Global recovery will depend on cross-sector visions

1. SYNOPSIS

Trans-sectoral or, as some prefer, cross-sector thinking will be required to guide us through the next stage of human evolution. We are here drawing attention to the importance of looking across sectors to create synergy and we have already been discussing the opportunities within the ICT industries of utilising new telecoms networks for e-health, tele-education, smart grids, etc. But this new way of thinking also applies across infrastructure projects – look at the potential synergies between the building of roads, sewerage systems, water and gas pipe networks as well as telecoms and electricity networks.

2. INTRODUCTION

Thinking about those spectacular frescoes in Sienna. Painted in 1340, they portray government, both good and bad.

And we should wonder if anything has really changed during the past 670 years.

All around the world there is a great deal of dissatisfaction regarding healthcare, education, energy and many other services provided by governments; over the last 10-15 years the quality of these services has deteriorated sharply. While these services have in general seen much 'internal' innovation and improvement the quality delivered to the average person has declined. The problem, therefore, is in the distribution rather than the core quality of these services.

In our view, none of the major social and economic problems we are now facing can be solved by trying to optimise broken or faltering distribution systems.

3. GLOBAL WELFARE DEPENDS ON NEW THINKING CONCEPTS

Once its significance is understood it becomes clear that the cross-sector concept extends much further than what we have discussed so far. It will actually be fundamental to the broader global solutions we need to find for the larger problems being faced by the human race.

More and more economists, sociologists, government policymakers, business leaders – in general, the decision-makers in our societies – are realising that there are links between the various crises we are experiencing, that it is not just coincidence that these problems are all cropping up at once.

We know that climate change and the associated environmental problems are linked to our insatiable appetite for resources and this in turn is driven by our mantra of growth – the need to earn more, own more and do more.

If we look at the financial crisis we see a similar picture – the quest for more wealth regardless of cost. And a ruthless pursuit of that goal has plunged the world into its most severe economic crisis ever.

4. MISSING LINK: POLITICAL LEADERSHIP

Both the environmental problems and the financial crisis are linked to a lack of coordinated management at a level above that of the environmental, economic and financial systems.

Slowly but surely we have changed into a society of silos, with very few people (if anyone) being in charge of the total process. We have 'outsourced' our activities to a range of sectors: healthcare, education, energy, communications, business, finance, transport, trade and so on. Economists have identified twenty such sectors.

This system has served us reasonably well until recently, but the problems we are now facing in nearly all of the sectors indicate that something is wrong with the overall management of system – not just with the individual sectors.

Also, while the world has faced similar crises (environmental ones at least) in the past hundred thousand years, the effects have been so slow that they were hardly noticeable. The impact of change over the last 50 years has been so rapid that our planet as well as us, its inhabitants, are facing the risk of being unable to deal with it.

If we want to move forward we will have to at least partly dismantle this silo system and start looking for cross-sector points that will help us create a new arrangement. Imagine how many cross-sector points there are associated with 20 silos! There will be many new opportunities to explore as we create the next overarching, inclusive management system.

5. HOW MANY STIMULUS PACKAGES CAN WE AFFORD?

If we go carefully in this direction we may be able to make the transition into a new era relatively unscathed. But if we fail to do so the consequences may be dire.

We need visionary leadership and a governing system that will allow us to make a smart transition. If our current structures were to collapse – for example, due to massive ecological disasters or running out of money – we won't have the capacity to manage such a transformation successfully.

How many economic stimulus packages can we afford before we go broke? We had better get it right – and right means looking at these cross-sector points and starting to build new synergy systems, not simply fixing broken systems.

6. THE MULTIPLIER EFFECT

To return to the ICT industry, we have mentioned the multiplier effect that an FttH network can offer to solutions in healthcare, etc. Multiplier effects will also be generated at many other cross-sector points.

If we were to take this further we should look at smart houses and smart cities. We need to consider this notion more seriously, not view it as some sort of futuristic scenario.

We must create a sense of urgency, move from pilots into actual deployment. These projects will take decades to build and we may not have too many decades left before we see a more serious collapse of the existing systems.

We need to grab every opportunity to move into deployment. We can't afford to keep on running the old systems as if nothing has happened.

7. SMART CITIES AND SMART COMMUNITIES

In Australia I am currently trying to win support for a cross-sector approach to the rebuilding of the various communities in Victoria, those that were totally destroyed by the bushfires. What is at stake here are building issues, energy issues and comms issues. Rather than solving them with a traditional silo approach we should look at synergies between these elements and develop a smart vision and strategy that incorporates them all.

While we don't yet know what will be the outcome of the government inquiry into the bushfires, it is certain that a new building code will be applied before any reconstruction can take place in these communities. And, based on examples elsewhere, we know that the building, safety and environmental requirements attached to such a code will mean an additional $25,000 to $50,000 onto the price of a house.

If done in a silo mode – addressing each issue in isolation – the costs of building smart telecoms, energy and transport systems will, in addition to the extra costs generated by the new building regulations, add another similar amount to the reconstruction cost of such new communities.

I believe that in the context of the global crisis we must now look at every opportunity to build smarter communities that incorporate all of that – cross-sector fire safety, carbon neutral, state of the art comms networks, linked to a new generation of social services.

