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# Technological Stewardship: Charting Your Course in an Increasingly Digital World

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Presentation by

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**Scott Riddle:**

Good morning everyone. Thanks very much for the invitation and the kind introduction Denis.

Before I get started I should point out that working with the community sector is definitely not my day job at Google. Day to day I manage Google's monetisation partnerships or syndication partnerships with Australia and New Zealand's largest media companies. I could tell you what that means but I would bore the hell out of you. We'll move quickly along. But I can say it's very much in line with some of the issues Margaret was talking about.

One of the great things about Google, though, is that the culture actively encourages you to pursue your interests and passions in the context of your work if possible. My big interest and passion just happens to be social enterprise and all of the interesting issues associated with the convergence of commercial venture and social purpose.

And because of that interest, I happen to have had a lot of engagement with non-profits outside of work. When I started at Google I was blown away by the number of tools and special offers that Google makes available to non-profits but equally alarmed by the lack of awareness locally about those tools.

So in addition to my day job, but very far apart from my day job, I coordinate a team of volunteers who run education workshops for non-profits on Google tools. And more recently I started leading Google's broader skill-based employer volunteering program, something called Google Surf 20 which is yet to launch in Australia. It should happen sometime in July.

So hopefully that bit of context gives you a sense of my interest in and grasp of and relationship with this topic, *Technological Stewardship: Charting Your Course in an Increasingly Digital World*.

It is a big topic and really I will just be picking at its very edges in the next 20 minutes or so. But let me tell you how I plan to do my picking.

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I'm claiming that we live in an increasingly digital world and being a Google employee it's basically incumbent upon me to back up any statement with some data. So I'll start with some numbers. Then we'll delve into implications. My plan here was just to look at the activities of a typical community organisation and how they're being impacted by some key digital trends. And finally we'll consider how organisations can best respond.

It is a lot to cover. I always try and ram a bit too much into these talks. So we best get started.

So let's look at the numbers. Australia: 80% of Australians are now online. That's 18 million internet connections, up from 6.5 million in 2000. Sixty-six per cent of households now have broadband versus 16% just eight years ago. Fifty-two per cent now have smartphones, up from 37% just one year ago.

So what that means is that whether they're doing it from mobile, tablet or desktop, the average Australian user is spending about 22 hours online last year compared to six in 2000.

If you look globally, half the world's population is expected to be online by about 2016. Every year another 200 million people go online for the very first time, so roughly 10 times the population of Australia is hitting the internet; i.e. becoming internet connected for the very first time every year.

In the 10 years to 2010, internet users in developed economies, like Australia, tripled but in the rest of the world, i.e. the developing world, that number grew tenfold – massive, massive numbers.

So at this point it's probably worth remembering – and some of you may have heard this before but it's one of my favourites – that in 1943 Thomas Watson, the then-chairman of IBM, stood up in front of a group of investors and said he believed that there was a world-wide demand for five computers.

How much have things changed from that time when computing was seen as a tool for only the largest governments and businesses, to today when the smartphone in your hand is a million times cheaper, 100,000 times smaller and thousands of times more powerful than the corporate mainframes built in the 1970s?

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It's also worth remembering that the amount of free information available to a user of a computer has escalated from only the documents sitting on that computer in the 1960s to an estimated 1 trillion pages plus of the worldwide web, as it was estimated to be late in 2011. That some very, very massive change.

And finally, some Google numbers. I have to apologise but Google is notoriously shy about releasing numbers so I managed to squeeze in just a couple: 800,000 unique users visit YouTube every month; over 72 hours of video was uploaded to YouTube every minute in 2011. Now, someone in the YouTube team helped put this in context for me just last week. More video is uploaded to YouTube in a single month than all three major US TV networks have broadcast in the last 60 years. So there's massive, massive amounts of data going in there.

This is the one that blows my mind: More than 850,000 android devices, Google software smartphones, are activated every single day. I find that quite mind boggling.

Before I showed you these numbers I was following the tweets and listening to the questions before. An audience is converted to the idea that we are living in an increasingly digital world. What I hope these numbers at least reminded you of is the scale and the pace of that change.

That change is inevitably going to touch on every facet of your organisation, and in the process it's going to throw up some major questions about the way you do things.

However, I personally believe that if those trends, those changes, are well managed they offer massive opportunity as well, massive positive opportunity.

