Building business roadmaps for the new digital economy

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# DIGITAL LITERACY FOR DIRECTORS IN THE AGE OF DIGITAL DISRUPTION

PRESENTATION FOR
THE AUSTRALIAN INSTITUTE OF COMPANY DIRECTORS

BY

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Thank you Suzanne and welcome to you today on this session - Digital Literacy in an Age of Digital Disruption.

Today I want to talk about a seismic change that is affecting all businesses.

It isn't a sudden wave - it is a tsunami that has been building over the last decade and gathering speed at an ever increasing momentum.

And like extreme weather events, the effects can be significant.

**Slide 2**

Many executives and directors have the skills that traditionally served their organisations well.

Leadership skills, the capacity to read and analyse financial statements, to assess risks, to determine strategy and to govern - using expertise honed over a long career.

The skills are frequently financial, legal and in many cases industry specific.

The pace of change in the technology arena though is very significant.

Some directors are finding themselves insufficiently equipped to understand the strategic and operational impacts of the very broadly defined area of the digital space.
They are very much reliant on their operational people to provide expertise upon which their decision making becomes dependent.

Some executives could incorrectly form a view based upon a narrow perception of personal experience only.

As a result, they leave themselves open to not being able to add as much value to decision making as they traditionally would, potentially setting poor policy and making their organisations less competitive.

And potentially affecting the employer brand by making policy calls that are out of touch with their younger generation staff.

**Slide 3 - kindy wifi**

**Slide 4 - so why is this important now?**

**Slide 5 - deloitte**
Deloitte Consulting completed a whitepaper last year on Digital Disruption - Big Bang. One area that Deloitte sought to model is the various industries that exist and the timing and effect of digital on these sectors.

It comes as no surprise that the retail sector was one that is currently experiencing big challenges from online competitors.

**Slide 6 - fairfax.**
To pick the next sector, Media and ICT and a relatively recent example in Fairfax.

Like all newspaper groups, digital advertising has been fractured and splintered by many different online advertising options.
New businesses have grown that attack and secure lucrative parts of those revenues particularly including real estate, cars and classified advertising.

Independent journalism and blogging has eroded the strong readership base that they previously enjoyed. Online sites are harder to sell advertisements into for the same return.

And whilst a key cost - newsprint and distribution - will become eliminated over time, the cost to develop, maintain and innovate on their online platforms is significant.

The production factory is now a combination journalist, creative and software house.

These are people costs, and there are new risks to cover - no one can hack newsprint - but online is a different story. It would be easy if people were prepared to pay for content.

Years of education to expect it at subsidised or no cost has created audiences that gravitate to free.

In fact, all commercial television channels remind us every night multiple times that the best things in life are free including free to air television - who are desperately seeking audience.

That audience has disappeared to Youtube, to on demand advertisement free viewing, and whilst i do not condone nor participate, many simply hunt for freely available torrents that provide the content free.

Expect to see more consolidation as radio stations and newspapers use more video to look more like tv stations.

 and tv stations deliver more on demand content, and collectively struggle to fight the giant Google owned Youtube.

**Slide  6 - mining**
Closer to home is the mining sector, which is moving hugely towards automation.

Minesites with 100 tonne trucks operating with no drivers. I've spent a good chunk of the last two years working on providing vision on driverless trains.

The new train drivers will look less like traditional engineers and more like a air traffic controllers. We can expect to see huge changes in what the workforce looks like.

So you can see here there are monumental impacts for these industries which impact many parts of the business.

HR, industrial relations, training, employer brand, licence to operate, ability to remain competitive.

And you can see that they fall outside the remit of what many consider digital is - websites, search engine optimisation, and search advertising and mobile apps.

These types of changes increase the ability for organisations to restructure with no loss in capability.

The resulting casualisation of the workforce has lead to increased unease around job security.

Alan Kohler of the ABC and Business Spectator recently surmised was the causal factor that led to lower spend by consumers and lower confidence despite record low interest rates and stable employment.

