Clarification of Business Categories

Reference

With reference to Senator LUNDY, asking Malcolm MOORE to clarify the understanding of the comparison table (in submission 6) by highlighting various Prime Focus in relation to Competitive Business and Infrastructure Business, with reference to the broadband market as opposed to the voiceband market.

Response

In my response (submission 6), Appendix A "Understanding Infrastructure Business" there is a comparison table, where various prime focal aspects are concisely described in relation to two diametrically different business categories: ***Competitive Business***, and ***Infrastructure Business***. To clarify the bipolar focal understanding, this supplementary response describes both the expanding broadband market and the diminishing telephony market with respect to various commonly named but very differently understood business aspects.

Agenda

From a competitive business perspective here are two 'exciting new products' that can be sold to the public with a wide range of advertising slants, and product bundles. This is brilliant for competitive business with customer VoIP as a completely new product to run on top of broadband. The synergy of ADSL and customer VoIP will not be ignored as a sales bundle, and other products such as customer Video Conference on IP (VCoIP) are in the wings waiting to happen – once infrastructure catches up. This is another nail in the coffin for the landline based telephony market, and understandingly this now has very little marketing.

From an infrastructure business view, network VoIP is not new and engineering projects over recent years have largely reconfigured the mainstream telephony inter-exchange networks to transmit on IP because it saves on transmission overheads, and is highly compatible with IP as the growing market – leading to convergent and therefore much cheaper infrastructure.

Internet has major platform interface problems, caused by customers using signalling protocols reserved for networks; resulting in spam, virus attacks and a flood of unavoidable customer service issues, and these attacks may flood into VoIP. Competitive business has relished the opportunity to sell a whole range of anti virus software tools that with proper infrastructure business engineering would have never been allowed to happen.

Business Drivers

Various engineering solutions were proposed to provide much faster broadband Internet access. One was ADSL as it could work on virtually any unconditioned (physical pair) telephony based metropolitan/urban access line.

The prime business driver for competitive business in this case is to increase their paying customer base; irrespective of the state of the network. This was 'blue sky marketing' for competitive businesses and they wasted no time setting sales forecasts with service prices close to matching that of cable broadband. Some ISPs increased ROI by moving from dial-up into shared ADSL and installed their own minimal infrastructure to increase their new customer base and further lock in their existing customers. In later sales efforts, bundling the premises modem with a service lock-in period with commonplace generous discounts.

Infrastructure business had a major problem in that very few local exchanges were engineered for broadband (or ADSL), and network based VoIP was scheduled but not programmed and it would be a few years (ie 2005) before a high proportion of local exchanges would have the network infrastructure to carry the increased traffic in IP. With competitive broadband ISPs

also installed, this means a duplication of expensive equipment together with duplicated underutilised transmission bearers, caused by competitive business practices.

It should be clear that, and that the prime driver for infrastructure business is to fully utilise existing equipment and augment this with ADSL facilities for the (more immediate) future such that all services operate without congestion.

Even the common ground between these two business philosophies is seriously contorted.

Return on Investment (ROI)

In the past five years, several competitive businesses have formed to retail broadband Internet services from wholesale IP suppliers – predominantly from Telstra. In this process, Telstra has made wholesale broadband available through DSLAM facilities, and these competitive businesses have repackaged the product as their own, attractively priced and openly competed for customers for this now value added product. Other ISP retailers have installed their own DSLAM equipment in various telephone exchanges, and then included some necessary transmission infrastructure to connect into the main Internet platform. Either way, these competitive ADSL retailers have invested as little as possible and value added as much as possible to maximise their ROI, and many of these competitive businesses fully expect a very high ROI without really having done much real due diligence.

Telstra's infrastructure business arm had been forward planning for IP (and ADSL) for several years and this involved a major restructure of the current telephony network to utilise IP on more major routes, providing a far higher utilisation of the current transmission network than with PDH, SDH and ATM transmission protocols. This restructuring would have come with costs that can be covered over more than half of the expected the life cycle of the equipment, which I believe was based on 10 to 15 years.