So let's look at a few of those trends as they relate to the activities of a typical community organisation. And I didn't plan it this way, but it turns out to be a nice segue from Margaret's talk because I wanted to start with reaching and engaging with your audience.

For me there are lots of trends here, but two stand out for their game-changing potential.

I think everyone in the room will be familiar with YouTube. How many people didn't know that YouTube is owned by Google? Quite a few. It always surprises me. YouTube was acquired by Google a couple of years back.

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So a lot of you will be familiar with YouTube but fewer people realise that YouTube is actually rapidly making the transition from a short form, user-generated video playback platform to a fully-fledged long form content and live broadcast medium.

If you visit [youtube.com/live](http://youtube.com/live) today you will find hundreds of live broadcasts going to air via YouTube.

What makes this trend more profound, in my opinion, is its close alignment with another better known trend, and one that we were talking about quite a bit this morning already, that of social. Some of you may have heard about Google+. Contrary to what the media would have you believe, Google+ isn't designed to be Google's Facebook killer. Google+ is actually a unifying social layer that binds together and, I guess, socialises all of Google's previously disparate products and services.

Now, I'm definitely not going to wax lyrical about the benefits of Google+, a) because I don't have the time and b) I'm sure most of you have already bought into the benefits of social. But what I really wanted to do is draw your attention to the very recent pairing of social and online broadcast.

Only a couple of weeks ago, Google announced that any individual or organisation on Google+ could use a Hangout. For those of you who don't know, a Hangout is the Google+ multi-person video chat. So imagine a whole lot of people in one virtual room being able to talk freely amongst yourself; Skype for many people at a time.

They can now use Google+ to launch a live broadcast. So now anyone can effectively broadcast live to a global audience via a Hangout on air because that Hangout on air is syndicated through the YouTube Live platform.

Now I'd like you to stop for a moment and think about what that means, because I guess there is, for example, no reason that an event like this couldn't be broadcast live globally with facilitated live interactive discussions between all of the attendees.

So effectively overnight the power to broadcast messages, which really was a power previously reserved for large media corporations and the Murdochs of the world, it's suddenly

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open to anyone and everyone. Obviously there are downsides to that as we were alluding to before. But here is a tremendous upside as well. Think about what it might mean for your organisation or any organisation's ability to activate an audience through what I'm calling democratised broadcast and then to deeply engage with that audience via social media. It's a pretty massive change.

Technology is also beginning to solve some pretty big problems itself. Often these are problems that technology is uniquely capable of solving. To me there are two particularly interesting trends here. One, again, that we've touched on this morning, is crowd sourcing.

The interactive web has suddenly created a new way for millions of people to collaborate on problem solving in a whole lot of new and interesting ways. I'm going to use Google Maps here as an example but OurSay is an example. There are loads of examples.

The problem for Google was that while it can buy pre-existing mapping data for the Google Map service, which I'm sure a lot of you have used, in developed countries around the world, pre-existing mapping data doesn't actually exist for a lot of developing countries. So the solution was to crowd source that information by developing Map Maker. What Map Maker does is it allows people anywhere to add to Google Maps their own local mapping data, which is then validated on the back end by Google.

For example, in Pakistan Google Map Maker users mapped 25,000 kilometres of their own roads in just two months. In Durham Masala, a small Indian hill station, the roads had actually never been mapped. They were actually too winding for cartographers to ever actually map. But the villagers there really wanted a map. They hopped online and within two weeks they had mapped their whole village, with a huge impact for trade and tourism. If you go to Google Map Maker Pulse you can see in real time the edits being made to maps around the world by Google users. There are thousands and thousands every day. It's quite mind boggling.

There are loads of new operating models being developed around this whole concept of crowd sourcing. Plan Big is another Australian one that I've seen which is basically crowd sourcing for big ideas. Once again, these are all new models that were previously impossible before the advent of the interactive web.

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Another big development that's creating new forms of problem solving is this idea of "big data". Big data refers to data sets that grow so large and complex that they become awkward to work with using normal database management tools. Really, if you think about it, in today's information-centric world, it's got to the point where data is really a key factor of production, to the extent that last year McKinsey produced a paper that called big data the next frontier for innovation, competition and productivity.

