

Where radio fits into the digital puzzle

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Coming up

1. Radio and 2015/2020
2. The basics of radio switchover
3. Debate about technology standards
4. Prospects for digital audio on other platforms
5. The one to watch: smart phones

Starting point: DSO costs \$\$\$

- DSO opportunities for Africa are limited, the threats are weak.
- No medium-term benefit for Africa, only COST.
- Benefits need judging against priorities – eg. Broadband access, content development.
- My advice: **LAG**. 😊 . Delay, experiment, limit reach so as to reduce dual illumination costs.
- *Those who are last shall be first!*

Where to for African radio?

- In this context,
how much
should African
radio
broadcasters
invest in digital
platforms?

1. Radio and 2015/2020

Digital Deadlines

- DM and DTT as per ITU is NOT the same as digital broadcasting in general: it is about analogue TV. It is thus about DTV.
- ***DTR*** (*digital terrestrial radio*) is different!
- "Beyond broadcasting"
<http://nml.ru.ac.za/files/fesreport.pdf>
- Study shows confusion in African radio circles:
 - They *think* that ITU's DSO applies to them
 - They *believe* it's OK 'cos they have digital production

Digital dreaming

- Digital production is **not** DM-readiness!
- DM is mainly about transmission & reception
- It is about changing the use of *spectrum*, and changing the *consumer devices*.
- Two big and costly changes, whether you talk DTV or DTR, or a fusion of the two.
- And it is about a transition period with overlaps between digital + analogue signals and digital + analogue devices

Safe in an analogue silo?

- So – does radio not have to worry because DM is only about TV spectrum?
- *On the contrary:* there ARE still implications for analogue radio...
- Scenario: an analogue radio current in a wider digital sea needs connections to **MANY** digital currents, including (but not only) that of DTV.
- Else radio = Cinderella of Digital Switchover.
- Without a Prince Charming to rescue her!

So what implications for radio?

- Possible rivalry: Digital TV can deliver pure audio. TV sets can then be used as radios.
- Regulation can make or break this:
 - Icasa defied tech possibilities to propose in 2009 that SA broadcasters licensed for digital television be banned from running pure audio.
 - In contrast, digital satellite TV in SA has no limits.
 - Some satellite audio also reaches moving radio (cars)
- *Protectionism of analogue radio by keeping it off DTV is not a long-term strategy. Icasa has now come round to recognising this.*

Need to think audio, not radio

- The field is all platforms that deliver digital sound broadcasts (DSB)
 - *Satellite, DTV, Internet (wired, wireless), cellular techs.*
 - *And DTR via dedicated multiplexes...*
- Rise of audio plus: features to enhance audio.
- Constraints here can also be regulatory:
 - British regulator Ofcom allows *only 30%* of radio multiplex use for non-audio services.
- That limits how much DTR can compete with richer services.

Summing up

- It's not viable to keep audio off DTT or to ban it from other digital platforms.
- *Audio wants to flow. And to be enriched....*
- So, it's also not viable to keep digital audio (via DTR) as a limited no-extras service, i.e. force it to fight with one hand tied behind its back.
- In short, regulation needs to free up audio to play on all platforms, and in various enhanced modes.

2. Some basics of radio switchover

What's a radio station to do?

- Answer A: join/collaborate & supply audio-only channels on DTV or Digi Satellite signals.
- Answer B: consider specially designed systems for digital radio broadcasting (DTR):
 - DAB and DRM (Digital Radio Mondiale)
- Take note: DAB & DRM can also send out non-audio data – in other words, images & text.
- = Convergence: digital TV can deliver digital radio; digital radio can blur into simulated TV.

How urgent is Answer B - DTR?

- In TV, there is a “stick” that ultimately compels viewers to upgrade: the analogue transmissions will be switched off.
- Analogue radio is not likely to be switched off anytime soon, because the radio waves it uses are not suitable to most digital radio techs.
- So, most digital radio broadcasting is an add-on, not a replacement, for analogue radio.