## Slide 7 - Big Digital disruption trends
So, when you say digital, what do you mean by that?

**Slide:**

The digital disruptors that I will be talking about today are:

Cloud computing
Mobile everything
Social everything
The internet of things
Big data

You will have all some exposure to all of these areas, and today I'll be providing you with a primer on each of these areas specifically with the intent of better understanding.

I have been fortunate enough chair conferences in each of these specialist areas and have gleaned a lot of information from industry experts, as well as own practical application.

As this is a primer, there will no doubt areas that you may wish to dive into in more detail during questions after the presentation.  I'll be happy to speak with you afterwards if you wish.

**Slide 8**
Cloud Computing
"Cloud? I'm all over cloud, I've got a dropbox account…"

**slide 9 - cloud**
One of the industries that Deloitte identified in their study as being under significant duress is the ICT sector.

The industry and most of the people that work within it make their living largely upon regular replacement and upgrade of hardware and software that is supplied onto the premises.

**Slide - once upon a time**

It is a break fix / lights on approach and in many companies in excess of 70% of their IT budget is dedicated to maintaining the status quo and keeping people operating

Or generally referred to as "lights on" budget. That doesn't really leave enough for innovation.

It is also an industry that is used to, in terms of supply, long procurement cycles, long implementation cycles and big, expensive and rarely on time or budget projects.

**Slide 10 - big infrastructure**

More nimble organisations have embraced cloud computing which enables their organisations to be much more agile, and achieve more with the same budget.

Many large organisations are getting more out of their existing infrastructure by turning it into what they refer to as a private cloud - using virtual machine software to simulate the effect of having many servers.

A virtual machine is software that enables the running of multiple full operating systems and software on the one piece of hardware.

It has the advantage of being able to rapidly speed up data recovery and save on the purchase and implementation of hardware.

**Slide 11 - So what is cloud then**

It includes:

Hardware as a service. Traditionally in order to scale an application to a significant increase in users, that has meant a procurement process, manufacture process by Dell or other provider, distribute and then set up on premise.

That process could take up to 3 months or longer.

Purchasing software is a long cycle too. Gathering detailed requirements, creating a specification, putting that out to the market, evaluating options, making a recommendation and getting it approved. That can take 9 months.

An alternative approach is to find the most likely candidate software, spin up an instance of that software, create a trial and get feedback - within 2 weeks. A lot lower cost and faster learning if it is a fit.

Cloud computing allows you to scale on demand. An example is Amazon Web Services.

I don't need to put in a data centre, buy lots of hardware and software, and tonnes of people to look after it and spend months doing detailed analysis to determine my likely requirements then add a massive factor for peak load.

Now I can rent it - and only the amount I need. I'll spike up and reduce down just on how my customers behave. On demand, real time.

cloud also provides access to on demand software, all of which you are familiar with using- from gmail and google apps that allows me to stop buying servers and expensive software to run a network

to dropbox for document storage, sharing and backup, mac cloud and Office 365. Perth originated startup  canva is seeking

to disrupt the traditional and very lucrative desktop publishing and design market that Adobe has owned for years by providing an online alternative that is easy to use and for a fraction of the price.

Further there is a crowd sourced group of providers that have created lots of software implementation packages that can be rented for cents per hour off Amazon web services as well as other providers.

For example, you might be considering implementing a customer relationship management system in your enterprise and evaluating a cloud based solution like sales force against other products.

A crowd sourced group of providers that have created lots of software implementation packages- including a supported version of open source CRM software Sugar CRM -  that can be rented for cents per hour.

- taking that a step further, for our startup company Prezentt we are using some software on demand, paying by the minute and stopping paying as soon as the process is done - a true low cost user pays utility model, with no friction. It is saving us 1000's of $. We pay a few dollars every time we use the process.

Most of the software used by Emergination is cloud hosted - so I rent it, and the associated infrastructure behind it. I never have to know how it works, or who runs it.

So in summary

Advantages: reduced IT staff, hardware investment, expertise and upgrades. Greater agility and speed to act.

Disadvantages: where is my data, is it secure, what if my provider gets taken over?

Issues of Patriot act, NSA.