Now, I have loads and loads of examples, some very sexy examples, of big data in action. But for me the simplest one is something called the Google Flu Trends Project. Basically, Google realised that using aggregated data on searches for flu, it could map in real time – and even predict – epidemics, not only for flu, but they've done it for dengue fever as well.

Basically, the moment you start to feel sick, what a lot of people do is they hop online and they do a search for symptoms of flu, flu remedies, cough syrup, nearest pharmacy. Essentially Google aggregates data from all around the world and can pick up trends and patterns happening pretty quickly and then share that information with health agencies.

There are loads of examples of that happening; Google Flu Trends is just one. If you're interested in more about that, hop onto [google.org](http://google.org).

The other one that's really interesting that they're working on is partnering with child protection agencies to mine the masses of data that come from social worker locked files to pick out trends and quickly isolate children who might be in difficulty.

Google has actually released a new service called Google Big Query which I think, very excitingly, essentially makes Google's computing power available to anyone that wants to do this. Google is the single biggest computing infrastructure in the world. Basically, what this product does is says, "Here we go – if you have a large data set that you want to play with, you can use it with this tool".

So massive amounts of data, new insights, new solutions are now open to organisations that can properly analyse big data.

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Education – applying the broader sense of the word, I’d argue that the vast majority of community organisations are involved in education of some kind or other. Analysing data is one thing, but a whole raft of new technologies are emerging to actually better visualise data. Now, that may not seem very exciting in itself, but I think the recent proliferation of infographics online is testament to the fact that visual representation actually helps people better understand and engage with what are often very complex issues; i.e. it supports education.

So whether it’s your funding partners, your project team, or the general public, being able to visually articulate your issues is actually quite a powerful thing. Tools like Google Earth and Google Maps have made it much easier for organisations to tell their stories using geographic representation. But other tools like the Google Public Data Explorer have also brought large public data sets to life using simple visualisations.

I really wanted to do a demo of this one for you but basically it takes very large data sets of demographic data from around the world and shows you trends over time. But if you go to Google Public Data Explorer, you’ll find there is some amazing stuff.

For those interested in taking baby steps towards data visualisation, if you want to do it in your own organisation, if you go to Google Docs or the drive link on your Google black bar if you’re logged in, look for something called Fusion Tables because that’s Google’s first foray into making this stuff freely available to anyone.

Now, onto MOOCs, or Massive Open Online Courses. Jimmy Wales, the founder of Wikipedia, once said, “Imagine a world in which every single person on the planet is given free access to the sum of all human knowledge.” I am really excited by the role being played by this new breed of online classrooms because I think they bring us just one step closer to this ideal.

In 2011, just last year, there were 160,000 students in 190 countries who enrolled in an open entry artificial intelligence course at Stanford University. Basically, Stanford threw up the course, Artificial Intelligence 101, just to see what would happen, and nearly 200,000 people enrolled.

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The numbers caught them massively by surprise and as a result they've now opened 13 additional courses to the world, including anatomy, cryptography, game theory and natural language processing.

Other Ivy League universities including MIT have now jumped on board and are now starting to make more of their courses available online as well.

Personally, I think this completely changes the game in the quest to better educate the world because what it means is that suddenly it's not necessarily about building physical schools and recruiting thousands of teachers.

Suddenly the expertise of the world's greatest teachers isn't locked away at fancy universities available to only the richest people in the world. It's available instantly to everyone.

Google also recently funded something called the Khan Academy. For those of you who are TEDx fans you would have heard that Khan has over 3500 videos on everything from arithmetic to physics, finance and history. It's founded on the idea that children, actually anyone, are able to learn what they want, when they want and at their own pace.

So you can imagine classrooms around the world sharing a high-quality common curriculum, where teachers are only there to assist the students that are having problems, as all the other students work their own way through the material in their own time, self-testing themselves before they can access the next unit of material – some very profound changes to the way that we think about education are being brought about by digital technology.

When we got onto the operations and administration in community organisations, the big trend here is definitely cloud computing. In a nutshell, cloud computing means that rather than buying a piece of software, installing it and using it on a computer that you physically own, you basically rent access to applications that are stored in vast servers around the world. Services like Hotmail and Gmail are actually some early examples of cloud computing.

An increasing number of applications are actually becoming available in the cloud. I don't have a file or a stick or anything with me to run this presentation. It's running from Google Docs Presentations somewhere in the cloud.

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Google likes to say that it was born in the cloud, so all of its services have been created in the cloud.