With DSLAM equipment being programmed for purchase, installed and commissioned into local metropolitan exchanges, I believe that there was a realisation that this DSLAM – ADSL equipment was really a short term-stop-gap bandaid, resulting an unexpected cost blowout and then high wholesale prices, which impacted on competitive businesses that were reselling the product. Consequently with other competitive businesses then installing and commissioning their own DSLAM equipment and infrastructure, I believe that (competitive) Telstra management then came to the realisation that Telstra's planned broadband infrastructure had to be fast tracked and made available at a cost to retain customers.

Because of Telstra's purchasing power through economies of scale, far exceeded smaller competitive businesses, the new Telstra wholesale prices came in well under what competitive business were paying for their equipment, and these new prices were also well under what was previously being charged to existing wholesale purchasers. In other words, Telstra's infrastructure business was very efficient in comparison to many other competitive businesses, even with Telstra's competitive business arm conflicting with and impeding the efficiency of its infrastructure arm! One can only imagine just how cheap broadband Internet would have been without this internal conflict.

It is easy to comprehend ROI in monetary terms as identified with competitive businesses, but in terms of infrastructure business, ROI really means the full and efficient utilisation of the products and services over their entire life cycle which is usually decades, not months.

Product Life-Cycle, R&D

There is a subtle difference between infrastructure products and competitive products. Just as clothes could be considered as infrastructure, so fashion could be considered as competitive.

Broadband Internet was being heavily discussed and planned for back in the early 1990s by (infrastructure) Telstra, and nothing has really changed except for greatly improved and now cheaper modes of transmission, and the inclusion of router and server technologies. Even in the late 1980s Telstra Research were heralding very high-speed (GHz) data switches from their laboratory work, and these technologies are still very relevant in 2005.

In lateral terms, the leaders in (infrastructure) Telstra saw the end of the digital data network (DDN) several years before its eventual demise, saw that virtual links based on ISDN was a far better cost-effective solution and they were also working on IP networking as the next backup solution, fully in the knowledge that the current copper based access network would be totally incompatible for broadband / high data rates.

Between about 1992 and about 1996, a world phenomenon happened where competitive telecommunications manufacturers globally centred their R&D into geographic bases, rationalising the splintered R&D and radically streamlining the progress. Telstra Research missed out, as they did not have a manufacturing arm. From that point, virtually all R&D was north hemisphere based, and manufacturing changed into assembly outside those lead houses.

The next obvious infrastructure step is PON FTTP access with an infrastructure of large interlinking rings of SDH/ATM running IP on distributed servers geographically distributed over Australia. ***This is expensive and could be a hard pill to swallow – especially if you are on the Board a fully privatised telecommunications company on the ASX stock market struggling to show shareholder value after making a string of monumental management directions, based on good competitive business practices – which were totally inappropriate for infrastructure business!***

In the (competitive) Bigpond business world, ADSL is the 'product of the year' and it comes with a long term agreement (2 years) bundling the premises modem, and/or with bundled phone services – so the customer keeps the phone on – even with VoIP available in broadband Internet using ADSL!

In another six months, a new round of prices will start a flurry of sales with a new product range, maybe this time involving the mobile phone, ring tones and music downloads. It really does not matter providing there is a new product range every three to six months to keep the advertising and marketing arms of competitive business actively occupied, and keeping the customers continually confused on the pricing.

Promotion Strategies

Knowing that Telstra's large competitive business wanted a virtually nil infrastructure investment so that the share price would firm in value, I believe that Telstra's infrastructure business had decided that ADSL was the cheapest short-term broadband option. I believe that Telstra's competitive business arms went into overdrive and heralded ADSL as the panacea for slow Internet, and priced it in line with cable modems – maximising their short-term ROI and minimising the investment recovery time.

International pricing had come up with a magic figure of about $30 per month, and it was not long before Telstra's competitive business arm aligned, almost halving its ADSL retail costs

to make the DSLAM infrastructure be utilised through 'fire' sales, and aloof that (infrastructure) Telstra wholesale prices were also at this level.

Advertising and marketing are themselves competitive businesses and they need competitive businesses to feed them. This is an incestuous business love affair that thrives on exposure at all levels. These activities include subtle newspaper stories and blatant advertising. Radio and Television advertising is high budget with high return and it also includes product placement on various 'shows' name dropping and of course sponsoring of prominent people, sporting teams, and 'emotional foundations'. Major competitive businesses also include building naming, and billboards in a variety of ways, and of course Websites and email.

