



Perspective: *Consultant*

4.1 Mobile broadcasting: red herring or big fish?

In recent years, the development of digital TV has mostly focused on receiving more channels, getting a better image, or still allowing interactivity via the same old plain TV set (Arris and Bughin, 2005). Now, with the advent of new types of distribution such as IPTV via the phone lines a new threat is posed to established distributors such as cable TV, satellite or terrestrial providers.

But digital TV can become even more than this and can represent a far more profound change in the industry. It will revolutionise not only people's access to television, but also programme formats and traditional primetime. We will watch and interact with types of programming we have never seen before, in times and places we had never thought of watching television, such as trains and commuting services, via a multi-function platform as simple and as universal as the mobile phone each one of us carries in our pocket.

The mobile phone is already a means to interact with TV in the form of polling, voting etc. and this has already proved highly successful (Bughin, 2004). In the same vein, the idea of 'mobile' TV is by no means new. But small-scale analogue portable TV tuners like the Watchman were bulky and inelegant compared with today's mobile phone. Limited battery life meant that viewing was limited to short periods, and image quality was poor. There was very little take-up and consequently many people still dismiss the idea that mobile viewing could ever really take off.

But because today's mobile technology is digital, it has far more to offer. Image quality is much improved; the pictures are clear and strong. Digital delivery means that it is possible to access not only what is being transmitted at this moment, but to delve back into the broadcast catalogue. On top of this, search functionality for TV guide, interacting with TV shows, or simply interacting with ads and searching for advertising stores via location-based services are all possible.

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Mobile TV could change the way people view; it will be a foolish advertiser, mobile operator or content provider who ignores its possibilities. Jacques Bughin explains.

It is this flexibility, our various research at McKinsey claims, that could open up the market, offering rich opportunities to content providers and content aggregators as well as to the service providers and platform operators (Bughin, 2005; Bernstein *et al.*, 2005). From these opportunities will also flow new means for advertisers to target finely tuned sections of the audience, and to use new advertising formats to reach the consumer through his or her mobile viewing.

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The mobile TV market is slowly reaching a tipping point, just as ringtones have become a multi-billion dollar opportunity and radio FM is increasing its reach with radio embedded in mobile phones and with the emerging behaviour of podcasting (Mark Selby, quoted in Benjamin, 2005). But while the latent demand is definitely there, the technology battle, and the related retail pricing model in this new market, may be on the verge of killing the goose that lays the golden eggs. Inter-working in the value chain will be the way to ensure development for the benefits of all value chain users, and not only the current proponents of the market, possibly too avid to ensure a dominant position in this new market.

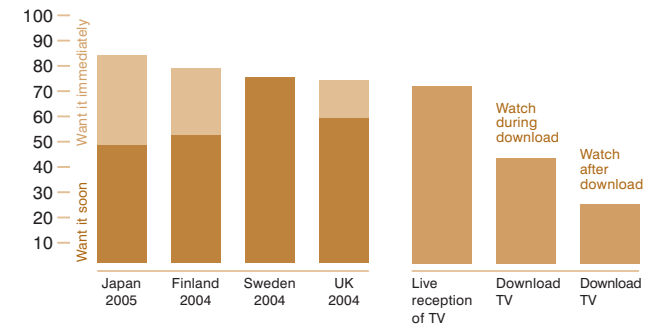
The story so far

Most of the video available over mobile platforms up till now has been non-live, *downloaded* clips or music videos. Providers like KDDI in Japan, or T-Mobile in Germany, have teamed up with solutions suppliers like WIND or Siemens/Packet Video. Typically a downloaded video clip might cost anything from 1 to 3 euros, or a downloading service might be available for a monthly subscription. More recently we have also seen some live *streaming* of video material over proprietary mobile networks.

But something much more exciting is on the horizon. *Broadcasting* is in principle technologically far more efficient than streaming or downloading for mass-market live TV. There are currently about 12 pilot schemes testing the take-up in Europe, and linked to a hybrid model, DVB-H, a likely standard promoted by Nokia that marries DVB-T downstream and upstream via mobile network. Services have recently been launched such as DMB-T service in Japan, the MediaFlo real-time offering over the proprietary 700-Mhz network by Qualcomm, or satellite live TV 11-channel services launched by SK Telecom, on top of its streaming mobile portal, June, in South Korea.

Fig. 1 High demand is emerging for live mobile TV

Percent, interest in mobile TV, multi-answer for watching mode



Will it take off? Critics still argue that no one will want to view television on such a small screen, and that busy people will not schedule their lives around the shows being beamed to their mobiles. Inevitably, they say, viewers will have to access broadcast content in the middle of a programme, which will hardly persuade them to watch. They scoff at the idea that there will ever be significant viewing via mobile phones.

