To the
Productivity Commission

Submission on
Broadcasting Regulation
in Australia

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Executive Summary

1. Spectrum is plentiful in Australia, both in the terrestrial transmission bands, and the cable network. There's more spectrum available than can possibly be used. Claims of spectrum scarcity are the result of political and anti-competitive manoeuvrings, not related to reality.

2. Telstra is and will remain (even with privatisation) the dominant carrier in Australia because it own the local-loop. Access is the key monopoly element in telephony. While one of the competitors **owns and controls access prices and the technologies which can be used**, there can never be an open market in these service. New services (broadcasting) will never be introduced via telephony if it doesn't serve Telstra's interests.

Telstra, should remain in public majority ownership. However it should operate in a truly competitive regime which gives equal (as possible) rights and controls to the other network operators. However the primary mission of the Telstra should be to extend the best possible telephone services to the widest possible number of citizens at the lowest price possible, rather than make profits.

The access lines, however are a quite different matter; they have telephony and broadcasting implications. They should be franchised to regional cable companies with a local public-ownership base. These would then:

a) rent and exchange space to all of the competitive carriers on an equal basis (including Telecom). ie. Point-of-Presence (POP).
b) rent access lines to customers on an annual basis.
c) rent and install access line technologies for the customers (ISDN, ADSL, HDSL multiplexers, etc) on these lines if required; and
d) provide channel connections (multiple) to any carrier/s or service provider/s of the customer's choosing.

This is the only way to create an open market in telephony, and promote the benefits we will all get from a new range of carrier, security, metering, broadcasting and local information services.

Once access control is removed, telecommunications becomes an open market, and the old telephone access service (the local loop) becomes part of the selectable broadcast system -- for both cable radio and switched-cable video (Video on Demand). If the local loop remains in Telstra's hands, and Telstra remains in Foxtel, then the advantages they can lever out of ADSL in many areas may be such that Telstra dominates future broadcasting segments as much as it does telecommunications.

Associated with this is the ability of Telstra, with its ownership of the local loop, to also dominate Internet and datacasting. The only factor that stops it from doing this now is the predictable public and media backlash that would ensue, and the predictable political reaction to this furore.

3. Convergence in telecommunications and broadcasting technologies will not have the result of substantially increasing diversity of control, diversity of opinion, or diversity of entertainment as is popularly imagined. Nor will it result in more industry self-regulation in the public interest, nor in any increase in market forces leading to improved price-quality trade-offs for the society.

Broadcasting and telecommunications, despite some overlapping technologies, will remain separate industry sectors and operate pretty much as they are today in the near future. The delivery mechanisms might change, and the ability of different groups to dominate may change, but from a customer's viewpoint, thing will probably be much the same.

The Internet is not challenging newspaper or television in any significant way, and is not likely to. Mainly it supplements the older services. The Internet may eventually steal some revenues from both, but they will all remain as different services, used for different reasons, and largely consumed by different people.

4. The obvious dominance by a few large companies of the broadcasting market in Australia, and the even more obvious domination of telecommunications, means that the mergers and collaboration between major companies in this broad communications sector, is increasingly worrying. It is vital, not only that restrictions on cross-media ownership apply, but that the limitations on ownership and domination of different segments of the market should be strengthened to increase diversity.

We can talk about relaxing restrictions at a later date when we available digital TV and radio spectrum is freely available, and at least a half-dozen different program providers share a single (and open) cable network.

5. The solution to the dual-Pay TV coaxial cable fiasco is to merge them into single local 'Cable Cos.' (not a program providers) on a regional basis; remove the second cable and use it elsewhere to extend (and underground) the service; and make this a common-carrier operation. The local Cable Co. would then franchise channel space to all Pay TV providers using a standard set-top box to discriminate, and authenticate.

6. Subscription Pay TV and Free-To-Air commercial television are seen as primary categories in broadcasting regulation and operations, and this distinction is central to all decisions made about broadcasting ownership and control in Australian in the last dozen years. However subscription payments are anti-competitive; the bundling of channels sold by the month, is a form of "third-line forcing". **Subscription selling is the primary cause of many of the problems we see today with Pay TV and Free-to-Air commercial regulation.**

The choice of payment systems (direct program payment, or via an exchange of the 'service' of watching advertising) is, or should be, the customer's choice -- not something imposed by government regulation. When licenses are limited, home viewers should not be forced to buy bundles or channels or programs at the discretion of the program provider. Digital TV technology today is designed to make program-by-program customer-choice possible, and the channels needed for duplicate transmission are widely available.

This is not a trivial matter because, as a direct consequence of the chain of decisions that maintains the subscription/free-to-air distinction, the industry is dominated by only a few very wealthy individuals and corporations. It need not be. All needs to be done to change this environment is some basic 'fair-trading' regulations to both ensure equitable competition and to protect the customer from exploitation, and to remove unconscionable restrictions on trade. The broadcasting system can then safely be left to free-market forces, in the most part.

Detailed Submission on Broadcasting Regulation in Australia

by Stewart A. Fist

1.0 Who am I?

I am currently an independent journalist, writer and newspaper columnist. I write a weekly column "Crossroads" on telecommunications and broadcasting (technology, economics, and politics) for The Australian newspaper, and I write monthly opinion columns and feature material for a number of other magazines - both in Australia and overseas.

I also appear on radio and television as a commentator on these issues, and I have provided 'expert assistance' to the Australian House and Senate with various inquiries into broadcasting and telecommunications on a number of occasions.

My early background was in television current affairs and documentaries with both the ABC and Channel 9, and later as an independent producer/director. I was also Training Director, then later the Head of the faculty of Continuing Education (Open Program) of the Australian Film, Radio and Television School. This division upgraded the skills of working professionals in the film and television production industry, and ran basic and theoretical courses for ancillary services.

I have good technical background in broadcasting, and an extensive production experience in television, and have a similar level of skills and knowledge of computers and telecommunications. I have been a consultant on television and general broadcasting issues (both programming and technical) with UNESCO working in a number of Asian countries, and also for the South Pacific Commission in the Pacific.

In 1980, my wife and I wrote a comprehensive UNESCO report "Australia's Urban Community Media". (She is an ex-ABC current affairs researcher.) This looked at the development of community newspapers, public radio and television, and at the (then) new video access centres.

For a number of years in the 1970s, I was the chairman/coordinator of the Australian Film Industry Action Committee, which successfully fought to establish a viable film and television production industry in this country.

I have probably been involved at the top level in the production of about 100 hours of television programming, and many more hours at a lower (technician) level. More than half of this is in film production. For a number of years my wife and I ran a successful independent production company making television documentaries and company films. I received the first commercial loan ($10,000 in 1971) ever granted by an Australian government instrumentality to a local producer, to make a pilot of a television documentary series.

2.0 What can we learn from the past?

The Australian broadcasting industry is a total mess; it is clearly ruled by antiquated laws, regulations and ideas, and it is regulated in the interests of a few major proprietor/organisations rather than as a public good.

