the audio editor), while the 'Pod-drop' enables the user to place the files on the website with the click of a mouse.

Across both of the radio organisations all of the content for podcasts came from on-air material, and none was created specifically for podcast.

As Hooker explains, the LBC podcast service is based upon a simple concept.

"It's not something special – it's more a chance to catch up on something you have missed."

Within an hour of coming off air the material was available on the LBC website in an edited format, Hooker said.

Some of the LBC's podcasts were free, but most carried a small subscription fee – ranging upwards from two pounds per month.

Hooker said the the station had just over 4000 subscribers to pay-for podcasts and in total experienced 1.64 million downloads in a six-month period last year. He admits the free podcasts are a lot more popular than the subscription services.

Despite the relative success of the pay-for podcasts at the LBC, Hooker said there was no current indication podcasting would become a core part of its business.

"This isn't a main strand of business for us – our business is making radio. This is a value-added service."

However, Hooker said the company had taken a commercial concept to their podcasting and had begun making podcasts for corporates.

He said the commercial arm of the operation was a "definite success" and had also led them into making some video and slideshows to accompany the audio supplied to third parties.

Looking at the overall operations of the BBC and LBC, podcasts are by far the biggest change to websites in the last three years. Online audio and video services are offered but (with the exception of the BBC's iPlayer) had largely existed prior to the boom in podcasts, and have not required further labour.

Impact upon the product and radio journalists

It is fair to say the impact podcasting has had at radio stations is directly relative to the impact the new technology is having upon their listeners.

The podcast has offered a break away from the constricts of traditional broadcasting for audiences. No longer is the broadcast available only once on the radio – listeners can now download their favourite programmes when they choose, and listen to them wherever and whenever they like.

From a radio station's perspective, the LBC's Rob Hooker said,

"It has taken the time – limitation out of people's listening habits. It allows you to take your favourite show and listen to it at a different time of day."

- Rob Hooker, manager, LBC radio

Hooker said just over half of their traditional audience now listened to the station on their iPods.

Sarah Prag of the BBC said the concept of people being able to listen when they liked was important, but she felt there was more to it than that.

"There are traditional radio fans who like the programmes when they're live…
but much more prevalent is the view that: 'I really want the best bits – give me something a bit different'

"We have really taken that on board," she said.

With such a vast change in listening habits amongst the British public, the new technology has forced a focus on podcasting at the major radio organisations.

This movement has seen the enhancement of online operations at radio stations. Much like their newspaper counterparts, the websites have become host to a wider array of audio material. In the case of radio this has greatly improved the product, and allowed for a quality service to support the traditional broadcast.

Despite the implementation of the new technology Prag said there was no evidence the original on-air product at the stations had changed as a result of the podcast's popularity.

Because the radio content provided the basis for the podcasts, there was no element of competition between the two mediums, she said.

Prag said the podcasts were enhanced versions of the shows that went to air, but that had not meant any changes during the production of the radio show itself.

At the other end of the scale Prag said the overall quality expected of the BBC and the reputation of its broadcast product had not been compromised with the introduction of podcast.

Prag said the quality of the BBC's podcasts was far superior to its print counterparts.

"The production values are better in BBC podcasts than in newspaper podcasts as we have simply much higher quality resources," she said.

Prag felt the quality-gap should help quell any concerns that individual or other commercial podcasters could become a threat to radio.

One of the first developers of podcasting software for the individual podcast market agrees with this view.

Garth Kidd, creator of iPodder, said podcasting would not be a threat to radio, but radio stations engaging in podcasting would have to be aware that they were now competing with millions of individuals as well as other broadcasters. (O'Neill, 2005)

However, University of Sunderland scholar Richard Berry believes the podcast does mark a major shift for radio, towards a 'citizen journalism' type model.

Berry said the technology "at a stroke removes key barriers impeding the growth of internet radio", and furthermore provides a situation where "audiences rediscover their voices" as they can become producers themselves. (Berry, 2006)

It is fair to say that the experiences of the major British radio stations shows there has been a slight change in thought required by the radio organisations engaging in podcasting – but no concrete effect on their product or audience from individual podcasters.

Radio journalists, like the radio product have also been largely unaffected by the launch of podcasting at their stations.

Most experiences from operations at British radio stations show that the radio newsroom has had little or no involvement in the production of podcasts.

Managers at both the BBC and LBC said the journalists had no involvement in making of podcasts, and all of the additional work to get the service running was performed by producers.