Infrastructure businesses are as quiet as church mice, and a classical example includes parliamentary support functions at almost all levels. Advertising is subtly bland with simple letterheads and factual Websites. There is no advertising apart from vacant positions. Some infrastructure businesses have building naming rights, and usually the building simply has a name on it near ground level, not a flashing sign that can be seen for kilometres! Exchange sites usually limit the advertising to include naming the site and contact details on a small panel. Even though infrastructure businesses may have massive cash flows, only a miniscule amount is set aside for advertising or otherwise informing the public on what is happening.

Business Associations

You never have to look too far to see a professional sporting team or sporting venue that is sponsored by Telstra/Bigpond (or Optus), offering the general public to use their Internet access and services. Looking a little closer, I believe that the common thread is to tell the public that (competitive) Telstra (in this case) is a community-associated business and that it puts a substantial amount of its profits back into the community.

If major competitive professional sponsoring was that honest, then community admission prices to these sporting venues would be either free or a token $1, but the admission prices are substantial, so the 'sponsoring' does not extend to the community! So 'sponsoring' is just another name for advertising rights, and these are taken to the maximum limit, and it works because it gets the business name out in the public eye.

This (generally unthinking) public in seeing the 'community-based sponsoring' associate it with their leisure and commercially favour it, so the sponsoring pays off! The businesses associated with the professional sporting teams, venues and promotional broadcasting are paid off, and the public in general is none the wiser that it has been 'sold a dummy!'

If these community-faced-sponsoring competitive businesses were honest, then they would all be falling over each other to provide broadband access and infrastructure funding for the USO! As the infrastructure for anything but major metropolitan networks is very thin, and as PON FTTP access infrastructure is a relatively new technology, and there is a negative return for investment for competitive businesses; this is why there is 'no money' for the USO from competitive businesses! So 'Future-Proofing' non-metropolitan Australia will only come through infrastructure business, not competitive business, as there is no paying customer base for large-scale commercial business association in non-metropolitan Australia.

In the past 15 years there have been significant developments in optical fibre transmission technologies, and the prices for 'terminating' and 'drop and insert' equipment has plummeted. These technologies are ideal to convert the tiered star non-metropolitan networks into thick intersecting rings, capable of tremendous amounts of data flows, which align with the infrastructure needs of broadband Internet and CATV access using PON FTTP.

With Telstra structurally separated, then the infrastructure business part would not be under commercial pressure, and it would have constructed a substantial intersecting optical fibre ring network well beyond metropolitan areas, as a large geographic remote backbone support and in the process this would have already provided the necessary inland infrastructure to support broadband internet and CATV to the whole community. This would have solved the USO dilemma, and taken the pressure off competitive businesses' 'honesty'.

It should now be clear that infrastructure business is very low key and without fanfare openly supports the community through underpinning facilities for families, schools, universities and competitive businesses but because of its very nature, infrastructure business is generally taken for granted, and intentionally abused by competitive businesses for their own purposes.

Staff Orientation and Practices

In line with all competitive (sales) businesses, Telstra/Bigpond has beefed up on staff that are sales oriented, ones that can sell through speech, sight and sex. Most shop staff have a minimum of training and are usually less than 30 years old. Marketing and advertising strategists are usually outsourced – pulled in when required, and most of these areas are (product) managed by lawyers, or professional mouthpieces. This is standard practice in telecommunications companies over most of the developed world.

On the infrastructure side of Telstra (and most telecommunications infrastructure businesses worldwide) there are a high proportion of Project Managers, and all project work is driven by competitively approved business cases, not infrastructure approved business cases, and the difference is subtle and devastating.

Although (infrastructure) Telstra was acutely aware of Internet in the early 1990s, mobile phones pressed through as the priority from (competitive) Telstra, and then dial-up Internet became big business, and this caught Telstra off balance with one arm still firmly entrenched in telephony, and the other arm waving about, coming to terms with Internet.

The problem is that (infrastructure) Telstra needs a long term memory bank of engineers and managers with the freedom to forward network plan, and I believe that currently it is not there as (competitive) Telstra has taken on the reigns of an infrastructure business and to a large degree, managed it in competitive business terms with a train of 'unforseen' financial disasters, that will not abate until the reigns are relinquished to infrastructure management.