Australia is not alone. Broadcasting around the western world has developed along parallel lines, and it shares a common culture and common restrictions. In almost all cases development of broadcasting has taken the same directions globally, and for much the same political and economic reasons. It is important to understand the base causes of our problems, before we can put in place remedial measures.

2.1 Diversity

The broadcast media, in addition to its entertainment role, has a primary responsibility to present a diversity of opinion and unbiased (or rather reasonably 'balanced') news coverage.

So you would expect, of all the industry sectors functioning in this country, that the media would be most open and have the widest possible range of individuals and organisations in content control. However it is one of the most restricted and restrictive of industry sectors.

• Broadcasting has one of the highest barriers to entry -- to the point where Australian's generally accept that the major film, television, radio, and newspaper media can only ever be run by very wealthy groups; among the top 100 of so in the country.

• They also accept that the media will usually be run by (certainly 'dominated by') very large 'mogul'-headed companies; usually family companies who pass power from father to eldest-son down the generations.

• They also accept that the new datacasting companies to be given a 7MHz channel licence for data, will inevitably include Digital Convergence Australia (owned by News Limited, Fairfax, Ozemail and C&W Optus), with the other two channel licenses possibly going to associates of the NineMSN organisation (even though the Packer Family own Nine) and LibertyOne (ex Fairfax).

This all appears to be an irrefutable conclusion. In fact, the industry itself talks about the 'media moguls' who run the Australian media, and of the 'communications/broadcasting club', which share out the spoils.

2.2 How did this arise?

There's little value in delving back into the early years, but there is no question that licenses were dealt out to the media-mates of the political parties in power at the time when the various radio and television stations were being licensed. Usually these went to print-media proprietors who supported the party in power, although a few found their way into labour-organisation hands (when Labor was in government), and a couple to the churches.

Usually independent public broadcasting was seen as little more than a token gesture, although stations like 2MBS-FM (a Whitlam Government license) have managed to make their station reasonably competitive. Fortunately, also, Australia has both the ABC and SBS as government funded public broadcasters to provide some general balance and variety.

With broadcasting in more recent times there has been a deliberate (but unwritten) policy of using claims of technical limits to reduce the availability of spectrum. I note that this policy continues today.

2.3 Is such big-corporation dominance intrinsic in the service?

It is at the present moment -- given the present regulatory tendency to allow these markets to operate on a *laissez faire* basis. Unless some technical, regulatory and open-market laws are put in place, the industry will continue to be dominated by a few major corporations who gain their controls through both vertical and horizontal integration.

Murdoch owns of controls access to film and television production, major sports, etc and also to cable and satellite systems. The Packer organisation at a more local level does the same. Broadcasting and telecommunications -- the so-called converging technologies -- have each been characterised by the way in which big corporations get bigger, and are increasingly able to dominate their sectors.

Governments and regulators around the world appear to think that the solution to this problem is that dominant local corporations should be confronted with dominant international ones -- then competition will solve the domination problem. This is rubbish. All that happens is that two large dominant corporations collude, either directly or tacitly, in ripping off the public.

3.0 Spectrum scarcity

Claims of spectrum scarcity have been used by successive governments for at least the past fifty years to explain why no more radio/TV licenses can be issued, and why the existing commercial oligopolies should remain unchallenged.

This claim of scarcity can be a true statement in one sense, but totally misleading in others -- which is how politicians and the media like to play these games.

3.1 The sixth network:

Television spectrum planning in Australia has for many years, provided for a sixth major national commercial network. This is generally understood to have been reserved for the Murdoch interests in recent years, but the Packer interests and those of Channels 7 and 10 have effectively opposed this introduction of fresh commercial competition. Consequently, the sixth channel in many locations is made available on a temporary basis to public broadcasting, which is conducted with so little funding, and so little transmitter power, that it has zero effect on ratings.

3.2 Shadow in-fill:

The most obvious waste of television spectrum comes from the use of many of the available channels in each area for shadow in-fill. Sydney is the best example, since it sets the pattern of channel availability for the nation. [See equalisation]

Sydney has six designated primary channels, of which only five are used (one is provided on a temporary basis to low power public television -- and serves as a political threat to hang over the heads of commercial television proprietors in election periods).

Another six channels are provided for transmission from Kings Cross, primarily to provide shadow in-fill in the central business district and along the northern harbour front at North Sydney, Kirribilli etc. where the normal Gore-Hill signals don't penetrate. And another six channels are transmitted from North Head to provide shadow in-fill along the ocean escarpment including Whale Beach, etc.

So Sydney requires a total of 18 UHF and VHF channels (of about 69 over all) to provide five channels (in fact) of programming in a single geographical area. Then it is explained to the public that no more channels are available in the cities and suburbs, "for technical reasons".

Yet for at least thirty years it has been well established that shadow in-fill could be achieved cheaper and at a better technical quality, by using small local community antenna and a CATV coaxial cable distribution system in shadow areas. What's more, the aesthetics would be improved over the forest of masts that now grow from the roofs of these houses.

With a few minor exceptions, the development of CATV cable systems has never been promoted or even encouraged (it's actually discouraged) by Australian governments over these decades of broadcasting, mainly because it challenges the pre-eminence of Telecom (now Telstra) to deliver cable-carried information services.

Cable in-fill, has certainly not been encouraged by the broadcasters either. They've been fighting tooth-and-nail since the 1960s to ensure that the broadcast television services would never have competition from cable networks in Australia -- unless the broadcasters owned and controlled both of course. Cable has always been seen as a threat.

For most of this time, the limitations on the development of cable networks has been maintained and enforced by telecommunications regulations which gave Telecom exclusive rights to provide cable links which cross household or title boundaries, even though these cables were to be used for broadcasting rather than telecommunications. This has always been crazy.

If cable in-fill systems had been allowed to develop in shadow areas, many terrestrial-broadcasting channels would have become available in all Australian cities. Through the principle of equalisation, this would have meant many, many more would have become available in country areas also. Costs for both shadow-area home owners, and for broadcasters would have been lower; average picture quality would have been better. But this would have led inevitably to claims that spectrum was available for more commercial channels or Pay TV, so it was never done.

However, the country as a whole could have developed a low-cost terrestrially broadcast Pay TV service in UHF and VHF, using standard antenna and cheap set-top boxes (probably made in Australia).

3.3 Adjacent channel interference:

In the early days of television TV sets were not highly discriminating. When tuned to one 7MHz television channel, they would accept radio frequencies marginally outside that range and therefore suffer from adjacent channels interference.

Analog audio, say, from Channel 1 would leak into the adjacent video frequencies of Channel 2, and disrupt the picture. This only happens because the channels were jammed up against each other without 'guard band' (small separation) isolation and protection.

In telecommunications generally, such problems are solved by leaving a very small gap between adjacent channels (called a 'guard band'), and this can often be used for other non-interfering purpose. However in TV, the Rolls-Royce of 'guard bands', generally a whole 7MHz wide, is left vacant and the adjacent channels then became known as a 'taboo channel'.