But if you look more closely at the possibilities you will see that very little will be lost: live feeds and re-designed content will not be expensive to make available over the mobile networks. TV 'snacking' is a real phenomenon, and many people will be delighted to kill time between appointments or while in transit by watching mobile TV.¹ They will be able to catch up with events in their favourite soap or reality show, accessing both 'live' real-time broadcasts or specially tailored content. Moreover, the mobile offers strong possibilities for interactivity with video content. Imagine *Big Brother*-style shows with instant polling or even chat via the mobile.

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The main point is that most people today carry a mobile with them everywhere. We are accustomed to treating it as a multi-function device, using it to take photos, play games and download internet content as well as communicating. It is already the familiar gateway to entertainment of all kinds. Just as mobile phone users took the market by surprise in their uptake and use of camera phones, so I believe the demand for TV viewing on mobiles could astonish us. You see far more people now taking pictures using their

1. According to a poll launched in December 2003 by Idetic, the service provider of streaming TV over the Sprint network in the US, 30% of those planning to purchase MobiTV will do so for 'killing time' (See Bughin, 2005). The same percentage is also visible from the HPI market research conducted in the UK and other countries in Europe, and commissioned by ntl Broadcast in 2004 (HPI, 2004).

mobile phones, and few bother to carry a separate camera. The reason is that these facilities are now available to us via a single, multi-application device that is lightweight and portable; already as much a part of our everyday kit as a wristwatch or a pocket handkerchief, and far more useful. You would not dream of leaving the house without it.

We are already approaching a tipping point for the early-launched mobile television services. In the US, Sprint PCS offers MobiTV, a live streaming service with 15 channels and packaged clips, using content from CNN, E!, Fox Sports and others. The service currently costs the equivalent of 10 euros a month, and typically consumers tune in for 8–10 minutes at a time, with news the biggest driver. Music video sessions tend to last longer, at 10–15 minutes. Content providers are launching 'mobisodes': special short edits of series fine-tuned for mobile viewing.

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But the most encouraging findings from the American experience, and from other continents such as Europe and Asia (Dentsu, 2004; VTT, 2003), is the universal suggestion that people easily grasp the idea of 'live' broadcast TV being sent direct to their handsets. They find it a simpler concept to understand than having to be trained in how to search for packaged video clips.

The potential market

All the indications suggest that the market will be large, i.e. a multi-billion revenue before the end of this decade. Research shows that consumer interest in mobile TV is even larger than that shown in research testing the appetite for home-based VOD (video on demand) or PVR (personal video recorders). Typically, such research tends to demonstrate that about 20 per

cent of consumers are very interested in those new home-based digital TV services. In comparison, a McKinsey survey in Japan (Bernstein, 2005) reveals that a total of nearly 85 per cent of those questioned were interested in watching mobile broadcasting, with 38 per cent saying they were 'very interested'. Other research in Europe, reported in Bughin (2005) and HPI (2004), shows similar figures: in Finland, nearly 80 per cent of those surveyed expressed an interest, but more than this: 27 per cent want it 'immediately', with 52 per cent saying they are very interested and 'want it soon'. The figures for Sweden and the UK are only slightly lower.

Already in the much more basic analogue TV service launched by Vodafone in Japan on its V601N handset, more than 40 per cent would watch close to every day of the week despite its being a registered TV service, and despite poor reception quality and battery sustainability (Bernstein *et al.*, 2005). VTT (2003) reported that people in the pilot experiment in Finland, logged more than once a day, implying a possible mass-market reach for customers with the right handset and hosted TV application.

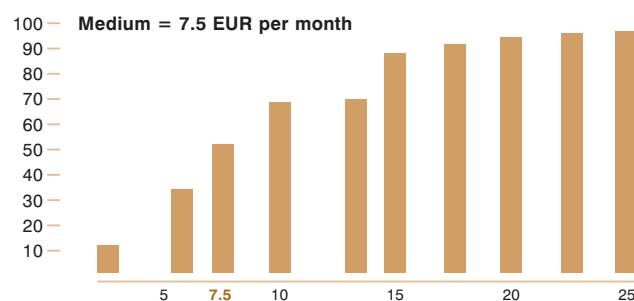
Not surprisingly, teenagers are the most inclined to be the early users, though the concept is also liked in pilot studies accessed by many different groups, including older segments such as 30–50 years old mobile users. Furthermore, service access extends traditional primetime with peak of services seen at commuting time in Japan, and from noon to 7 pm in European trials.