With Telstra structurally separated into two entirely separate businesses, and privatising the competitive part only, then Australia would have the best of both worlds. The (competitive) Bigpond arm would focus on selling what ever is in fashion, and have appropriate staff and finances for that purpose. The (infrastructure) Telstra arm would retain long-term memory and be able to forward network plan as necessary, avoiding unforseen technology developments, because essentially engineers are advanced technologists and not show ponies!

Quality Processes

Following the end of WWII, General Macarthur employed the services of one Dr W Edwards Deming in his effort to rebuild the Japanese economy. This was a huge stepping-stone and the Japanese took to the teachings of Deming like duck to water and this in turn shook the very foundations of business in the USA and the western world. The teachings that Deming put forward were based on 11 simple rules that were the foundation of what was then recognised as 'Quality', and it is spelt out in his book "Out of the Crisis".

At about the time when Telecom Australia changed to Telstra and finally dropped State boundaries in favour of a Commonwealth approach (about 1987), Telstra also partially

adopted Total Quality Management (TQM) as the business path forward. This was particularly difficult as TQM involves total involvement from the top down (including the Board, Executive Managers) and all level below. Since about that time there have been two mainstream Quality approaches that have surfaced worldwide and they are Quality Management and Quality Control, and neither of these aligns with TQM!

Early Telstra ran with TQM as it set in place a range of standard operating procedures (SOPs) that were revolutionary in minimising rework, and this really drove down overhead costs, made redundant areas very obvious and 'cleaned the cobwebs' from inside Telstra. This stayed on within (infrastructure) Telstra as Quality Control. NDC as part of (Infrastructure) Telstra has the "Quality Endorsed" insignia on its vehicles.

With Telstra being frustrated by litigating customers, legal consultants introduced competitive business based Quality processes to provide a protective shield against litigation. These processes were grown on extraordinarily long and convoluted paper trails that had indeterminate foundations, starting with 'customer perceptions'. With the current high turnover of (competitive) Telstra/Bigpond staff and a naturally shortened corporate memory, and a competitive business focussed Board, I am very doubtful that TQM or Quality practices are there for process improvement purposes, but far more so for driving up shareholder value.

Employment Term and Business Memory

In March 2005 a business couple moved from Redcliffe Beach (Brisbane) to Northmead (Sydney). Knowing that they needed broadband at their premises, they pre-arranged the service about a month before moving, only to find that on arrival it was not in place. On following up, they were told that their access was 'indeterminate', so they spoke to the manager who assured them that he would follow up. Having no response in several days, they called back and the sales/service people there had never heard of that manager's name.

Having personally used the Telstra ADSL internal service Website, and having a fairly good knowledge of the current infrastructure, my educated guess is that PGS was used to connect the townhouse block and that ADSL could not be installed on those lines, until pair swapping made a clean physical pair from the premises to Baulkham Hills Exchange, and DSLAM equipment wired in there too.

In utter frustration they threatened to make this a ministerial complaint, and amazingly the ADSL unavailable problem was attended to and resolved within a few hours.

There are two sides to this all too common situation. The people involved in sales have a 'limited knowledge' of the infrastructure, mainly because their focus is on competitive sales, so it 'appears' that their sales training is adequate. All that is needed is a couple of days training and with the 'backup of a manager' all looks good. Employment in one industry in competitive sales for more than a few years is considered to be 'long term'.

Service and maintenance people need to have at least a few years practical training to have sufficient infrastructure knowledge so that they can follow through and resolve almost all service issues. These people also need management /engineering / guru support to resolve issues that cross lines of business. These people generally are not sales oriented, as their focus is to commission products and services to work within operating specifications. The employment term for service type people is typically 5 to 40 years

It should be obvious that the front for sales should be competitive business and the front for service should be infrastructure business. With advances in telecommunications including the use of calling line identification (CLI) and ISDN it is very simple to have one infrastructure business effectively manage all service issues for several competitive business fronts by associative personal scripting, and service level gradings.

Guru Value

Successfully marketing/advertising a new product is never easy and this is where specialist promotional competitive businesses are contracted – usually on short notice. Gurus in these businesses are highly valued for their experience expertise and knowledge, as they capture the essence of the sales and direct this into a concerted advertising/marketing/sales campaign, utilising a variety of media forms for a wide range of advertising approaches. This is the heart and soul of competitive business, and product life spans exceeding 6 months are very rare, and these gurus leap from campaign to campaign and thrive on public exposure.

