

Making TV Accessible

In 2011, the world's population passed 7 billion mark. It was also the year when the number of mobile phone subscriptions exceeded 3.5 billion and China became the dominant market for smart phones. With so much attention being given to mobile phones and computer tablets, there is a tendency to overlook media such as radio and television and the role that they still play. 1.4 billion households around the world have a TV, representing 98 per cent of households in developed countries and nearly 73 per cent of households in developing countries. In terms of the amount of time we spend on media, television still accounts for the lion's share of media "consumption".

What we often forget is that information and communication technologies such as mobile phone and television are moving rapidly from analogue to digital. For television, the transition from analogue to digital transmission began in 1997. By the end of 2011, USA, Japan and much of Europe had switched on digital television (terrestrial, satellite or cable) and switched off analogue TV transmission. The rest of the world will be starting digital transmission and turning off analogue in the course of the current decade.

In urban areas with good broadband penetration, hybrid television solutions using digital broadcast and the Internet known variously as Connected TV, Smart TV, Catch-up TV and HbbTV seem likely to become mainstream in coming years. IPTV has matured rapidly in the first decade of the century and is now one of the main digital media platforms in city states. It is conceivable that IPTV will make substantial inroads into the digital broadcast television in affluent urban areas, but is unlikely elsewhere.

The challenge

Many of the readers of this article may wonder what the fuss is about. Everybody can watch TV, can they not? To enjoy access to TV, all you need is the money for a TV receiver, electricity and a television signal.

The problem is that, especially in the developing world, there are still people without money for a receiver and who live in a home without electricity. Even if these basics are in place, as many as 1 person in 6, even in the industrialized world, cannot enjoy access to TV. Exclusion may also be due to one or more factors, including physical or cognitive disabilities and age-related issues (small children unable to read subtitles, retired people not being able to follow the

dialogue). Being prevented from watching TV may also be the result of cultural or social exclusion (migrant workers within a country or immigrants and refugees unable to follow programmes in the official language of the country or region).

At the World Summit on the Information Society (WSIS), agreement was reached by world leaders on a set of 9 targets to be reached by 2015, one of which is "to ensure that all of the world's population have access to television and radio services". Given that more than 1.2 billion people need to be helped, is it realistic to reach this target by the deadline, given the current economic target and the many demands being made of government spending? This is the challenge I would like to discuss.

The main accessibility options

There are four main factors that have an impact on television accessibility:

1. Usability - The intrinsic accessibility of TV programmes themselves. Here the focus is on human factors and usability issues of television pictures, sound, setting-up and re-tuning, discovering, using and enjoying TV programs;
2. The viewing context - The extrinsic factors which influence accessibility. This covers the use of devices such as remote controls; interfaces between TV receivers and assistive technologies such as hearing aids so that viewers with hearing impairments can hear the TV sound directly in their hearing aids;
3. Access services accompanying TV programs and other on-screen solutions. We have all seen TV programmes with subtitles. Many will be familiar with some of the other options including sign language (for persons who are deaf and do not communicate with an oral language), audio description (an additional audio track describing key visual cues for persons who are blind or have cognitive impairments) and even spoken subtitles for those who have difficulties reading subtitles for programmes in foreign languages; and
4. Accessibility through special receiver functionality such as the use of Text To Speech (TTS) technology to provide spoken EPGs.

The first reaction from a typical decision-maker in the television industry is to point out that there is no clear



business case for making television accessibility. Accessibility is a worthy cause, but difficult to implement at a time when television is under economic pressure on a number of fronts.

If we look at the first of the 4 factors, improving the usability of the programmes, action can be taken in a matter of days and need not be particularly expensive. During the Football World Cup in South Africa in July, 2010, Vuvuleza trumpets wreaked havoc on the first day, making television commentators almost unintelligible. But by the second day, audio engineers had worked miracles and found solutions. The same goes for the legibility of on-screen captions and titles in news and current affairs programmes. Discussing the basics of TV picture and sound accessibility with the production and editorial teams can raise awareness about fine-tuning broadcasting so that as many viewers as possible can benefit.

The second factor – selecting a well-designed remote control, making sure that viewers have the right glasses, ensuring that their TV screen is clean and thus making the best of the receivers and devices viewers already have - can also have a big impact.

The third factor is perhaps the most contentious – offering access services like optional same-language subtitles, audio description or spoken subtitles - can make a big difference to a number of viewers with disabilities or age-related issues. It is certainly the case that providing audio description and visual signing all cost money. But for the main TV channels even in small countries, doing at least two of them rarely leads to an increase in the production budget of more than 1%.

Those working on television accessibility are not just state or public service broadcasters, either. In the UK market, the Sky pay-TV operator and its main channels meet the targets for subtitling and substantially exceed targets for audio description. The Sky+ personal video recorder (PVR) was also one of the first to be able to record all of these access services so that they could also be used when viewing recorded programmes.

As far as the 4th factor is concerned, developments like Text To Speech, so that the viewer can have menus and programme guides read aloud, are already on the market or will be merging in the next year or so. Research laboratories

at NHK in Japan and in Europe have pioneered solutions to ensure that elderly viewers have better control over the intelligibility and delivery speed of TV programmes. Technologists at Dolby, broadcasters in the UK and Sweden and researchers in Germany and Japan have all come up with “clean” or “clear” sound solutions to maintain multiple audio channels all the way to the viewer so that he can adjust the sound to meet his personal requirements. As we saw with TTS in car navigation systems, when a solution like speech synthesis finds a market, it is only a matter of time before the benefits of scale lead to falling component costs. This allows TTS solutions to move into mainstream equipment.

Making change happen

The main barriers to making TV accessible are neither economic nor technical. They are human – our own incomplete understanding of what the challenge is, what the options are, and how to find the money and staff to make TV accessible. Providing some useful examples of good practice that can be emulated by others will be crucial to success.

Is it realistic to reach the World Summit on the Information Society (WSIS) target by 2015? As far as TV is concerned, the answer is a qualified “Yes”. The target may not be reached 100% in all countries by the deadline, but with the right mixture of carrots and sticks (adjustments to national legislation, consensus on access service targets reached by the TV industry and regulators and some tweaking of TV standards to remove some of the ambiguity of the optional provisions), a great deal can be done if all the key stakeholders endorse the target. Ultimately, success depends on “doing more with less” – making an honest case for TV accessibility that makes economic sense, setting realistic targets and having the necessary 360° expertise to make change happen.

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