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The revenue model for mobile TV service might be a combination of free TV and pay-TV and, within pay-TV, either subscription or transaction-based (mobile 'Pay-Per-View'). As it has been for both TV and for mobile, a continuum of the three revenue model is likely to be the way to maximise reach and success: mobile took off with pre-paid, on top of post-paid, in Europe; in the US, 40 per cent of digital TV-VOD services are free, and within the 60 per cent of paid VOD, about two-thirds are subscription-VOD based like the HBO on-demand service. Finally, main free-to-air TV channels are likely to use the phone as an additional access device in order to reach users out of usual home TV primetime, but especially to attract teenagers moving away from TV and spending their time on internet and mobile phones. Teenagers are also more inclined to react to mobile advertising and convert to m-commerce in our survey, so they are likely to be worth a lot to advertisers as mobile contacts in the future (Bughin, 2005).

Concerning billing, the solution can be quite simple. People are used to being billed through their mobile phone for extra services. Already they are happy to pay extra to send photos, receive premium SMS or download ring

Fig. 2 Mobile TV willingness to pay is relatively high



tones; on a mobile phone they tend to accept the costs without much question, where they might balk at paying for computer-based internet services. Some early industry claims suggest that mobile users interested in mobile TV would be willing to pay as much as 15 euros a month for the service (and the initial price point of flat services in the US has been pricing in that range), but more realistically, the total bill from usage and price per transaction services amounts more to between 5 and 10 euros (VTT, 2003).²

This amount of mobile TV pay per month for the median consumer highlights three key things for the development of the market: (1) current price points of mobile TV are too high to allow the mass-market development; (2) at decent price point, the market will be as large as mobile games/music/ringtones combined; and (3) there is enough revenue potential for players to interwork and create the market.

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Concerning point (1), we already mentioned the flat rate at price points in the high range of 10–15 euros per month. Worse, current mobile streaming costs are usually in the range of 2.5–3 euros per minute in services such as June in South Korea. This implies that mobile TV users will have to pay more than 30 euros for traditional TV snacking on the mobile – much too high to allow a mass market development.

Concerning the second point, current 3G mobile content ARPU in Asian markets generated by operators like NTT's DoCoMo for games or Chaku-uta ringtones add between 2 and 3 euros per month, that is only half the potential of mobile TV.

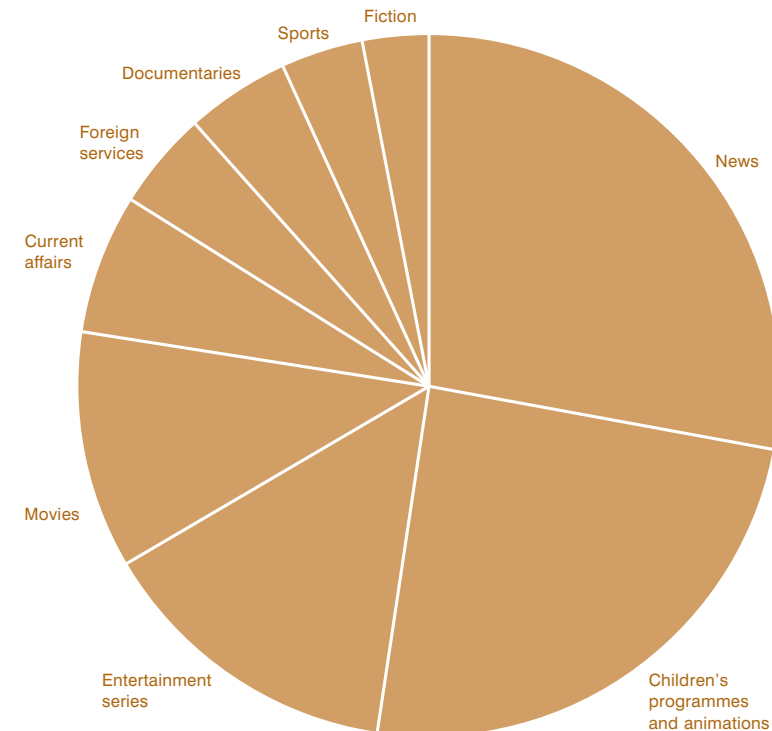
Concerning point (3), the potential can indeed be large for broadcasters as thematic channels can develop extra reach and get the same amount of revenue share as in fixed TV of 20 cents to 1–2 euros per month per user etc. At the same time, the services are likely to generate other revenue streams such as advertising and interactive polling. Finally, though possibly a narrower market in reach, specialist viewing, like live sport, could command premium subscription rates.

