AV-CC

Australian Vice-Chancellors' Committee

the council of Australia's university presidents

(A.C.N. 008 502 930)

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Professor Richard Snape
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Broadcasting Inquiry
Productivity Commission
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Dear Professor Snape

Thank you for the opportunity to contribute to the Inquiry on Broadcasting. The Australian Vice-Chancellors' Committee supports many of the recommendations included in the Productivity Commission's Draft Report. The attached submission outlines why the Commission and the Federal Government should take into account the potential use of digital television by the universities to improve access to higher education when considering Australia's conversion to digital television.

Yours sincerely

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Submission by the Australian Vice-Chancellors' Committee to the Productivity Commission on its Draft Report on Broadcasting

1. Introduction

1.1. The Australian Vice-Chancellors' Committee supports many of the recommendations included in the Productivity Commission's Draft Report on Broadcasting. This submission outlines why the Commission and the Federal Government should take into account the interests of the higher education sector when considering Australia's conversion to digital television.

1.2. The World Wide Web is barely ten years old, and even five years ago was unknown to most people; but already, universities are using the Web to teach in new ways. Australian universities are now among the world's leaders in the use of the Internet and the Web in distance education. The Internet allows teachers to deliver a rich variety of material to students—text, images, video and audio. It has quickly grown to become an important and impressive source of information for researchers; and it opens up new channels of communication between staff and students, and (of particular value in distance education) among students themselves.

1.3. Exactly how teaching will evolve in the next ten years is impossible to predict, but we can be sure that information technology and communications will become increasingly important across all tertiary disciplines. They will break down the barriers between distance education and on-campus study, giving all students the flexibility to learn when and where they wish.

1.4. But with these developments comes a cost. The transmission of course materials in digital form can—particularly in the case of digital video —use a considerable amount of Internet bandwidth. Moreover, that usage increases as the number of students increases, acting as a pressure against recruiting more students to online courses.

1.5. Currently, the potential growth of the Internet in Australia is restricted by the amount of available bandwidth, particularly in regional areas. The introduction of digital television offers an opportunity to overcome some of these restrictions. Digital broadcasts of educational video, audio, text, and other data would be accessible to an unlimited number of students within the broadcast area, freeing up scarce Internet bandwidth. They could reduce the need for universities to install extra land-line cables to improve their Internet connectivity, leading to a considerable cost-saving for the nation.

1.6. Such developments would only be possible with changes to the regulatory status quo. There is no provision at present for universities to become broadcasters. The introduction of digital television, however, brings the potential for dozens of television stations in the amount of spectrum currently used by a few. Such a broadcasting environment could and should have room for universities, which will

play an essential role in preparing Australians for the information economy of the 21st century.

2. Making Room for Universities

2.1. The conversion to digital broadcasting will allow much more efficient use of the television spectrum. Digital pictures use a quarter to a third of the amount of spectrum needed to transmit an analog picture of comparable size and resolution, and do not require the 'buffer zones' currently needed in analog broadcasting to prevent interference. The result is that more can be fit into the television spectrum with digital broadcasting than with analog: either more channels or more picture-area.

2.2. Obviously, new broadcasters, including universities, will only have room on the digital television spectrum if it is used to provide more channels rather than bigger pictures. Of the two alternatives being considered for digital television in Australia—high-definition television (HDTV) and standard-definition television (SDTV) the latter would maximise the potential for these new broadcasters to emerge. For this reason (as well as for others outlined below), **the AVCC strongly supports Draft Recommendation 6.1,** that high definition transmission and additional audio standards should not be mandated.

2.3. Mandating HDTV broadcasts, even if only for a few hours a day, week, or month, would lock out many potential users of broadcast spectrum. Although television stations would probably not broadcast HDTV all of the time, they would all have to broadcast it enough to meet their obligations. Established broadcasters, once granted sufficient spectrum to broadcast HDTV, might not be inclined to let others use some of this spectrum during non-HDTV broadcasting periods, even if regulations were to allow this. As a result, HDTV would lock up large amounts of spectrum that could otherwise be used to broadcast dozens of extra SDTV channels—including one or two educational channels run by universities.

2.4. One way of ameliorating this problem would be to introduce financial incentives for broadcasters to make the most efficient use of spectrum. **The AVCC supports Draft Recommendations 4.1, 4.2 and 4.3,** which propose the separation of existing broadcast licences into licences for spectrum and licences to broadcast content, with the value of spectrum reflected in its price, and licence fees for broadcasters reflecting that value. The AVCC also suggests that, particularly if HDTV is mandated, provision could be made (or a requirement could even be introduced) for commercial broadcasters to sublicence unused spectrum to others during non-HDTV broadcast periods.

2.5. The problem of gaining access to spectrum will be exacerbated while analog simulcasts continue; HDTV broadcasting will lock up much of the television spectrum, and analog much of the rest, leaving little room for newcomers. This increases the need for a conversion plan that encourages the earliest possible switching-off of analog broadcasting. **The AVCC therefore supports Draft Recommendation 6.3,** which proposes setting a fixed termination date for analog, and the progressive release of spectrum during the conversion process as it becomes available. (On this issue, see also below.)