Prag said the BBC's news compilation involved the work of journalists, but it was generally not necessary for the reporters to conduct any work beyond their original on-air presentation.

Effective use of podcasting

Podcasting on the websites of radio stations in Britain is undoubtedly a success so far.

The rapid expansion of the BBC's podcast service over the last three years has proven this.

Senior podcast editor Sarah Prag said the popularity of the initial trial in 2004 "made us realise" that podcasting was something that would need to be invested in. Last July the BBC had nine million of its podcasts downloaded within the month.

But, taking a more global outlook, it has not been all success stories.

In 2006, a study conducted by the Pew Internet and American Life Project found that only 1% of internet users report downloading a podcast on a typical day. (Holahan, 2006)

The report's author, Mary Madden said, "It is unlikely that it (podcasting) is going to usurp traditional media. It is more likely that it will become one of the many different ways that we get content in an increasingly mobile environment."

In a more recent study, American media monitor, Bridge Ratings, last year conducted research to assess how many portable mp3 owners were downloading podcasts.

The findings were a blow to the widely perceived popularity of the downloadable online audio files.

Although 30 percent of the American public owned an iPod or other form of mp3 player, the research found that only 13% of people reported ever listening to any form of podcast.

Perhaps more concerning were some of the reasons given for not listening. The most common reason was that they just were not interested (46%), while 39% said they did not listen as the process to download a podcast was "too complicated". (Bridge Ratings, 2007)

That is arguably the largest drawback of podcasting – that people need to first find, then access (via a register or sometimes payment and/or subcription) and then download the files.

However, not everyone agrees that podcasts are too complex for consumers.

University of Sunderland senior lecturer Richard Berry said that he did not buy into the argument.

"At the start it was incredibly complicated, but that's just not the case now. They have become a lot easier to access."

The Bridge Ratings survey did find some positives for the future. More than half of those who indicated they had listened to a podcast were under the age of 35, meaning as the more technologically-savvy generations age, the audiences of podcasts should increase.

But, what measures can be taken to best harness this promising future for podcasting?

The BBC's Sarah Prag has numerous suggestions.

Firstly and most importantly, Prag said it required a "new mindset" to launch into a quality podcasting service. Although most people had been open to the concept, there were a few who did not realise the importance, popularity and different techniques required to craft a podcast.

"Radio producers are still getting their head around the fact that people's radio listening patterns are changing."

- Sarah Prag, BBC podcast editor

In terms of the podcast itself, she said there were a number of factors which distinguished a good podcast, or successful podcast, from others.

Production-wise Prag said the podcast needed to sound like a whole programme on its own. "It certainly can't sound cut up, or it detracts from what it should be. The podcast also needs to be almost timeless," she said.

Prag also felt that the big names in radio were always the most popular on the podcasts as they were on the wireless. To that extent the BBC's big personalities – people like Russell Brand and Chris Moyles were the most downloaded.

In a similar development to some of The Guardian's podcast successes, Prag said the BBC had found one of their most popular podcasts was an educational series from the radio programme 'In Our Time'.

She said the podcast's success raised a fascinating question.

"This is very successful… but it's frustrating that we can't get demographics… if it is young people listening then we are getting them to learn via the podcast, and if it is older people downloading them – we are getting older people into the technology."

Prag said from the BBC's perspective "there is an appetite for news" on podcasts. The news-compilations along with the popular breakfast shows were the most listened to podcasts.

The naming of podcasts was also crucial, she said. With a lot of effort to cater to minority groups through the podcast, Prag said giving each podcast an easily identifiable name was a key to making them easy to find and simple to decipher on the website.

The popularity of the 'In Touch' podcast had greatly increased once it was re-named 'In touch for blind people', she said.

Copyrights issues, similar to those experienced in podcasts launched by the print media have been one of the biggest problems in establishing the service at radio stations.

Rob Hooker of the LBC said completely avoiding music in the podcasts was the best way of avoiding copyright issues. The problem with podcasts was that they could be downloaded anywhere – so although his station may have the right to broadcast a particular song in the United Kingdom, it did not have the right to broadcast that same song in Australia if someone was to download the podcast there, for example.

Hooker said it was a major issue for his station as they had a number of expats listening from abroad.

"We don't put music in them so we don't have to have a geo-lock on our podcasts… that way we can keep supplying to those who listen from overseas."