The patriot act is an interesting one affecting anyone with their data hosted in the united states. Many companies are seeking to host their data in non US data centres to ensure that this act doesn't apply to them.

Questions to ask: where can we use cloud computing to give us more agility and save cost? what is our disaster recovery plan? what policies do we have in place?

**Slide 12: Mobile Everything**
**Slide 13: Anybody know what this photo is?**

We forget how much technology and the iPhone in particular has changed our mobile computing and data consumption.

**Slide 14: devices to cloud**
We seem to be unable to disconnect from the net - even for short car journeys. Just stop at any traffic light and watch people on their phones checking social media, sms and emails.

Within 10 years, i expect that cars will drive themselves allowing us to ignore the road, and be fully engaged.

**Slide 15: think mobile first**
The implication for customer service design is consumer expectation that companies have to work out how to integrate their applications, websites and mobile apps together with their face to face interaction.

Customers don't understand that the IT and customer service departments aren't integrated - they just receive a poor customer experience.

They also aren't interested in which industry you are in - they compare best of breed apps in completely different sectors - e.g. flights vs financial sector vs healthcare, and expect you to respond very quickly.

The volume of purchasing decisions and actual purchases being made from mobile phones is around 40% and accelerating.

## Slide 16: Mobile considerations for Prezentt

To pick an example of decision making, in building Prezentt we assessed our budget to initially build our first version of the application at around $150k for the web, and the same for each of Apple IOS and Google Android.

Apologies to any windows and blackberry phone owners here.

Our decision has been to build html5 - which is the latest version of html code that attempts to bring more app like functionality to web delivered applications.

In building on one platform, this allows us to market test appropriately, refine quickly based on customer feedback and at lower cost than having to use mobile platforms.

We were going to need to build web into the equation from the get go, so this - and the wide variety of mobile platforms - influenced our decision, and our expectation is that we need flexibility to make changes based on real market feedback.

Is a native app a better experience?

Currently yes, a bit faster and with the native swipe controls that we use on phones all the time.

However HTML5 is breaking that barrier down and allows a much lower cost of entry. There is nothing in our requirements that we can't do using HTML5 which isn't true of just 18 months ago.

Questions to ask:
where in our service delivery do we need to add mobile interaction?
customer
in field staff
what platforms do we need to cover?
Have we adequately covered the ongoing support and upgrade costs?
what about our own staff access to information?

**Slide 17: Social**
If I had to pick one area which directors are most uncomfortable with, it would be social media.

Here are some things that I've heard from directors:
I don't believe in social media - who wants to know what I had for breakfast.
People share too freely  and put themselves and others at risk
Lets just ban it so our staff don't spend all day on Facebook
let's just ban it so that no one can say anything off message or price sensitive
If we engage in social, someone might have a go at us

I can understand their concerns. In fact recently, a school girl at a private school in sydney received a Facebook message to say that a friend's mum would be picking up after school at a location nearby. None the wiser, this girl went to that location to be picked up by the Australian Federal Police.

She was 12 and should not have had a Facebook account - and this was used as a frightening example to other parents at this and other schools.

But there are some very positive upsides to engaging in social media - and the cat is out of the bag, and there is no stuffing it back in there.

**Slide: kinda big deal**
How far should you blow your own trumpet?

**Slide: graphic**
Social media is really complex though, and there are thousands of tech businesses trying to work out how to cash in.

This graphic, basically out of date the second it was created, categorises the various social media plays and their focus.

**Slide: Reasons to get social.**
I'm a big fan of twitter. Twitter listed on the nasdaq yesterday and shares increased by 73% to value the company at $14 billion dollars.

This is a pretty good result given the company has yet to turn a profit. You can understand why I'm working on a startup.

**Slide: my twitter**

One of the things I find really useful is the ability to access data and information instantly - useful slide decks just being delivered in presentations around the world, plus insights of the people that are attending for example.

However it is more than that, and organisations are using it for much more. For example, Emergency services use social media for real time notification using a #bushfires for example.