2.6. The suggestions above are aimed chiefly at creating sufficient room on the broadcast spectrum for universities to broadcast. The basis on which universities could gain licences to use that spectrum is another matter. Universities do not fit neatly into any of the existing categories of broadcasters outlined in chapter 5 of the Draft Report. Some of their activities are commercial in nature, but they would not seek the same role as existing commercial broadcasters. They are largely Commonwealth-funded and have a national role in education, but again would not want to mimic the national broadcasters (the ABC and SBS). Community broadcasters, similarly, have different aims from those of universities. It could be that universities emerge as 'datacasters', although attempts to restrict the scope of datacasting to prevent it from being used as de facto commercial broadcasting could also prove overly restrictive for universities (as discussed further below). In the final analysis, there may be a need to create yet another category of broadcaster, that of 'educational television', with a proportion of digital spectrum reserved by the nation for this purpose.

3. Costs

3.1. The conversion to digital television will be an expensive process for all involved—broadcasters and consumers—but there are clear ways to minimise the expense.

3.2. One way to minimise costs is, as Draft Recommendation 6.1 recommends, to avoid mandating HDTV, which is another reason why the AVCC supports this recommendation. The anticipated cost of HDTV sets, running into several thousands of dollars, is of real concern to the AVCC. Most university students simply would not be able to afford a television set that costs as much as a year's Austudy. Even HDTV set-top boxes for analog televisions are anticipated to cost over a thousand dollars; and, given that the picture quality of such a combination would be virtually identical to what is already available on analog channels (since the HDTV signal would be viewed on an analog screen), it is hard to envisage much early-adoption of HDTV set-top boxes. Either way, universities' target audience of students would be among the last to convert to digital TV in an HDTV broadcasting environment, which would delay the use of broadcast spectrum for the delivery of educational material (if any was available for this purpose in such an environment) at least until the switch-off of analog and possibly for longer.

3.3. The prices of SDTV sets and SDTV set-top boxes will be considerably less than those of HDTV, and the purchase of a set-top box in an SDTV broadcasting environment would bring real benefits: a relatively modest outlay (although still substantial by student standards) would provide access to a much greater number of free-to-air channels. This would, in turn, promote the rapid take-up by consumers of digital television, allowing the earliest possible switching-off of analog and thus providing more room for educational broadcasting.

3.4. The price of HDTV sets and set-top boxes would not only affect students. Universities, schools, and similar organisations would face enormous costs in converting all of their TV sets to HDTV. Converting to cheaper SDTV sets in an HDTV broadcasting environment would be a stop-gap measure, assuming that SDTV

was broadcast some or much of the time, but such sets would become less and less useful as HDTV broadcast hours increased from the initial regulated minimum.

3.5. Universities would also face costs in their potential role as broadcasters, and these could be unnecessarily high, depending on what regulations ultimately apply to digital broadcasting. If universities emerge not as datacasters but as a new category of broadcaster, then, in an HDTV environment, they might find themselves required to broadcast a minimum amount of HDTV (assuming they could somehow overcome the obstacles outlined above and gain access to spectrum). Extra costs would then flow not so much from the equipment needed to broadcast digital television – all broadcasters, new and old, will have to buy new equipment to transmit any digital signal, whether SDTV or HDTV—but rather from the extra spectrum universities would have to purchase in order to transmit the required amount of HDTV. There would be little educational benefit to be gained from a bigger picture size. This scenario may not be the most likely, but it demonstrates the importance of creating regulations that give potential users of the television spectrum as much flexibility as possible. It again underlines the importance of Draft Recommendation 6.1, that HDTV not be mandated.

3.6. Two final points should be made about HDTV and its predicted cost to consumers. One is that, although large cathode-ray-tube (CRT) television sets are very expensive, the televisions of the future may not be CRTs. Technologies currently in development, such as improved liquid crystal displays, light-emitting plastics, and digital ink, all hold the promise of large, low-cost screens, although exactly when these might eventuate is uncertain. But the second point is that, even if cheap, large screens become available, Australians may not want to use them to watch cinema-sized full-screen pictures. We may instead want to split the screen area into a video area and a web-browser side-panel, with another area for text-entry—one could certainly imagine the educational potential of such an approach. We might simply prefer to have a multitude of SDTV channels rather than half a dozen HDTV channels. In an environment where it was not prescribed, cinema-quality HDTV might be found to use too much spectrum to be economically viable, or might be viable only for one or two channels. HDTV may instead find its natural home in the rental-video market, delivered on pre-recorded DVDs or their successors rather than via spectrum or cable. To be too prescriptive at this stage could prevent television from evolving in ways we cannot imagine today.