The most likely outcome, however, will be that in the absence of a cross-sector vision from the government we will miss the chance to make the all-important transition. This will not be just a loss for the Victorian communities but for the whole nation – and indeed beyond, as the world desperately needs examples of how to effect the silo-to-cross-sector transformation.

Another example is New Orleans, where a smart city approach would create an opportunity for change.

Exhibit 1 - Smart Homes

Smart homes such as 'habitat control' or 'intelligent home' type networks are equipped with devices that possess an amount of integrated intelligence required to manage and exchange data.

Though home automation systems were being offered in the past as devices that enhanced lifestyle, inrecent times, security, energy and access control systems have gained increased prominence andusage. The market is also displaying signs of maturity as the demand for integrating home automationsystem with the Internet is on the rise. In fact, even the current demand for simple applications has prompted broadband service providers to include home networking products in their installation packages and even go to the extent of integrating them with the existing systems at home free of charge.

Smart home functions include: entertainment, communications, energy and climate control, security, alternative energy and energy neutral applications, lighting and robotics.

Facilities for tele-working are another important element in smart home designs.

Increasingly the definition of smart homes also starts to include 'zero-energy'. These buildings have zero net energy emissions. Carbon emissions generated from on-site or off-site fossil fuel use are balanced by the amount of on-site renewable energy production. This can also include carbon emissions generated in the construction of the building and the embodied energy of the structure.

Exhibit 2 – Mart City- Masdar City – Abu Dhabi

This new city on the Gulf will accommodate 40,000 people and provide work for another 50,000 commuters. Over $24 billion over 8 years will be invested to create a carbon neutral, waste neutral and energy positive community. It includes intelligent buildings that generate wind and solar energy. This energy will also 'fuel' a revolutionary public transport system – cars will not be allowed in the new city. Because of the desert environment, 78% of all energy will be based on photo voltaic energy (rooftop panels). The other 22% will be provided by five other renewable sources. Through building design alone 70% of energy savings are expected to be realised. All waste will be recycled into energy.

The city will be built in four phases and each one of them will have its own mini smart grid. The grids will all be interconnected during the course of the project.

The city is asking for international collaboration. It will also host a university and R&D institute dedicated to the new sciences that are involved in its establishment, and they also aim to become a net supplier of scientists in this field.

Interestingly this leading world initiative is being taken by an oil state (60% of national income is derived from oil).

8. WE LACK THE STRUCTURES TO IMPLEMENT CROSS-SECTOR VISIONS

However, being realistic, I have to say that the chances of achieving smart Victorian communities, or a smart New Orleans, are very slim indeed.

This shows how difficult it is for us humans to manage complexities across sectors. In our silo society it so much easier to let telecoms companies solve the telephone problems, and without a cross-sector vision they will simply use the remnants of the old copper network and fix the current problems.

The electricity companies will just replace the network with another dumb grid – all no doubt with great speed and efficiency, as we have become very professional in operating silo systems.

But we will miss the chance to multiply the extra money that is necessary, and available, for home and community infrastructure for bushfire protection or flood protection and go that one step further to create smart houses and smart communities that take into account other infrastructure systems such as transport, energy and comms.

But maybe we will learn, and perhaps governments will start implementing cross-sector Ministers to look for those critical cross-sector points so that the next time we will be better prepared to grab the opportunities to build smarter communities.

The outcome of the current activities will hopefully be that a cross-sector policy in relation to these developments will get designed so we can start implementing this as soon as the next opportunities arrive.

9. CAN AUSTRALIA BE A LEADER?

In Australia we are trying, with the support of the Minister for Broadband, Communications and the Digital Economy, to make use of the multiplier effect that digital infrastructure has to offer in areas such as healthcare, education, climate change and energy. The same broadband infrastructure can be used simultaneously for all those sectors. This would allow a massive increase in the quality of these services and, for a country such as Australia, savings in the region of tens of billions of dollars per sector.

There is here, on a political level, an emerging awareness of cross-sector thinking and the multiplier effect that smart infrastructure can deliver.

We also see that in many ways the citizens are leading these developments, rather than the politicians. The examples in both Australia and the USA make that clear. People want change, expect a vision and, above all, want delivery on that vision from the newly-elected politicians. There is no doubt that the voters support concepts such as smart houses and smart communities.

We have the tools and we still have the money. It is a matter of having the vision and the will to carry it out.

The ICT industry can show leadership here. It is one of the few sectors that can facilitate trans-sectoral thinking. This industry is in a prime position to assist governments in building these new platforms – the systems that will enable us to obtain the economic benefits of maximising the use of digital infrastructure.

10. OTHER REPORTS

Global - Analysis - Government Infrastructure Policies as Economic Stimulus
Global - Analysis - Government telco policies to kick-start the economy
Global - Analysis - The Financial Crisis and Economic Stimulus Packages
Global - Infrastructure - Strategies for the Digital Economy
Global - Investing in the Communications Revolution
Global - Smart Grids - Grid IT - where energy meet comms
Global - Smart Grids and the communications revolution

Global - Broadband - FttH Overview & Statistics
Global - Broadband - Regulating Fibre Access
Global - Digital Media - E-education
Global - Digital Media - E-Government
Global - Digital Media - E-health

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