Most service people can recommission most service if the maintenance process is relatively straightforward. Some of these service people can anticipate and resolve ADSL problems by area knowledge, mainly because of their extended experience. Well above this level, some are some engineering and technical specialists aware of ADSL and alternate products and their flaws, and their engineering knowledge on the intricacies of these products makes them invaluable gurus for those products while the life-cycle of those products are still current.

Most competitive businesses have a handful of sales and marketing specialists along with a few lawyers and accountants as their highly valued core gurus. Most good infrastructure business full-time employ a handful of programme management, project management, specialist engineers and trades gurus and highly value these core staff. In the case of Telstra/Bigpond I believe that with ADSL there may have a couple of engineering gurus, but they are caught up in a competitive business that cannot recognise their high intrinsic value.

Maintenance Strategies

With technology advances from valve to semi-conductor and analogue to digital in the transmission equipment arena; and with technology advances from relay to digital in the switching arena, maintenance practices in telecommunications have gone through a series of restructures and resulting in a massive drop in maintenance staffing as mean time to failure (MTTF) figures for telecommunications equipment have dramatically risen.

Even with these ever-changing goalposts, the prime focus for maintenance strategies in competitive businesses and infrastructure businesses are poles apart, and both are right, but for very different reasons!

In general, competitive businesses see maintenance overheads as unnecessary expenses that can be outsourced, as these expenses are not core to the central business. In having maintenance outsourced, the operational headcount is considerably lowered, the issue of maintenance is ‘passed off to experts’ and these ‘experts’ assume no allegiance or responsibility beyond the contractual agreement.

(Competitive) Telstra I believe has removed their broadband (and telephony) field staff from their employment books and have these people as contractors – either through an external employment company or as separate sub-contractors. Staff have minimum training and have to purchase their own equipment to perform servicing. They call into a common control point – managed by Telstra. So in all respects Telstra employs them – but they are not on Telstra’s books and this looks good on competitive business accounting books.

When field staff were part of (infrastructure) Telstra, there was a fault escalation procedure that within a few days of notice, automatically raised the priority of a fault to regional specialists and national specialist levels, but I believe that this has been dropped as the overhead costs did not match the legal risks that (competitive) Telstra considered necessary.

(Infrastructure) Telstra has NDC installing and commissioning broadband and telephony based network equipment, and these people (I believe) are still full time employed by Telstra. Even though the tables have turned with major telecommunications manufacturing companies now including their own specialists to install and commission new equipment, (infrastructure) Telstra keeps a core of technical and engineering staff to coordinate and manage planning and development that go well beyond the simple maintenance phase.

It should be obvious that the prime focus of maintenance strategies for competitive business and infrastructure business are diametrically opposite and that service / maintenance is really an infrastructure business entity, and not a competitive business entity.

Regulation Compliance

With the introduction of a competitive Internet market, several competitive ISPs were established with the view of making a high ROI and then selling out with industry consolidation. Instead of following the recommended traffic usage formula to avoid excessive network and router / switch congestion, most competitive ISPs were engineered with thin transmission routes to minimise overhead costs, but resulting in very high network congestion – which culminated in these ISPs having very slow download speeds, far lower than the dial-up access network would allow.

Being competitive business minded, these ISPs avoid industry compliance standards in favour of a possibly high ROI. It is commonplace to hear ISP managers blaming anyone and anything else for poor service standards, and without full reporting, the causes are hidden. As one ISP manager put it so sweetly some years ago, “I am not going to report my service is in heavy congestion; it keeps earning me money, and beyond that – I really don’t care!”

From an infrastructure perspective – the approach is to engineer an ADSL to IP server interface that at least complies with recognised traffic management recommendations to avoid network and switch congestion. As the planning would have been several months – if not years ahead, then the equipment would have been budgeted for, installed and commissioned to prove that it can handle excess peak loads before any customers are connected. As the numbers of customers come on line with ADSL for broadband Internet, timely increments to the network structure will assure high service standards.

With (infrastructure) Telstra running as a sub-government infrastructure business, it will naturally comply with regulations and set the bar high for others to follow. This in turn makes the regulation compliance initiative extremely simplified for the government, as these two bodies would be working with and not against each other.

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