Prag said the other main issue arising from the launch of podcasts was some dissatisfaction among producers at the extra work they had to perform to edit the audio files for the web.

However, Prag said most producers had come to terms with it, and the BBC was looking at new software which could reduce the work the producers had to do in order to post the podcasts online.

A training programme had also been developed to assist producers in recognising what made good material for podcasts, how they should sound, and how best to bring them together.

A final point worth mentioning in assessing how to successfully use podcasting and online audio and video, has been the development of the iPlayer at the BBC.

This major project has dramatically increased the number of regular online audio and video users, and offers a good example of how to successfully improve the ease of use for visitors to the site.

Designed to bring online audio and video to a mass, mainstream audience, the iPlayer provides a universal player for audio and video and makes hundreds of televeision and radio programmes readily available from the BBC's website.

The service was fully rolled-out in 2007, and primarily marketed as a catch-up for television programmes, where viewers can see shows going back a week.

BBC forecasts anticipated the service would have about 500,000 regular users by June of this year.

The major part of the iPlayer's success to date has been it's consistent appearance, wide availability and special features.

The iPlayer is available from across all of the BBC's websites and from clips off Youtube. It includes a display settings tool-kit for the hard-of-vision and sign language for the hard-of-hearing; subtitles and audio description have also been launched.

Technology for the iPlayer was created and developed by the BBC's Future Media & Technology division, but it also entered into a partnership with external commercial companies Siemens and Red Bee Media.

The future of radio podcasting

With the United Kingdom's radio stations experiencing millions of podcast downloads, and across the other side of the globe, Radio New Zealand launching a service which by 2006 was described as accounting for a 'huge volume' of the total audience – podcasting appears to have a positive future globally.

The future of the technology in the United Kingdom appears to rest on the resources allocated to the area, and any advances in technology which can further improve the service. The predicted ability of future mp3 players to be able to download audio and video wirelessly could revolutionise the podcast yet again.

Within the podcasting world, senior podcast editor at the BBC, Sarah Prag, sees several key upcoming changes.

Prag said that it would still take a couple of years to determine user patterns more clearly. Once that was achievable, she said the podcasts would likely be altered to reflect a balance of what the audiences wanted, and what the organisation deemed as useful content.

"We do intend to prune things if they are not working… although, niches won't be affected – it offers an opportunity to cater to minorities," she said.

Internet broadcaster Barbara Palser has commented on the issues facing the producers of podcasts – noting the difficulty in determining what is actually being consumed.

"Because a person 'subscribes' to a podcast, which is automatically retrieved by his or her computer whenever a new episode is available, there's no way of knowing which podcasts are actually played and which just pile up on the virtual doorstep." (Palser, 2006)

Prag felt that an automated podcast creating system could make the job of producers a lot simpler when compiling the files and saw further possibilities of archiving audio material, which could offer a great opportunity to improve the radio service.

"We haven't really embraced everything that podcasting offers yet… it is definitely still developing," she said.

In New Zealand there are still gaping holes in what broadcasters are providing. While Radio New Zealand clearly leads the competition by providing many programmes on demand and some podcasts, the commercial radio sector has been very slow to embrace podcasting.

Simply setting up a podcast service is still a distant goal at some organisations.

Conclusions and recommendations for New Zealand media

The United Kingdom's current media landscape is proof that podcasting and online audio and video operations are more than just hype – they are now a large part of the major media players' product.

From visits to radio stations and newspaper websites in the United Kingdom and speaking with the relevant editors and managers, it has quickly become clear that online audio and video operations and podcasting have had a major impact on media organisations.

Not one of the media outlets had failed to fully adopt the new technology and all were well aware of its potential and willingly investing in the resources required to produce a high-quality service.

The British media, much like the American media, have been well-rewarded by consumers for their investment in the technology.

Subscribers to the ever growing number of podcasts are soaring and the number of hits on online audio and video clips are also continuing to increase quickly.

This growth has meant an increasing workload for newspaper journalists, and further expectations on radio producers – who are largely responsible for creating podcasts for radio stations.

However, the rapid development has not been without problems. There has been challenges to the additional workloads for journalists, and legal disputes over the copyright of music included in some podcasts.

There has also been arguments from some which suggest the technology is nothing more than hype. Some early studies also showed that people were slow to warm to the new services.

Despite the aforementioned issues, the popularity of the online audio and video files and their ability to reach new audiences and take the time restriction out of traditional media renders them a resounding success. The constantly massive number of downloads experienced at British media outlets furthers asserts this view.