Note that Channel 9 and 10 are not adjacent, but have a 'guard-band' of frequency separation which is used by other communications service

If the spectrum plan had introduced guard-bands in Australia from the start or progressively during spectrum reshuffles, in most parts of the country very nearly double the available channel numbers would have become available from this change alone.

Even without guard bands, the more modern television sets made in the last ten years have had highly efficient tuners with abrupt frequency cut-offs (called comb filters) to prevent adjacent channel interference. The vast majority of today's TV sets are, in fact, designed to be used on cable networks where adjacent channels are used for broadcasting as a matter of course. These were once known as "channel ready" television sets, but for a decade now this designation has been assumed.

This factor alone, could have opened up the range of channels on offer if anyone in government had been inclined to promote such a proposal. It is well known, for instance, that if all Sydney TV stations shared a single mast, and broadcast at roughly the same power, many of the adjacent channels could be used today across Sydney without the need for spectrum reshuffling. At least twenty channels would be made available.

We must recognise, however, that television transmission techniques need to take into account the country[s legacy of non-channel-ready sets -- often still in use by the older members of the public. Even so, our Rolls Royce approach to non-interference goes way beyond the reasonable. We shouldn't be restricted by problems associated with valve-powered Black & White TV sets from the 1960s. This is ridiculous. It allows the engineers and spectrum regulators to claim to provide "the best TV service in the world", but, like most 'best-possible' operations, the costs associated with maintaining almost perfect services or conditions are substantial in other ways.

In the case of TV, Australia gains a very small reduction in actual interference which would only experienced by very few people on only some occasions -- at the social cost of about half the number of available channels.

3.4 Co-channel interference:

In the early days of television, most people used rabbit-ear antenna to receive the signals in the cities and suburbs. It didn't become common practice to mount a directional/discriminatory roof-top Yagi antenna until colour and UHF came in during the 1980s.

Rabbit-ears don't discriminate between signals arriving from different directions - they just accumulate the signals and so distant stations can interfere with a local one, if they use the same transmission channel. Many of the common Yagi antennas are not much better; they discriminate a bit between signals received from the front and those received from the sides and back, but many are hopelessly inefficient in their discrimination.

Later, antenna design vastly improved and most people began to use them whenever they had interference problems from two transmitters using the same frequency band. It is now possible to get a very high-gain, highly directional (discriminatory) antenna, which can block unwanted signals while boosting the wanted ones.

In these circumstances, it is possible that spectrum plans could have been drawn up which progressively reduced the distance between co-located television stations (broadcasting on the same frequency). While we know that this would increase potential interference for a few people living in areas which lie roughly half-way between, their problems are solvable by these other means. A good high-discriminating antenna could restore (and perhaps vastly improve) reception quality for them.

As with adjacent-channel problems, this would also have made more channels available across the country. This has not been done.

3.5 Equalisation:

The original idea behind equalisation was to re-assure country people that they would receive equal treatment with city people in the supply of television programs, but equalisation has been among the greatest farces ever invented. It was a 'pup' sold to the public, bribing them to abandon support for local TV broadcasters in favour of take-overs (euphemistically termed 'aggregation') by the large and wealth city networks.

These networks had been prohibited from aggregating into national operations previously, because governments didn't want too much media power concentrated among such a small number of proprietors. However the economic synergy gains from networking are quite substantial ... while the social costs are high for the citizens (So money won!).

The rule of equalisation was that no area of the country should have more terrestrial-channels than any other. The stated aim was admirable -- and it was publicly promoted as a form of country USOs for television programming.

What made equalisation ridiculous, was that it was also applied in reverse by the bureaucrats. Country towns often don't have co-location or in-fill problems, so even when spare channels were available in country areas these could not be utilised (except, perhaps, in Alice Springs where a special case was made for the aboriginal channel)

When pay television came along, these vacant channels then remained vacant in the country despite UHF and VHF being the cheapest and best way to reach the public. In the city such Pay channels were being delivered via cable, and therefore didn't count in equalisation terms. So rural people had to rely on satellite for Pay services, as do remote homesteads -- even though they can already receive VHF/UHF channels from a nearby town.

The government, in effect, has made satellite more profitable for Optus and the various licensees, at the expense of a potentially cheaper and better terrestrial service.

The Australian countryside, and especially some of the more remote areas, are saturated with unused terrestrial television channels that could be used for Pay TV, educational TV, datacasting, and even defence or general telecommunications. But they are not.

3.5 Defence and navigation:

Spectrum in the VHF and UHF bands most suitable for television and FM radio, is partly occupied by defence allocations, and partly by commercial aviation navigational aids. Both are used for voice communications and position location (including transponders). Defence consumes roughly one-third of this, the most useful part of the radio spectrum according to one source, but it is hard to get an accurate or trustworthy figure from the SMA. I guess this is a deliberate military security measure.

Generally the defence forces are moving away from the use of distinct military frequencies because this requires special and costly Mil-Spec equipment, and during times of tension, radio activity on these special frequencies gives valuable information to enemy listeners.

With modern electronic telecommunications, it is generally better for the defence forces to use 'hardened' equipment conforming to normal telecommunications standards, and to integrate their telecommunications and broadcasting traffic in with existing commercial operations on the same frequencies. Standard cell-phones, for instance, now have radio security via encryption equivalent to those required by NATO.

There is a related change in the need for military and non-military navigation aids. While it is important to retain some of the specific navigation spectrum, most is now rapidly being replaced by Global Positioning Satellites (GPS) which are far more accurate, more reliable, cheaper to own, and cheaper to operate.

The navigation allocation in the VHF band alongside Channel 5, for instance, consumes 10MHz of valuable space and there are 65MHz reserved for military use at the top end of this band. Some of this is used globally, and probably need to be retained for another few years, but eventually most of this will become vacant.

However in UHF, there is 255MHz set aside for aircraft location (probably only a fraction of this is actually needed for anti-collision transponders) and another few hundred MHz at the high end of the band. In addition, the military appears to have a lien over nearly 600MHz in this band for general communications. This is now excessive (probably a quarter might be needed).

3.7 Misuse of spectrum

Australia, per capita, has more spectrum than any other nation on earth. We have all there is on a large island, with no neighbours, and only 18 million people. Even our cities and main population centres are spread out and easy to service with signals.

If we accept for a moment (and I don't) that spectrum is scarce in this country, it is very difficult to explain why measures aren't taken to make more efficient use of such a valuable resource.

Anyone can buy a spectrum scanner for a few hundred dollars and set it to search the radio band, day and night and check how much is in use. If you do so, you'll find that very little of the major bands carry any signal at all outside the radio and television broadcast range and such services as the navigational aids, taxi channels, and point-to-point microwave links. Those that do show the presence of signals on a scanner, often do so for only short periods in the day.