Killing the goose

But amid the opportunities, there are also real dangers on the horizon. Potentially, this is a huge market generating considerable profits. Naturally the industry is lining up to compete for a share. But there is a risk that players are fighting on the wrong field, seeing the question only from the supply chain perspective (Forss and Melin, 2004). Too many people assume that those who control the technology will own the market. Consequently, many different technologies are battling it out to deliver mobile TV.

Fig. 3 Mobile TV content reflects TV content

Percent of login access



100% = Amount of use of "theme" channels

Streaming technologies cannot sustain mass-market live TV delivery as the system is fundamentally peer-to-peer and the service bandwidth availability is too narrow. Concerning over-the-top broadcast technologies, Nokia is for instance pushing its own technology, called DVB-H, which uses bursting techniques to avoid too strong signalling from DVB-T, which will otherwise over-eat mobile battery life. In the UK, ntl Broadcast has been pushing for DAB, which is also the system used to deliver digital radio while in the US, Qualcomm uses a proprietary network based on Forward Link Only (Flo) radio access technology. In Asia, BMCO in South Korea has launched a fleet of V-SAT to offer services via the satellite. Each player sees the market solely from its own perspective. Nokia is likely to want to promote their technology, in order to sell more of new mobile TV friendly handsets; ntl Broadcast sees DAB as simultaneously giving them a cut on live TV services on mobile leveraging their tower infrastructure etc.

But the fear is that this could be the kind of wrangling which could potentially wither the market. We could all too easily kill the goose that lays

2. Ovum (2004) reports that people would be willing to pay the same price as the afternoon newspaper at the stand.

the golden eggs. We have to be careful that we do not give ourselves the headache of non-standardised technology, or commit to systems that might work well for downloading clips, say, but do not offer sufficient quality for live streaming or broadcast. All the competing technologies have their own bottlenecks, their own advantages and disadvantages. Some, such as satellite services are likely to be not robust enough for full mobility, especially in high-density regions. Others raise regulatory issues, such as the use of spectrum, or, like DAB, provide too narrow a spectrum in Europe to support many channels, or consume too much battery life.

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In the end the precise technology does not matter, so long as it does the job it needs to do. Rather than making technology their battlefield, it is far more important for those who own the platforms, those who supply the solutions, and those who provide the content all to bend their attention together to the question of how best to satisfy consumer demand.

Contrary to what the industry assumed at the beginning, early findings from both the US and European trials suggest that what works well via the mobile is, surprisingly, classic consumption of broadcast TV.

The evidence suggests that all the players involved should begin inter-working, so that profits can be maximised right through the value chain. We are not yet at a stage where we can predict whether it will be the mobile operators who capture the market in the end, or the broadcasters themselves, or even new creative companies with innovative approaches to content. All stand to benefit in the medium term. Meanwhile, at the heart of any discussion of technology, the first consideration should be what the consumer actually wants from mobile TV.

So what is the viewer looking for?

Contrary to what the industry assumed at the beginning, early findings from both the US and European trials suggest that what works well via the mobile is, surprisingly, classic consumption of broadcast TV. Consumers want their normal TV broadcast brand. On MobiTV, there is for instance a good uptake of the Discovery Channel, and the VTT trial in Finland has demonstrated that users were disturbed by not finding the programming of the main commercial TV channel, MTV3, on their mobile TV access device. In whatever country, not

surprisingly, news and weather seem to hold the greatest appeal. People thought that mobile TV would be especially useful for major breaking news events, such as September 11th. But there is also a major surprise – sports premium channels are not too much of a killer, except for major events, which means they are a service to be used rather less frequently than one login a day, as currently reflected in mobile TV Trials. In fact, children are also very enthusiastic users, watching cartoons and standard children's programming. Movies and entertainment also featured strongly.³ The only difference between mobile watching and 'fixed TV' is that the attention span is much more limited. Typical viewing sessions would be no longer than 8 or 10 minutes, possibly more for music or cartoons.

New formats

But while viewers are looking for something familiar, broadcasters and programme makers should also aim to develop mobile-adjusted formats that maximise the impact of their programmes. Fox has devised for the hit thriller series 24 three-minute episodes that they call 'mobisodes'. So far they have been extremely successful, proving there is a market for content tailored specifically for mobile viewing.

For a content provider like Fox, these mobisodes are a means of extending the programme brand for 24, and certainly mobile TV could help programme makers build major programme brands. Mobiles present strong opportunities for imaginative programme promotion, via something as simple as SMS or via specially tailored clips. Meanwhile content aggregators – the broadcasters – are able to extend their primetime reach to a population that today spends more time on the internet than it watches TV. Mobile viewing builds audiences, sometimes by word of mouth (the person who watches a live episode of their favourite soap on their mobile and texts a friend telling him or her to turn on and watch too), and sometimes by the broadcaster sending reminders that a special mobisode is scheduled, possibly at premium rate pay-per-view.