This study therefore recommends the wider application of the technology at media outlets in New Zealand.

At the point of beginning this study and at the submission of the report, New Zealand's online audio and video services have remained in their infancy.

Although New Zealand media lack the massive resources of their British counterparts, a scaled down version of the United Kingdom's operations is still appropriate and from early experiences of the British outlets it is apparent that a good quality product can be achieved using relatively inexpensive resources.

For New Zealand media applying the technology there are a number of crucial lessons from this study of the United Kingdom that should be considered when embarking upon this new era.

Preparing employees for the new environment is arguably the most important aspect of the move.

Contracts may need to be altered to account for the new roles, and journalists need to be made aware of the abilities that may be expected of them.

Training is also essential for print journalists without experience in audio or video roles. Voice-work and on-camera skills are key to producing a quality product that will not compromise the media organisation's reputation. Staff with audio and or video editing skills also need to be hired, or existing staff upskilled. Editing staff will eventually become the core of the online operation.

Investing in resources to produce audio and video is also a key component to setting up the operation.

A simple set up can acquire as little as an mp3 recorder, PC and audio editing software to establish a podcast, or to be used for posting interviews or other relevant audio to the website. More advanced operations may utilise video cameras, and audio studios.

Legal considerations need to be taken into account when setting up podcasts, as the use of music has been a stumbling block for many organisations.

Cross-promotion should be utilised at every possible opportunity. The experiences of the United Kingdom show that the original media outlet's readers/listeners are the most likely to consume the new technology, and they are most easily accessed through the outlet itself. Furthermore the content must be simple to access from the website. Be conscious that many users choose not to listen to podcasts or online audio/video as it is 'too complicated'.

Websites such as Youtube and social networking sites like MySpace have also been useful tools in marketing online content and making it more accessible.

Content-wise, sports, comedy and educational material have consistently been the most popular podcasts. Big-name personalities are also high-rating. News podcasts are not popular files, but have been effective if presented in a fresh way. The podcast is also a useful platform for catering to minority audiences.

An important production aspect is ensuring a mulititude of voices are present within each podcast. The experiences of radio and podcasts from newspapers show that monologues are not popular.

The length of podcasts is also an important consideration. Ten to 15 minutes appears to be a common size, anything much larger can result in loss of interest and excessively large file sizes.

Finally, ensuring the file sizes and bandwidth are appropriate for the local internet is crucial. Jumpy or delayed audio or video can often result in lost viewers.

In summarising, the British experience has offered many lessons for the New Zealand market. While operations are underway in this part of the globe, much of the content is of a poor quality, organisations are under-resourced to produce the services, and there is uncertainty about what future the technology has here.

Under no circumstances should the New Zealand market be expected to fully meet the standards set by the British market. There are however, still many opportunities awaiting a company which is willing to invest in and set up a soundly structured online audio and video service.

For radio stations in New Zealand, perhaps the biggest change required is a recognition that this technology is relevant and that the audience's listening habits are changing. The opportunity to hear programmes at a time of one's own choosing is very appealing to many, British figures would suggest.

Print organisations should not feel hesitant about launching into the technology, despite the availability of video through agreements such as that which sees Fairfax Digital sites show Television New Zealand video. The technology allows each organisation to make its own take on how online audio and video should be presented, and if marketed correctly and made easily accessible, there is no reason why it should not succeed.

Perhaps a more powerful driver for New Zealand media organisations to enter into better equipped online audio and video operations is the rapid developments in mobile technology. As noted by scholars, media commentators and those in the industry – the mobile technology revolution could soon see wireless broadband widely accessible from portable devices. If such a scenario should occur, podcast and online audio and video services could further evolve, becoming not only more instantaneous than at present - but content of unprecedented demand from consumers.

Those who fail to establish online audio and video operations now would simply be left behind should wireless broadband on portable devices become a reality.

Mike Steere, May 2008

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        paper on podcasting), March 2008.

APPENDICES

(1) The Daily Telegraph newsroom in Victoria, London.

(2) The major television studio at The Daily Telegraph.

(3) The television studio is fully equipped with a prompter for the daily business show on Telegraph TV and for crosses to ITV.

(4) The Daily Telegraph's television editing suite.

(5) One of several audio recording studios at The Daily Telegraph.

(6) A well-equipped studio for panel discussion at The Daily Telegraph.