In these modern digital days we are now able to re-use spectrum in a number of different ways. There are new techniques of:
• Frequency diversity (splitting up the spectrum with finer granularity, so that more users have exclusive occupancy of the same bandwidth).
• Spacial diversity (confining the signals to narrow beams or sectors, allowing others to reuse the same spectrum in other geographical locations).
• Time diversity (sharing a number of channels in time, so idle time is consumed by other users, although anyone can generally transmit when they need to).
• Code diversity (techniques of sharing common spectrum but using a coded form that allows only the one receiver to decode the information).

With the exception of the cellular mobile phone spectrum which only occupies about 100MHz of the (roughly) 40,000MHz available most of these techniques are not being widely used in communications systems, except perhaps within the microwave networks of the carriers.

It should be noted that in that 100MHz (0.004 of a percent), the cellular mobile operators are able to provide services for more than 4 million regular users.

3.8 Conclusions about spectrum:

There are no other rational conclusion than these:

The Politicians: For political reasons, governments (both Labor and Liberal) have been content to maintain radio and television broadcasting as a relatively exclusive club with a limited number of commercial operators, each of which owes a debt of gratitude to the government of the day. Only recently has this been admitted as a motivation for network number restrictions. In the past, fallacious technical limitations were always offered as the only excuse.

The Commercial Broadcasters: These incumbents have benefited the most from the restriction of competition thorough rating and advertising revenues. They have been forced to make political pay-offs (more in the past, I suspect -- but not entirely) with governments, and sometimes with opposition parties. The trade, gives political support to parties during election times in exchange for continuation of the oligopoly.

Most disputes about broadcasting in Australia are about which of the limited number of moguls, gets to sit on the top of each stack. Rarely do we see any discussion on ways in which the stacks can be made accessible to others.

The Spectrum Managers: These old-time bureaucrats create restricted channel numbers by manipulating non-interference requirements, and equalisation principles, because they know this is the will of their political masters. These people claim to have special expertise not available to mere mortals and don't feel they should be obliged to state the principles on which they plan spectrum in public forums, where other engineers might take them to task.

They remain favoured by governments because they are able to devised spectrum plans which create the conditions necessary for the status quo to be maintained without challenge. They supply the technical excuses why more channels can't possibly be made available for competition.

The old spectrum managers also have close and long-term association with the commercial broadcasters, and can be considered as having been 'captured' by the industry for at least the last fifty years. This is a very conservative, very incestuous group. There has been some subtle bribery in the past, and a lot of blind-eyes turned on commercial infringements.

Australian Program Producers: They support channel limits because they fear the possible loss of business if the major commercial networks lose profits. When local programs cost many times more to produce than the prices at which overseas programs can be bought, the commercial TV networks would quickly ignore Australian content (in drama and quality production, not necessarily games-shows and sport) if it weren't for the special requirements for Australian content.

With multiple channels, possibly more Australian material will be shown, but it will be cheaply produced (Video Home Movies, Kid's Talk, etc.) and to smaller audiences. This trend it already apparent. So niche markets might create a lot of business for small, low-cost production companies, but it is the large, old series producers who have the political lobbying power in Canberra.

When Channel 10 was introduced to create the commercial free-to-air triumvirate in the late 1970s, it's entry caused panic among Australia's major program producers. They thought it might make Channels 9 and 7 reduce their Australian program purchases (they did actually use the occasion to beat down both prices and quotas temporarily).

As it transpired, the industry wasn't destroyed because the country's economy boomed shortly after, and advertising funds increased rapidly also.

Since ad-revenues are probably relatively static at any one time, more channels can only lead to more dilution of funding per hour of content. This will begin to impose a heavy burden on the producers of any local, costly, quality-material, and force the Australian industry back into niche-market production. However it is clear that, with a multiplicity of channels and a conservative government, eventually Australian content regulations could disappear entirely.

What may save these companies today is that they can export (thankfully many of them do this now) and are no longer entirely dependent on domestic markets. However they are probably only able to sell overseas today because the Australian content rules gave them two decades to learn how, and the time to establish a substantial local audience base.

The TV stations know that the public can be trained to like (or at least accept) low-quality programming. Any influences that affect them financially in this competitive market place, will affect them all equally -- therefore initiate little competitive change. But it will eventually lead to all commercial broadcasters moving their content requirements offshore, and usually in a similar direction. This is the way of mass markets in entertainment always acts -- what one does, the others follow.

3.9 Extending the commercial TV income

If you ever wanted an example of commercial TV's mob-like (all run in one direction) behaviour, it is the way Channel 7 cynically stole the idea of 'million dollar zombie-quiz' from Channel 9 in recent months. Now both offer the same mind-blowing fare.

The trick here is that if the questions are so ridiculously easy, then everyone watching will imagine that he/she can get on the show and perhaps win a million dollars. The sheer idiocy of the subject matter, makes for a large audience since even school-age kids can answer some of the questions ahead of the adult contestants.

The real trick here, is that large numbers of people believe they can win a million dollars. They therefore make multiple phone calls at $1 a time to a 1900 number to try to get onto the program. It was recently admitted that one(unemployed) person who got on the show, made 500-odd calls.

Some may be making up $1000 in calls over a few weeks, and the total numbers trying are probably in the region of a few hundred thousand aspirants each week (at least in the early weeks). The cash from these $1 'electronic lottery tickets' are split between the TV channel and Telstra, so the program probably is close to break-even on its costs before the cameras are switched on. Advertising revenues are just some extra cream on the top.

With these sorts of money-sucking scams, broadcasting takes on a different character. There are now dozens of similar examples.

4.0 Digital Terrestrial TV and Spectrum Availability.

Note: The old 7MHz carrier/channels now used for a single PAL quality image (with 4 : 3 ratio, interlace, 625 line) are now being used for multiple digital channels. So it is now common to refer to the digital conversion of the carrier as a 'multiplex'. This distinction is necessary because of the variable number of programming channels (and data channels) which can be carried in the same 7MHz frequency band.

Digital Television differs from the analog in a number of different ways, namely:

4.1 Flexibility.

Digital multiplexes can carry multiple channels, and these channels can transmit video and audio, video only, and/or data. The variations and combinations are infinitely flexible within the standard bandwidth.

Australia has long used carriers with 7MHz spacing, while the USA uses 6MHz, and most of Europe uses 8MHz. We have chosen to use the European DVB-T modulation standard, but with three major variations, some of which may create problems:

a) HDTV: The Government has chosen to mandate wide-screen, high-definition to begin the digital service. No one I know in television engineering has the slightest doubt that this is a political ploy, which makes no sense whatsoever in either engineering or marketing terms.

I believe it to be an 'ambit decision', designed as a temporary compromise to settle a war between the Packer and the Murdoch camps (effectively retaining the status quo), while pretending to be a brave public decision to introduce digital television with the highest possible image quality.