Distinctiveness of DTR

- Far from “digital dividend” of freeing up airwaves, most digital radio doesn’t operate in the place of FM or AM or SW frequencies – it just means expansion into other frequencies.
- Even if all FM radio broadcasting was closed down tomorrow, its frequencies are not suited to (most) digital audio standards.
- = different to TV, where the same analogue TV frequencies are needed for DTV re-use.

Digital radio is delayed by TV DSO

- Most digital audio broadcasting needs to use the frequencies in the analogue TV band, and therefore it will have to wait until the eventual switch-off of analogue TV.
 - “Taskforce on digital migration in Kenya”
- DAB, DAB+, DRM can co-exist with FM because they transmit on VHF spectrum.
- However, DRM+ operates on FM frequencies, and it can yield CD quality there.

Impact on radio transition

- Scarce frequency argument doesn't hold
- Thus: the motive for consumers to buy digital radios will not be a fear of analogue cut-off.
- The lack of urgency of vacating analogue radio signals means that it will be many, many years before digital audio migration is completed.
- With the prospect of a much longer period of dual illumination, who will pay for parallel signal dissemination over the long transition?

Incentivising radio transition

- A particular kind of incentive has been offered in the UK for encouraging digital radio...
- In that case, FM radio stations which agreed to also broadcast on DAB were granted 12-year licence extensions of their FM broadcast rights.
- = a contradiction: perpetuating the status quo as a reward for trying to take change it ...
- This symbolises the challenges of pushing DTR.

What's driving DSO

- DTR means consumers must buy new radio sets.
- DM is not demand-led, i.e. response to consumer market-place, but mainly supply-side driven.
- This is why, even in developed economies, there has not been success in radio migration, despite enthusiasm of broadcasters & manufacturers.
- In developed economies, compulsory spread of digital car radios may play a part - but that's less likely in developing countries.

On the consumer side:

- DTR delivered via VHF can be even better quality than FM, but most listeners are generally quite satisfied with FM anyway.
- So DTR uptake requires **more + better** quality audio + **additional** services on DTR.
- Must assume that digital radio uptake relies not on a stick, but on the “carrots” on offer.
- Which in turn requires more investment – which needs finances...

So a longer term prospect

- Dual illumination also means a danger of cannibalising the existing (finite) advert pie:
- = Same revenue but higher costs.
- *OUCH!*
- The general reality: very few countries expect to migrate radio to pure-play DTR in the next decade.
- To try and enforce it would generate an outcry in democracies at least.

3. Debate about standards

DAB, DRM ... *and* DMB, DAB+

- DAB and DRM not the only standards in town!
- Digital Multimedia Broadcasting (DMB) seems likely to be adopted by France, and is also supported in Singapore and South Korea.
- DMB is four times as efficient as DAB.
- It allows broadcast of pictures or low-bit rate video alongside audio streams, which could make digital radio more appealing to consumers...

Controversy

- But DMB, it appears, was originally designed for mobile TV, which is why it is over-specified for primarily radio usage.
- Linked to this, DMB is also criticised because it is a third less efficient than DAB+, and therefore means fewer stations can be carried on a Multiplex.

DAB+

- Many digital television technologies today use MPEG4 compression.
- In digital radio, the DAB standard still uses an outdated MP2 compression codec...
- Newer DAB+ is far more efficient with MP4.
- Problem is that DAB radios can't receive DAB+ signals: The UK sits with a problem here: some 10 million DAB sets....

UK stuck in DAB ditch

- Also: UK DAB compression has been pushed to fit too many stations (9 stations rather than the recommended 8 per signal).
- Audio quality has degraded to below FM.
- One desperate UK industry figure* has called for the “stick” approach – that analogue be switched off in 2017, to force listeners to buy DAB digital radio set. * *Paul Robinson, MD of KidsCo TV.*
- Despite pressure, the UK has not taken up a 2013 for new car radios being DAB capable.