For small community organisations, one of the obvious implications is the end to the large upfront software costs. But I think, more importantly, it's actually quite fundamentally changing the way that some organisations work.

That fundamental change is often linked to another major trend, which is mobile. I could give you millions of figures about the proliferation of mobile. I was talking to someone yesterday in the office and they were saying that in some verticals, like insurance or banking, somewhere between a quarter and a third of all the searches that Google's getting now are coming from mobile devices. They reckon that in four to five years, there might be parity between desktop and mobile searches.

So because your applications and data live in the cloud, they're actually accessible via any internet connected device, including mobile devices. As we heard before, more and more people have access to mobile devices.

There are some really innovative organisations taking advantage of new cloud computing models. I think, for example, what it might mean for mobile health practitioners or a social worker working in the field, that all his or her applications and data are living in the cloud rather than sitting in an office somewhere.

I don't have time to do it now but if you have time, check out an organisation called Summer Source. Google made a \$1.5 million donation to Summer Source last year. They've won huge accolades for the work that they've done. Effectively, they use a cloud model to outsource work, small micro-tasks, in the developed world, to workers in developing countries.

That's not to say that it couldn't have been done before cloud computing, but really it's being enabled and made much easier by cloud computing. There's a really great video on YouTube on Summer Source as well.

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I'm running short on time, but I have to mention fundraising because I know it's an issue close to many of your hearts. What I really wanted to focus on were two big trends: digital direct response and crowd funding.

It saddens me, and as I say I do work for quite a few non-profits, that a lot of organisations haven't yet cottoned on to the power or even the idea of digital direct response. What I mean here is that previously there was a lot of friction in the fundraising process.

So, historically, let's say Greenpeace might have sent out a mailer to all of its members asking them for a campaign donation. That letter may have sat on the dining room table for weeks after it was read because acting on it at the time might have just been a little bit too hard for all sorts of different reasons.

The impact of that original call-to-action message in the letter is lost as time goes by. And as time passes, it gets less and less likely that there's going to be a donation. That's what I'm talking about when I say friction.

Today, though, you can produce a YouTube video that is designed to capture a viewer's imagination. Then alongside that video is a donate button to facilitate an instant donation.

Or you could create a digital campaign on email where readers click on a link at the end to instantly sign up, donate, volunteer, whatever the action is that you want them to take.

But significantly, for the first time, you can measure the impact of that message with real metrics and then learn and iterate until you really understand what resonates with your audience so you're improving all the time.

Unfortunately I can probably count on one or maybe two hands the number of organisations in Australia that have really got this in the non-profit space.

I'm not really going to talk about crowd funding because given all the publicity that a lot of those key players have received I think most of you get the idea of crowd funding. Basically, think crowd sourcing, as we've talked a lot about this morning, except with money.

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So how do you as a leader in a community organisation ensure that your organisation actually makes the most of all of these changes? I would love to say that I have some sort of secret source answer to that question for you, but really I just have three very simple suggestions.

The first is real long-term strategic planning. It's a little scary to me sometimes, when we send volunteers out into some organisations for specific projects, I find it amazing how few organisations actually do strategic planning in the non-profit sector, how many organisations actually stop and question in a very structured way whether their reason for being will be supported or completely negated by technological change over, say, the next five years; or whether new technologies might allow them to do things better.

If you're sitting there thinking that your board and management team might not be equipped to ask those questions, then you really need to seek out the people that can. In fact, you might want to revisit the composition of your board and your management team.

I remember reading an Infoxchange survey not that long ago, I think it was done in 2009, and it found that the vast majority of surveyed organisations lacked digital proficiency and had no technology plan in place. Now, that was in 2009, but I'd venture to say that it's probably very much the same today. However, having said all that, without the right talent you really can't get past "Go" on this stuff.

And finally, just to add a strong dose of practical realism, and just to stress that I'm not really a massive hard-core evangelist, while I am all for adopting digital and embracing digital, I really think it should only be done when it really adds value.

Be wary of someone who comes back from an event like this insistent that you invest time and energy in deploying new technology or setting up a Twitter, Facebook or dare I say a Google+ page.

The first question when it comes to technology or anything digital should always be, "Is this really going to help our organisation fulfil our mission better?" If the answer is no or if you're even unsure, this is probably a change that you can do without.

Thanks.

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