It was twitter I turned to as the only useful source of information on April 16 2012. An earthquake measuring 8.6 on the richter scale hit Aceh whilst we were at patong beach. All news was in Thai, and all television coverage was hours old and using old archived footage.

**Slide: hootsuite**
I use Hootsuite as a tool to manage the volumes and various social profiles. it allows me to set up searches to monitor my professional and personal interests, including searches for companies that I'm working with.

It helps making monitoring easier and allow me to manage social media quickly so that it doesn't become all encompassing.

**Slide: The socially enabled enterprise**
Younger generations are used to social sharing and connection. Many think that email is archaic and don't use it.

They expect to be able to share content, information and discover useful IP through social networks and are astonished when that isn't available, so much so that they would prefer to move to another company.

Further the use of social media and crowd sourcing means that we can leverage expertise beyond the 4 walls of our enterprise and extend to business and channel partners and providers.

**Slide: Internet of Things**

The barriers to creating software businesses have broken down significantly with tools and training freely available. Now a similar approach is occurring with chipset devices like Adruino.

This is the modern day equivalent of the dick smith electronics kit - however with the capacity to easily program, and to add mobile modules for mobile data communications and remote operations.

These chipsets are really  - from $25 to $100 and collapsing the huge 6 figure plus startup costs that used to be involved in creating specialist chips and to prove concepts.

Digital now includes the ever increasingly connected web. Devices creating information and sending it real time for action. Machines become incredibly sophisticated and acting on data provided to become self operating - a difference kind of robot if you will, powered by software.

There are substantial impacts on  volumes of data kept, the role of staff in operations and even where they are located.

All of the above factors have significantly reduced the cost and time frames for innovation. Yet many companies are held fast in traditional processes.

**Slide: Big Data**
The last of these big trends centres around data. The term big data has been coined in part to indicate that this is different to previous business intelligence initiatives, that we are dealing with a lot more disparate data sets than previously, and data that is live.

This graphic by IBM points out some astonishing statistics - including 1.3 exabytes of data sent and received by mobile devices daily.

As a result of the always on, always connected, proliferation of devices there becomes the opportunity to start taking some real time analysis of what this data is telling us.

**Slide: creepy analytics**
During the big data conference at Cebit in May this year, Rob James, CTO of Echo Entertainment outlined some of the activities that they undertake to improve their customer experience.

With users that have registered at their casinos, they can tell using wifi signals the minute you arrive at their premises  - and if you are a high roller, you will be greated immediately, taken to your preferred table with your preferred drink ready - all using tracking data.

I joked I was in their casino the night before the conference - and he said, " I know".

Another case study was Macquarie. You may be surprised how much effort was involved in getting to a rolled up and accurate financial picture of all of their businesses.

There was 120 weeks of effort each year in doing this. It is now 20 weeks as a result of their big data initiative - one sixth of the cost. But the bigger take away is the ability of the business to now respond and react to real time information.

Why? Remember the adage of 50% of my marketing budget is wasted - but I don't know which 50%? Predictive models can be developed to identify and reduce impacts of disasters, to identify extend and nature of hacking attacks, to asses the correlation of weather and retail sales, and myriads of other factors.

Slide: questions to ask

**Slide: digital innovators mindset**
As I bring this presentation to a close, it is worth considering what are the skills set that contemporary business leaders need to have beyond the breadth that they have already?

lean method - build test learn - at a faster speed
technology - changes, trends and applications
architecture - be able to understand the broad architecture of how these things work
analytics - measure - big data
strategy  - business models
crowd sourcing

Many organisations are creating a new role of Chief Digital Officer - a role that straddles marketing and technology.

Our organisation works out of spacecubed. It provides us with an environment and access to lots of digital innovators seeking to build businesses and disrupt lazy markets. There is a lot of activity in this regard in WA and I urge you to get involved - to bring your business acumen and also to learn through the process.

The big trends are:
1. Cloud - lower cost, greater agility
2. mobile - always on, everywhere access
3. social - engagement
4. the internet of things - connections to devices and products
5. big data - we need clarity to determine what is important

Thank you for your attendance today, and I will be delighted to answer any questions that you may have.