It can't, and it won't. If, by any remote chance, this was an honest decision, then it is the product of complete stupidity and bad advice. If it is not, then it is another cynical example of the notorious "Rolls Royce" quality claims which have the effect of actually limiting competition and delaying the development of the new system while pretending to give Australian's "only the best".

Europe has decided not to introduce HDTV at this time, but to develop their digital networks in a more conventional manner with standard definition (SDTV). So in Europe, there will most likely be a relatively quick take-up of digital services by people supplementing their present analog TV sets with a digital conversion box: they don't need to buy another TV.

As a result, however, there will not be European mass production of low-cost digital HDTV sets built for the DVB standard in the immediate future, and Australia won't get these mass-production benefits.

Also, the video/audio decoder system being used in Europe is known as the MPEG ML@MP standard, and mass-produced chips will conform to this standard. However in Australia we will need HD@MP for the high-definition television sets, and these may, or may not be cheap and abundant towards the end of the next half-decade. At this stage it is hard to tell, because the US has also gone the high-definition path (currently with almost no success), but it is impossible to predict how much flow-on Australia gets from American TV manufacture.

b) Sound: We have decided to use an American sound standard, Dolby AC-3 in these new European-standard digital sets, but fortunately they have also incorporated the normal European MPEG audio standard as well. I don't think this is a problem (and perhaps a benefit), except for the added initial expense of short-run, specialised audio chips.

c) Single Frequency Networks (SNF): The European digital TV standard has been designed in a way that economises on the number of multiplex carrier bands available for use by each network. It uses a special COFDM modulation technique, which has the capacity to re-use the same frequency band for shadow in-fill. So in-fill channels are in the same band as those being transmitted from the primary site.

Currently the Australian television industry is lobbying to block this on what are probably fallacious technical grounds (it is had to tell what is the truth here). They want multiple carriers to be made available to them in each city location for in-fill, as was the case in the old days. They claim that very high-powered Multiple Frequency Networks (as we have today) will still be needed with digital transmissions -- which is the complete opposite of European claims and developments. This has the advantage of, once again, soaking up the available bandwidth.

There may be some (probably very minor) technical value in taking this approach (mainly associated with HDTV). But this mirrors the maintenance of taboo channels, etc. in the past.

The question is whether any slight technical improvement is of short-term or long-term importance, and whether this advantage outweighs the value of having more competition in the marketplace. Clearly the incumbent broadcasters will always promote technologies that limit competition.

4.1 Adjacent channels.

The need has disappeared for adjacent channel-multiplexes to lie idle in a digital era. Adjacent multiplex channels should not interfere with each other, any more than non-adjacent channels.

4.2 Co-located channels.

The idea of Single Frequency Networks was to design a delivery system which allowed receivers to distinguish between identical signals from different sources -- but at different power levels, and with slight changes in synchronisation. That's why small same-frequency shadow-fill repeaters can be used within the normal coverage area of the primary transmitter.

This translates, in the wider context, to a decrease in the necessity for 'guard distances' between transmitters using the same multiplex channel band. Territory half-way between co-located transmitters has a discrimination problem which is virtually identical to those using SFN in shadow in-fill. In the case of co-located transmitters, the discrimination can also be increased by special antennas.

The television stations are opposing the use of SNF digital, and also requesting much higher transmitter powers than in the past. This means that many of the extra channels generated by digital, will not be realised or available for competition. Generally, digital television needs **less** power than analog to provide the same image quality over the same coverage area.

COFDM is a form of spectrum spreading, and 'spread-spectrum' techniques are used in the new CDMA mobile phones. Spread-spectrum techniques are specifically used to provide extra capacity in the same range of frequencies, because they allow overlapping transmission areas.

4.3 Restrictions on competition:

The incumbent television channels, in cooperation with the government, are playing their old oligopoly tricks again. They are deliberately creating conditions which will limit competition and retain control of the commercial television services in the hands of the present media proprietors (plus, possibly, the Murdoch interests).

Note that I am not condemning the idea that each of the present network broadcasters should be given another channel (until 2008) for digital conversion I think this is an excellent approach, and it is totally fair to assist them to convert in this way. I am just saying that they should not be the only ones with access to the new broadcast channels being created.

This is the time to re-structure the industry, not to conserve old power structures.

4.4 Crying poor:

The rationale for not allowing new competitors to enter this market when clearly plenty of spectrum now exists Australia-wide, is that the incumbent broadcasters need time to recover their digital conversion costs. If this were true, the same could be said for the new entrants. They will need to spend the same sort of money, and they'll be starting behind the eight-ball in competition terms.

However I don't believe more than a fraction of the claimed conversion costs exist. The enormous sums that are being associate with "digital television conversion" are probably being overstated four or five times.

The vague term "digital conversion" consists of both the transmission system and the production, so it is often impossible to know what is part of the conversion is associate with the claim.

Digital production equipment: Most of these costs are for digital studio and remote-vehicle costs -- and also for portable news/current affairs equipment. This new equipment will generate enormous financial benefits for the broadcasters through lower-cost productions and fewer staff.

Upgrades of this kind have been going on for a decade (the first digital studio equipment became available to me in 1975-6), and the slow process of digitisation of the production chain has been enormously successful. Each change has introduced new cost-savings and quality improvements. So this form of studio upgrading would certainly have been made at this time even if we had chosen to retain analog television transmission indefinitely.

Wide-screen production: Most new digital camera and editing gear is switchable to wide-screen format, so the introduction of 16:9 formats will not add significant costs. Most of the editing and post-production equipment has been digital for many years, but some may need wide-screen conversion software. Television production requires constant upgrading mainly to maintain a level of special effects, as dramas and commercials call on such effects much more these days.

The only 'real' directly-attributable costs for the television stations associated with the government's digital decision come from this stupid high-definition idea -- and few knowledgeable people in the business really believe it will be implemented anyway. Most people I know are reasonably confident that, not long before or after the launch date, common sense will prevail, and either this government will be forced to dump the restriction, or an alternate government will.

5.0 Pay Television: Australia's worst mistakes.

The television broadcasters and Telecom successfully fought off the introduction of cable networks for many years. However Labor came to power in the early 1980s with the intention of introducing some sort of pay-to-view service.

Telstra's favourite ploy at the time was to convince everyone that optical-fibre to the home was imminent. They said repeatedly that it would be foolish to embark on building conventional coaxial cable networks when fibre would be better and cheaper, and would carry telecommunications as well as broadcasting - both normal broadcast video and video-on-demand systems. This was known as MacNet in one form, and B-ISDN in another.

Of course it was patently obvious to all those involved in telephone technologies at the time that this was an ridiculous claim based on optical technologies that didn't exist (at the price-point necessary) and wouldn't for at least ten years (it now looks more like another ten from today).

Satellites were also being promoted for Pay TV, mainly by Kerry Packer who had become interested in acquiring a private satellite to deliver his World Championship Cricket program to regional Australia (he had an agreement with the ABC for regional distribution). He also hoped to convince the government to allow him to use the satellite for Pay TV distribution.