4. How Universities Would Broadcast

4.1. It is reasonable to ask what universities might use television spectrum for, if the obstacles outlined above were overcome. This would depend on many factors, such as how much spectrum becomes available to universities, their ongoing financial situation, and how online teaching practices evolve over the next decade or more. The key point is, again, the need to maintain sufficient flexibility in digital broadcasting regulations for universities to be able to move in this direction if it proves economically and educationally viable. Regulations that preclude this possibility may otherwise end up costing universities and the nation dearly.

4.2. With these caveats in mind, one can imagine some of the forms that university television might take. University television would not look like television as we know

it, although occasionally a broadcast slot might be taken up by a traditional television program (either produced in-house or shown under licence). Neither would it consist of 24-hour-a-day broadcasts of videotaped lectures. Digital broadcasts, since they consist purely of digital data, can represent video, audio, text, still images, software, or a combination of all of these. Since most university teaching revolves around the written or spoken word, rather than full-motion video, most broadcasts would be of less data-intensive material—text, still images, audio—allowing relatively more information to be fit into the same amount of spectrum.

4.3. There would be a need for this efficiency, because only one or perhaps two SDTV channels might be available for universities in any one area. These channels would have to be shared: Australia's major cities have more than one university, and universities offering distance-education would want to broadcast in more than their local area. With dozens of universities each offering hundreds of courses, the competition for air-time could be strong. A positive outcome of this could be increased cooperation among universities, with sharing of teaching materials so that one broadcast would serve several institutions; a negative effect, which would have to be guarded against, might be such anti-competitive practices as the universities in a particular city denying access to distance-education universities from elsewhere. Independent bodies may emerge, run by consortia of universities, to oversee broadcasting in any one area and to allocate time-slots among universities.

4.4. On the other side of the equation, students could receive these broadcasts either with PCs or with hybrid PC-television sets; major manufacturers have already announced plans to make such sets. A modem connection or its equivalent could provide an outwards 'back-channel' for interacting with staff and other students; and, because most incoming data would arrive via broadcast, thereby freeing up modem-lines, communication over the modem would be that much faster.

4.5. The final shape of university broadcasting could differ from the above, but it would almost certainly involve multimedia broadcasts rather than traditional video-only broadcasts. For that reason, the AVCC is concerned about present attempts to define 'datacasting' in a restrictive way. Universities may well gain access to the broadcast spectrum only by becoming datacasters, perhaps by leasing channels from commercial 'multiplexers'. If regulations surrounding datacasting are framed with only commercial interests in mind, universities may be adversely affected.

4.6. At the time of writing, four proposals to restrict datacasting services are being considered by the Department of Communications, Information Technology and the Arts. All of these fail to allow universities to take full advantage of the emerging digital broadcasting environment. Two of the proposals are aimed at restricting the potential of datacasters to transmit video, by restricting datacasting bandwidth or by limiting video datacasts to 10-minute segments. Either approach would work against the transmission of video lectures, or the rebroadcasting of licenced educational television programs, by universities. The third proposal would prohibit datacasters from showing particular genres of programs. Three of these genres (discussion, panel, and public events) are of broad relevance to many areas of education; and others, such as drama, theatrical and artistic performance, and even sport and comedy, are relevant to such disciplines as Visual and Performing Arts, English, and Cultural Studies. The fourth model would require datacasters to offer a subscription-only service. While

some way might be found to include universities in such a model, it would create a further cost for students who already pay substantially towards higher education through the HECS scheme.

4.7. **The AVCC instead supports Draft Recommendation 6.2,** that regulatory restraints on new digital services should be minimised, and that datacasting should be defined liberally and not constrained by a regulatory distinction between datacasting and broadcasting.

5. Conclusion

5.1. The *Broadcasting Services Act 1992* seeks to promote 'a diverse range of radio and television services offering entertainment, education and information'. Most people would agree that television has provided a great deal of entertainment and even information, but relatively little education. The impending switch to digital broadcasting offers Australia a rare opportunity to address that shortfall; but current proposals surrounding this change could lose us that opportunity.

5.2. This would clearly be a regrettable path for Australia to take. We are fast approaching a time when the historical distinctions between print, radio and television will become less and less meaningful. Instead, the media, universities, government and others will seek to transmit digital data (whether text, hypertext, audio or video) via whatever means is most efficient and appropriate, whether phone-line, fibre-optic cable, terrestrial broadcast or satellite broadcast. Australia should avoid imposing regulatory barriers that artificially skew any of these players towards less-than-optimal communications technologies.

5.3. The Australian Vice Chancellors' Committee therefore recommends:

- the introduction of a system of digital broadcasting that allows the maximum possible opportunity for universities to make use of radio and television spectrum for the delivery of digital data (whether audio, video, text, or a combination of these) for educational purposes; and

- against the introduction of a definition of 'datacasting' that would restrict the kinds of data (whether audio, video, text, or a combination of these) that universities are allowed to transmit via the radio/television spectrum where such restrictions would interfere with the legitimate educational purposes of universities.