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But big programme brands will not be the only winners. Smaller production companies will be aiming to build the niche market via mobile broadcast. Viewing available on mobiles could range from the equivalent of the UK's Freeview bundle to more specialist, thematic channels.

For any style of programming, *interactivity* is a key function of the service. TV voting, as well as TV guides, have been the most used applications in early trials. Mobile viewers could vote for a *Big Brother* resident to be booted out of the house. They could search the library of the current live

series to call up archive material. When these actions are performed from the mobile, there is a revenue opportunity for the mobile operator in terms of access as well as the broadcaster and the content provider, and a further advertising opportunity too in the form of video search for instance.

Drama formats and production costs could change significantly as a result of mobile viewing. We know that people are willing to watch drama in short episodes tailored from existing content. In the future perhaps drama might be specifically commissioned in three-minute episodes for a mobile audience. A creative content provider could shoot many small-scale productions at lower budgets; on a small screen there is no point in lavishing money on special effects or detailed backgrounds.

Even in the 'fixed' TV market, there is evidence that people enjoy short-form drama in three or five minute episodes, outside of cartoons. In France there is a series called *Camera Café*, based on the premise that at work, French people always make a stop at the coffee machine and discuss their lives there. Every time the same characters appear, there are running jokes and storylines. It is transmitted in three-minute episodes just before the news, and is as successful as any of the 30-minute series in the schedule. Animation could work equally well in short form. The winners will be those content creators who come up with compelling storylines and shoot in styles designed for a small screen.

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Opportunities for advertisers

Mobile broadcasting offers unique opportunities for advertisers. Targeted advertising is not only possible; it is simplicity itself via the mobile handset.

When a viewer signs up for a mobile TV service, he or she has also provided us with a means of knowing much more about them. Every transaction can be logged, helping us to understand who they are, what their lifestyle is, what they aspire to and what products they are likely to be most interested in. So advertisers can easily send direct marketing messages via the handset to a fine-tuned audience. You will know who they are by the programmes they watch and the other services they access using their phone. Mobile operators could even be able to offer a location-based service to advertisers, so that a campaign can roll out in a specific area, and its success monitored and quantified.

Moreover, technically the mobile allows for much more digital stream to be sent, and therefore messages can be embedded in different ways. Advertisers might use SMS, or they might choose to place a message directly on screen.

But there are further unique ways for advertisers to creatively exploit mobile TV. Mobile phones are intensely personal devices. People like to stamp their individuality on them in many different ways, from ringtones to screen appearance. So there could easily be an opportunity for advertisers to offer unique personalisation features: ringtones, screen backdrops, culled from TV series they have sponsored, as well as live video content. An advertiser like Coca Cola, for instance, might choose to link up with a content provider to offer special mobisodes of a popular TV series, available only through the mobile TV service.

Because the interactive principle will be strong in most mobile-delivered TV, an advertiser can also take advantage of the viewer's willingness to click to engage with the programme. Mobile users understand interactivity; it is their guiding principle. *Do you like this? Send it to a friend.* Every screen a mobile viewer reaches through interactivity offers another opportunity to place a sponsor's logo, or to direct the consumer onwards via an ad for the product. They might watch a mobisode and then be offered the chance to click to say whether or not they liked the ending; the return path could include an ad.

Indeed advertisers themselves could become providers of compelling mobisodes, in the form of three-minute narrative ads which hook the viewer into a serial storyline. Every day there could be a new development in the lives of the characters that represent the spirit of the product. Shot only for a larger fixed screen, the cost of such mini-dramas could be prohibitive, but with some creative planning it could be possible to provide content more cheaply, designed for an audience on the move and watching on a tiny screen. Different settings and storylines will appeal to different age groups, suiting different product ranges.

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There will of course be many hurdles to overcome before the market achieves its full potential, from handset replacements and tower fillers for DVB-H, to development of new production series and multi-access delivery of home TV broadcast news, sports, entertainment etc. There also may be regulatory uncertainties to cope with: for content providers and aggregators, the protection of authors' rights and local rules on content, particularly in relation to adult content; finally, for broadcast terrestrial technologies that require spectrum use owned by governments, operators may find that they have to purchase licences for multiplexing. But now is the time to begin planning. Mobile TV could change the way people view; it will be a foolish advertiser, mobile operator or content provider who ignores its possibilities.

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