5.1 MDS

Microwave Distribution Systems (MDS) had been around for some years, but with little application. These are nothing more than normal television channels which have been allocated bands higher part of the normal UHF band, and therefore not within the range in which off-the-shelf television sets can select and tune channels. MDS therefore needs to have a set-top box -- a frequency down-converter or special tuner -- to be useable. At these higher frequencies, they have a more limited range than normal and usually need a small dish antenna.

MDS was licensed mainly to be used in CBD districts to distribute hotel and tourist television programming, medical specialist program, etc. under what were originally called VAEIS licences. These were occasionally auctioned. In September 1986 Kerry Packer bid for two of these licenses in Sydney when they were first offered, and discovered to his horror that it was possible under the (then) regulations to use them for Pay TV distribution on a local scale.

Since he was promoting the satellite option at the time, Packer was not pleased with this discovery, and he flew immediately to Canberra and persuaded the Labor Government's Minister for Communications Gareth Evans, to withdraw all MDS license and re-issue them with a clause prohibiting Pay TV for four years.

This, the government was pleased to do because it didn't want this involvement of other broadcasters and media proprietors all demanding special privileges, or the additional costs it saw in the country importing more foreign television programs. Australia was already paying the highest rates per-capita in the world (a legacy of the Lowy-Bond era) for Hollywood products.

From this action (and the fictitious public explanation given for the change to MDS licensing) came the idea that MDS was 'unsuited for television distribution'. This notion was promoted to the point of absurdity in September 1992 by a later Labor Communications Minister (Bob Collins) when half the world was already using it.

Steve Cosser, who had bought up MDS licenses in anticipation, lost out. Deals were done in Los Angeles. This was a fiasco of first proportions also.
In October 1992, the Labor Government gave Channels 7, 9 and 10 the nod, that they would each get a satellite channel for Pay TV.

5.2 The satellite auction fiasco.

The story is probably too well known to bother repeating, so I'll skip it. In May 1993, a very minor player, Dr Albert Hadid managed to defeat the government limitations on bidding and manipulated the auction process in a way that couldn't legally be challenged.

The government lost face, the major media proprietors like Kerry Packer, who thought he had been promised one of the satellite channels, lost out in the bidding. Hadid controlled companies U-Com and Hi-vision held the licenses.

Hadid's Australis then did a deal with Lenfest from the USA, and they ripped him off in a series of very clever deals. Later they lost $200 million. Continental Century also got one of the licenses, so effectively both passed for a while to US control. There's a very funny book in this fiasco, but it is hopeless trying to explain everything that happened here, and why.

5.3 The PMT Consortium.

Telstra and the Packer empire mounted a fake cable-Pay TV operation called CTS using a couple of Kerry Packer's key executives (chairman Lynton Taylor), in association with Telstra. The reason for this was never totally clear, but it served to deflate the value of both the satellite Pay service and the MDS possibilities at the same time.

CTS died, as everyone expected it would, and later a formal relationship emerged between Packer, Murdoch and Telstra.

The inclusion of the government 'common carrier' Telstra in this consortium, is probably the most disastrous mistake made in the regulation of broadcasting in Australia in this century. It bought a public utility into a private, commercial operation designed for content provision. In the process it managed to confuse the role of the content provider with that of the conduit supplier, and disrupt competitive markets at the same time.

This was a truly disgraceful decision by a Labor Government.

Since Telstra was both dominant, and a 'common carrier' under the law, it also destroyed the idea that Telstra was in the business of equal-handedly providing carriage services to everyone in Australia. It therefore destroyed any chance of an open market and real competition in television.

Telstra claims that this was just a reactive move to Optus and its plans for cable telephony, but it is much more than this -- and most of their moves pre-dated Optus anyway. Telstra executives had been wanting to get into content provision for many years.

The cost of networked telecommunications has been steadily declining (across the board) by between 5% and 7.5% since 1983, and it was widely believe (and is probably still true) that telephony prices would eventually follow these real-cost drops. Telecommunications also is more reliable, and needs only a fraction of the technical staff today (per line served) to the pre-1983 conditions.

When prices and staff declined, it was assumed that Telstra's would lose its dominant place in the economy and in Australian life, to a point where it was inconsequential.

Content provision appeared to be the way to maintain revenues and maintain a strong organisation.

5.4 Foxtel:

Eventually Telstra joined with News Ltd in Foxtel, in a deal which further required Telstra to fund the joint venture a substantial sum of money for each customer signed ($150), under the marketing agreement.

Telephone users picked up all of these bills eventually.

In fact it turned out that competition and the consequential domination of all new services by the incumbent dominant carrier, also retained high revenue levels and, in fact, initiate growth. When governments found that they could earn a healthy share of these billion dollar profits (or benefit by privatisation and the sales of Telstra share) then no one in any position of power, had any interest in the content vs. carrier question, nor could they be expected to act in the public interest.

As it turned out, the stringing of dual coaxial cable networks in Sydney and Melbourne, and the associated underground trenching, ducting and drilling (abandoned by Telstra) cost the company about $3.5 billion in identifiable charges, and probably another $2—$2.5 billion more in hidden and transferred costs from telecommunications operations.

Since Telstra shared potential customers with Optus by stringing largely down the same streets, then the real cost of cabling 3 million homes was about $9 to $10 billion, overall -- about $3,000 per home passed.

With a 10% take-up in the first couple of years, this put the connection costs up to about $30,000 per home -- before the drop cable was connected and the set-top box delivered -- and without any costs of product. Interest alone on these cumulative cable-installation costs were much more per connection than could possibly be recovered from any connection fees.

5.5 Basic cable:

Therefore the notion of Telstra receiving supplementary income from small monthly "Basic Cable" charges, made only for a good quality free-to-air signal, disappeared. This alone destroyed cable's value as in-fill in shadow areas. Only the premium (Foxtel Pay TV) income remained.

In the rest of the world, such a "Basic Cable" connection (where you only get free-to-air and advertising supported local channels) is the mainstay of the cable business. Pay-TV (generally called "premium) is only the cream on the top.

In order for this to work, much of the rest of the world has "must-carry" rules requiring the cable operators to carry all local and networked channels in an unscrambled form. This is what initially attracts home-owners to sign up to pay for a cable connection t around $5 per month.

Australia implemented the opposite approach. deliberately seeking to limit the utility of the cable services unless "Premium" fees are paid. The Optus Packer relationship meant that they wanted to carry only the Channel 9 free-to-air signal, while prohibiting their rivals from carrying it.

It is hard to believe that any other country in the world that would have taken such a stupid and ignorant approach to introducing cable networks. And the result is that everything about the Australian cable system is loss making.

Yet technically it is of a high standard, and could be widely utilised for a number of different services (not just telephony and Internet data). This is a national cost burden (paid for by telephone subscribers) and very close to a national crime.