Other standards issues

- DAB radio sets are also said to consume much more battery power than their FM counterparts.
- Meanwhile, Sweden's government argues that instead of DAB or DAB+, it makes more sense to use DVB-2 for DTR.
- *Lesson for Africa: don't rush into DTR!!!*

UK scenario

- In 2007, the head of British regulator Ofcom said that no new FM licences would be awarded, but added that a swift forced march to analogue switch-off was not on the cards.
- Observers think the earliest that FM could be switched off in the UK is around 2020

Digital Radio Working Group (UK)

- Proposes that transition towards analogue radio switch-off should last some three years, but only commence under certain conditions:
 1. National Multiplexes should offer coverage equivalent to what FM currently does;
 2. Local Multiplexes should cover 90% of the population including all major roads.
 3. At least 50% of total radio listening must occur on digital platforms (*sic*).

Moral of the story

- DTR standards are in flux
- In UK, they are stuck
- DTR exists in a much wider digital universe
- So, again, let's celebrate the African lag.
- Bide our time...
- Enter way down the line
- Leapfrog a lot of hurdles, avoid the detours.

4. Prospects for digital sound broadcasting on other platforms

A mix of platforms

- Though 10 million DAB sets have been sold in the UK, sales of FM radios are still higher
- In addition, it is estimated that 20% of UK population is still not in range of DAB signals, and that it would take 100 million UK sterling to expand the networks to overcome this.
- More people in the UK are listening to digital radio through their TV sets (transmitted on DVB-T on the Freeview ensemble), than via DAB radio sets.

Long way to go

- In 2009, only a fifth of total radio audience in the UK was on any digital platform, while two-thirds were still on AM and FM.
- Of that minority of digital listeners, just over half were using DAB.
- *Statistics mask the likelihood that consumers listen to a mix of platforms, without even being aware of it.*

Mobile?

- Radio-capable cellphones on sale in the UK pick up analogue, not digital, radio.
- However, in 2009, 13.5% of British listeners used their phones for receiving radio...
- The figure rose to almost a third of people aged 15-24.
- That youth behaviour could continue into adulthood...

What about the internet?

- One study claims in the UK, 15-24 year olds listen to radio via the Internet more than they do on other platforms (including FM & DAB).
- But experts say the most popular drive time show (BBC radio 2) has an audience of 8.5 million, but the bandwidth of the entire UK internet infrastructure would be needed to serve 4 million.
- Web needs to grow its Multi-casting capacity.

6. The one to watch

Cellphones coming up

- What may trump the acquisition of new radio sets by the public is the cellphone.
- Especially in Africa, many people would prefer to buy a phone than a radio set.
- Many mobiles get FM and/or streaming audio or podcasts via GPRS, Edge, 3G, Wifi.
- Future will see cellphones with digital TV reception capacities (and used for audio channels), rather phones with DTR capacities.

Multiple threads

- Technically, a digital TV broadcast to handhelds (DVB-H) could run radio services at certain times of the day, and switch to TV or data streams at others.
- If digital sound broadcasts do take root in African countries it is likely that the sound will actually travel via a patchwork of technologies, such as satellite for remote areas and outdoor listening, while indoors would be via internet or DVB-T.

Also in the pipeline:

- Portable cellphones will become the primary devices for listening to FM, 3G, downloads, or live streaming from the Internet.
- And digital TV broadcasting to cellphones (with DVB-H) most likely steal the show in terms of the future of "radio" delivery.
- Cellphones already have an integrated return path capacity = *killer component!*
- *Consumers want to do more than consume!*

Investing in digital audio

- So African radio stations should invest in:
 - Audio services on DTV and satellite platforms
 - Audio online
 - Various audio to cellphones.
- Radio should delay on DTR ...
- But it's important to explore:
 - Enhanced audio services, esp interactive
 - Synergies & cross promotion between platforms.

7. Summing up

Conclusion

1. DSO applies to TV, but impacts on audio.
2. Digital radio basics: no DM urgency
3. DTR technology standards in flux / stuck.
4. Prospects for digital audio on other platforms
5. The one to watch: smart phones
6. Puzzle: we know what pieces exist...
 - The challenge is now to relate them within the cellphone frame!

Thank you

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