6.0 Why does a dual cable asset sit largely idle?

The unique approach of allowing two dominant telecommunications companies and substantial broadcasting interests to separately own both cable systems and provide content, has managed to create one of the most anti-competitive and unprofitable pay television services imaginable.

Despite this being obvious, egos and the need to overwhelming desire to keep others out of the sector mean that the major players here have managed to make matters even worse for themselves by delivering highly-priced, low-quality programs, based on subscription sales. They will sell only pre-bundled channel, and in Australia they couple this trade-restriction with a refusal to sell comprehensive Basic Cable services. They have therefore successfully ensured that there are few initial incentives to 'try cable, that customer satisfaction will be low, and the churn and drop-off rates will be very high.

Foxtel and Optus have also tried to entrench their privileged positions even more firmly by lobbying the Senate during recent inquires, promoting ridiculous claims that cable competition will only flourish if each of the two cable services is permitted to set its own standard for digital set-top boxes. This, they maintain, would allow them to differentiate service on the basis of decoder technologies.

The claims are ridiculous. The differentiation exists at the level of the smart-card, not in the standard of the set-top box. What they were asking for, in fact, was permission to set up incompatible network standards which would serve to make entry by other program-providers at a later date, virtually impossible.

6. 1 What can be done to salvage something from the mess?

It is possible for commercial competition to take place at a profitable level in Australia's cable networks if:

a) The cable networks are rationalised, using the spare cable and amplifiers to service the smaller capital cities, and leaving only one cable in each area. Ideally, this will eventually go underground.

b) The cable owners/operators must be limited to providing cable connections and Basic Cable services only. They are in the business of selling a clean electrical connection (an alternative to an antenna), with all of the available free-to-air services that would normally be seen in that geographic location. Such Basic Cable, with its "must-carry" rules, is usually offered at a very low monthly rate.

c) Channel space on these networks would then be rented by the cable operator to any program provider, and that provider would be permitted to scramble his signal. Set-top boxes are not needed for Basic Cable services, but they are for these Pay-TV or "Premium services" -- and these can either be rented by the cable operator, or bought by the home owner. The cable operator would probably act as an agent here for the Pay providers in the collection of premium payments on their behalf.

d) A single standard for 'conditional access' techniques within the set-top boxes, must be mandated by regulation. The authentication processes and the descrambling of the premium channels being viewed would be controlled by code within the smart-cards. This is now the standard way all of these new systems operate world-wide.

e) Telephony and Internet connections across the cable should be maintained by the cable operator, but they should then connect these links to any carrier or service provider chosen by the customer (and with a POP in the cable head-end).

f) The cable operators should not be in the business of supplying switched telephone services, or packet-switched Internet services, or Premium TV services. Ownership of the cable (or rather, its franchise) will more likely be done on a town-by-town or regional basis — with perhaps North, South and Western Sydney being seen as three separate regions.

g) It can comfortably be assumed that somewhere in the region of 200 to 400 digital programming channels can be offered down the existing cables (the cable probably need electronic upgrading for more than 300), and the potential for interactivity has already been built in. As an interim measure, these cable systems are also capable of handling both analog and digital TV channels together, with telephony and Internet also.

There are more channels to be filled than there is available, viewable programming in the market. Many channels will be consumed by time-delayed repeating channels used for Near Video On Demand.

6.2 Subscription service bundling

One further proposal which is not essential, but just highly desirable, is to free up the market-place and solve many of the long-term problems we experience in Australia by insisting on normal conditions of sale so that customers aren't coerced into buying channels and programs that they don't need or want to watch.

This is a form of third-line forcing; football fanatics can be forced by a de-facto monopolisation of the sport, to also buy Disney Channels, etc. in which they may have no interest whatsoever.

Subscription sales were necessary in the early days of cable in the USA, when the set-top descrambler boxes were analog devices, unable to identify individual channels and/or isolated programs, or supply the head-end with authentication codes. That hasn't been the case for twenty years.

Multi-channel unbundling: We must stop this practice of allowing the sale of Pay TV programs **exclusively** by subscription. There is no justification (other than cable provider profits) for customers being charged on a monthly basis for multiple channels, if they only want one or two. There is absolutely no justification for multiple-channel bundling.

Program unbundling: There is also no justification, with modern set-top boxes for selling channels rather than individual programs. Set top boxes today are designed to permit the descrambling of only one program, on request from the customer. That's what Pay-Per-View and Impulse-Pay-Per-View are, and all modern set-top boxes have this facility.

Providers must offer all channels and all programs on those channels to cable users on an Impulse Pay-per-view (PPV) basis at a moderate price. They should also offer subscriptions for individual channels, and allow the customer to choose -- in the same way he chooses all the other goods and services he buys on an individual basis.

The merchant must price his goods fairly and individually. If he wants to provide a discounted bundled service, then the cost-relationship between the bundle and the individual purchase should be fair. This is especially so when competition is limited, and the program provider uses a public facility for the distribution of his products.

If this approach were taken, it would be in the interests of home-owners to purchase rather than rent set-top boxes. This could be safely done by the public in the knowledge that the standards were fixed. For those less fanatical watchers, it would mean that occasional Pay TV programs could be viewed without requiring ongoing monthly contracts.

High initial connection fees (often discounted, however); on-going monthly rentals (we are among the highest in the world); and the bundling of many unwanted channels with those that are wanted, have created a customer-resistant market in Australia -- an resulted in costly, duplicated, under-utilised resources. But while there are only two main groups sharing this new market, it is in their interests to preserve the status quo, rather than risk the entry of new rivals.

Subscription channel-bundling and program-bundling are key anti-competitive devices. If channels were treated as equal, and the set-top box standards were available to all with Pay-Per-View collection facilities operated at the head-end, then small program providers could afford to compete.

6.3 Is pay-per-view feasible?

The short answer is yes. The facility to handle impulse pay-per-view (requiring conditional access and authentication standards) has been built into modern set-top boxes since the mid 1990s. The cable head-end equipment can handle large numbers of these payments and issue electronic authorisation in a very short period of time. The additional cost incurred by taking payment in this way (rather than via subscription) is minuscule since it is an entirely electronic payment system which communicates with the head-end billing unit through the cable itself.

There are also parallel impulse payment system that use telephone back-hauls and electronic purses. These are successfully used with satellites and one-way cable system. There are a range of conditional access technologies available around the world, from which to choose, and some new international standards.

Fortunately Australia built modern Hybrid Fibre Coaxial (HFC) cable networks with two-way capability. This was done mainly because Optus believe it can be used in competition to Telstra's copper for telephony and Internet access. Telstra then had to compete.

In my proposal, the present cable owners could continue to own and maintain the cable infrastructure, compensated on a flat-fee basis, but the day-to-day Basic Cable operations should be franchised to numerous smaller local (or regional) cable operators, with some oversight within the communities being serviced.

This type of franchising and community oversight, operates reasonably well in the USA, and it is probably the best long-term solution in the circumstances. It creates a China Wall between the key premium content and the conduit.

6.4 Why hasn't Pay-Per-View been successful elsewhere?

The old furphy that PPV is a failure elsewhere, is trotted out regularly whenever this matter is discussed. It is a failure because the industry wants to ensure that it is a failure. They all have vested interests in maintaining Subscription sales as the primary means of marketing multiple channels.

In fact, some of the deal they do with oversee program suppliers involves deals about which channels will be bundled with others. So this is a condition enforced in Australia, but Disney management in Hollywood.
No one objects, because it is generally in everyone's interests to retain the subscription idea -- rather than venture out into the unknown and sell programs in the way every other merchant sells his wares, on a one-by-one basis, selected by the customer, according to his/her own wishes.

Pay-Per-view is only really used in other countries as a supplement to Premium services -- mainly for key sports finals, title fights, etc. Normally the charge for such exclusivity is in the $40 per hour region.

I am suggesting it as an alternative to Subscription, not as a premium on the premium service. I would imagine that first-run movies would cost, perhaps $2 — $5 each at the most, and be highly profitable at that level because of the large number of viewers involved.

Pay-Per-View of this kind hasn't been successful, because it hasn't been tried.

6.5 Introduce program competition, not connection competition.

I'm not suggesting that subscription services be prohibited -- just that the regulators should insist that the customer can make his/her own choice as to how he/she makes a purchase. The choices available should be:

a) Basic Cable only, purchased on a monthly basis, with a low initial connection fee. (This will always be a monopoly franchise, and therefore need to be regulated. It will also need price caps and quality requirements)

b) Multi-Channel Subscription. The type of billing and payment system we have now which involves the customer purchasing bundles of channels (some of which he/she may not want) at the discretion of the provider. The pricing of these services should be at the discretion of the provider, and be subject to price controls only by competition in market place.

c) Individual Channel Subscription. Channel selections of the customer's choice, and paid on a monthly basis. The prices for each channel would need to be capped on a marginal basis, so as to be only slightly above the comparative Multi-channel Subscription price. These prices would be regulated only in the sense of a reasonable mark-up above the per-channel/multi-channel subscription.

d) Impulse Pay-per-view. Permitting any customer with the appropriate smartcard to watch any channel on offer, from any provider, on the basis of a single program only. The prices for individual programs should be capped at a reasonable premium level above subscription services, in the same way. Unless there are 'margin regulation', the major program providers will try to price high in order to force customers over to subscription payments.

6.6 What's the value?

1) Firstly it makes the program providers compete with each other in terms of the attractiveness or interest of their programs, rather than through advertising and slick door-to-door selling. It removes the inertia from the market-place (the lock of monthly subscription and initial connection costs), and keeps the program sellers on their toes. Each program will earn them a figure related to its desirability, so they will have better customer feedback. Subscription services don't return this granulated level of information to the provider.

2) Individual home owners will probably prefer (after a trial period) to buy their own set-top boxes rather than rent, and they can now do this secure in the knowledge that they aren't then locked into one provider. This also frees up considerable capital (perhaps $400 per home) for the cable provider and reduces the cost of servicing his debt. It also means that churn will be common (from each provider's viewpoint) but overall loss of cable revenues will be less (people won't drop off cable entirely).

3) Initially many more people would sign up to the cable services by taking Basic Cable only, because many Australian homes (particularly in Sydney) have serious shadow and/or reception problems with one or more of the free-to-air channels. Although these people may only pay $5 a month for the connection, their contribution to cost-recovery for the cable itself will be considerable in time. This will only happen if there is a "must-carry" rule.

4) Basic cable operators should be able to provide other non-scrambled channels (called 'cable channels' in the USA) which are not normally transmitted by the free-to-air operators. These are either sponsored (usually religious channels, but also educational, or public-service material) or they may service local or niche markets (gardening, stock-market). Very often the material is recycled. The distinction is whether the channels are scrambled or not.

Such programs and channels are generally cheap to produce and operate, and can be funded by local advertisers. The addition of these local advertisers further expands the economic base of the system, and the presence of additional channels are a further incentive for residents to sign up. Public channels are usually required here also under the FCC licensing rules, and are widely used in the US to allow people to watch school board meetings, council deliberations, and the like.

5) Smaller program providers can gain a foothold in the system, possibly through running a single special channel in a niche market. I would expect a number of foreign language channels to become available, and many special-interest channels -- some would be distributed nationally, and others locally. Some may be advertising supported, and others pay-per-view or subscription-based.

6) In fact, it is possible (and may be highly desirable) that one channel be set aside by regulation, and rented to program providers by the hour. This would allow small producers and production cooperatives to operate in a competitive way and cut out the middleman -- without needing the resources necessary to program a whole channel on the continuous basis.

7.0 Why the regulatory nightmare?

The source of most of our current problems with the regulation of FTA and Pay television, and with the introduction of digital standards, is the distinction we make between these two types of commercial operations.

On one hand we have the political power of the Packer, Seven and Ten interests in advertising-supported free-to-air programming. Since the advertising pot is relatively limited, it is understandable that they will resist any attempt by the Murdoch interests to join their ranks. Another commercial FTA network will just dilute advertising income and might make all commercial channels unprofitable.

On the other hand, the Murdoch-Telstra and Optus organisations have a lock on the Pay TV operations, and see a possible threat to their operations from the FTA networks. Digital, with its multiple channels per multiplex, represents a serious threat, since the spare channels could be used for Pay TV. This is fundamentally why the current ruling permits only one channel of HDTV.

However, once Australia can get away from the subscription sales of Pay TV and open the service up in the way described above (including making spectrum available), it ceases to make sense to distinguish Pay-per-view television from advertising-supported free-to-air commercial television.

There's no reason why the same program can't be offered simultaneously in both forms, and the customers permitted to chose whether to watch the commercials, or pay for the program and view it commercial-free.

Once that is done, it doesn't matter whether Pay-Per-View is linked to cable delivery, and Free-To-Air is linked to terrestrial broadcasting, since both can be delivered successfully either way.

Regulation will need to be introduced so that programs are either PPV or FTA, **but never both**, otherwise the providers will exploit customers at grand-finals, etc.

Once the market structure is right, Pay TV and Free-to-air can go head to head with a minimum of regulation, but only when the rules are fair for both, and for the customers. In the process, the market must be opened to other program providers with lesser resources, but with the resources to taking a minor position in a niche market.

Cable networks have the potential support of large audiences, with low monthly connection costs, at low per-channel installation costs (once the cable systems are up and running) which translates to low barriers to entry for new programming channels.

However the current system generates enormous barriers-to-entry, to the point where the broadcasting industry is restricted only to wealthy corporations and the legacy moguls. As a consequence, Australia has ended up having two different stagnant markets, offering essentially the same products, on quite different financial bases -- and customer resistance.

We need to move to a single-market where all players, both incumbents and new entrants, can compete on the basis of programming quality, and receive payment either via advertising or PPV.

END