

While your head's in the Cloud, keep your feet on the ground

Or: "It's the Information, Stupid"

A White Paper written especially for the Cloud Consulting Breakfast Briefing, July 22nd 2010

Where we are at today

In terms of the real challenge and opportunity that faces organisations who are looking to move to the Cloud, the comment of Ovum Consulting's Laurent Lachal is a pretty accurate summation of where we are at today:

Despite growing interest in IT transitioning from managing technology to providing technology as a service, neither Business or IT executives have been particularly proactive in managing the various changes such a transition requires at all levels¹

However, this issue is **not** new and was foreseen over a decade ago.

Back in 1999, Peter Drucker wrote that we had spent the past 50 years doing great things with the "T" in Information Technology but that the next phase of the Information Revolution was going to focus more on addressing what the meaning and purpose of Information is in our organisations.

As the technology aspects of managing information become increasingly ubiquitous and commoditised with the emergence of cloud computing and open source tools, but the frequency of and publicity surrounding Data Security breaches or the impacts of poor quality information on the operations or strategic decisions of organisations or governments continues to rise, it would seem that Drucker's prediction of the second wave of the Information Revolution may have been a few years too early.

The early days of the CRM revolution hinted that Drucker might have been spot on with his timing. However CRM rapidly devolved from a **business strategy** that was to be owned from the top down into yet another technology purchase. Organisations went out and "bought a CRM" and greeted the tool vendors with open arms as they installed the tools only to wail and gnash their teeth when the databases filled up with cruddy data that impaired

¹ Source: [http:// enterpriseinnovation.net/content/today's-cloud-governance-flawed-ovum-says](http://enterpriseinnovation.net/content/today's-cloud-governance-flawed-ovum-says), accessed 2010/07/21, quoting from Ovum Consulting's research report on Cloud Computing Governance Maturity.

streamlined processes, and resulted in “work arounds” like customer data being kept by sales teams on desktops and laptops in spreadsheets and MS Access databases.

And, of course, these undocumented, unsecured, uncontrolled data repositories began to support undocumented, unapproved, and uncontrolled processes, and had knock on effects in Risk Management and Revenue Assurance (who invariably hadn’t been stakeholders in the original CRM programme).

The current wave Business Intelligence has, at least in many organisations, learned the lessons of that wave of CRM. Risk Management and Revenue Assurance are at the table. Data Protection is at least in the next room putting the kettle on (in anticipation of the Commissioner paying a visit perhaps?). However, it is still essentially being sold as a “T” sell not an “I” sell.

Unfortunately, the information and data on which decisions are being taken has, in the vast majority of organisations, no measure of quality against it. Business Intelligence that is built on information of unknown and unmeasured quality should be labelled “Caveat Emptor” and consumed with caution. But everyone assumes that because the best technology has been bought and people have been paid to use it then everything will be fine. All we need to do is extract the data from 99 systems and have it all consolidate accurately and reliably.

The recent divergence between what Irish banks originally told the government about their loan book performance and what was discovered by NAMA, in my view, probably has more to do with poor quality information in the Business Intelligence systems than any intentional strategy to deceive the Government. I do not believe there was a conspiracy or intent to lie to NAMA.

It is more believable that the quality of the information in Irish Banks was so poor as to impact up to 30% of their bottom line, if for no other reason than that this bottom line impact of poor quality information is consistent with that which has been borne out in studies by Gartner Group and other organisations. In over a decade of presenting at Information Quality conferences on three continents I have only once heard that figure challenged – and that was by someone who had identified that the impact in his organisation was closer to **50% of turnover**.

Research by Bloor Group in 2007 clearly shows one contributor to bottom line impacts of 10-30% of turnover. They found that **84%** of data migrations they studied failed, either delivering late, not delivering the results expected, or costing significantly more than budgeted, or all of the above. A key factor in the failure rate was a lack of understanding of the quality of the source data which affected scoping, time, and budget decisions.

A more recent study by Deloitte in August 2009 found that **88%** of Risk Managers viewed Information as being either “Significant” or “Very Significant” as an issue in their Risk Management plans. Equally, a study by Forrester in Q3 2009 of Chief Financial Officers found that **75%** of those surveyed felt that the quality of information was a **significant** barrier to their achieving organisation goals.

So, perhaps all that was missing from Drucker’s prediction was a peppering of financial crisis which would trigger a shift in emphasis back to what is the mission critical asset of every business – information.

We should take note of the warning from the Irish Data Protection Commissioner in his Annual Report for 2009 where he wrote about Cloud Computing and Data Protection as follows:

Building data protection safeguards into new technologies and applications of these technologies remains the best approach. This is as much true of data processing in the "cloud" as it is of a routine development of an IT application in an organisation²

The definition and understanding of meaning and purpose of information in an organisation is a critical element of Data Protection as well as the parallel issues of Data Governance and Information Quality.

Only by embracing the challenge of managing the meaning and purpose of the information assets in your organisation will you be able to tap the full strategic value of information to your business.

After all, as Dr. Tom Redman writes:

² Annual Report of the Irish Data Protection Commissioner 2009, at page 4.

“Savvy managers recognize that data and information are strategic assets, possibly even the ‘ultimate proprietary technology’ , in Nicholas Carr’s terms. After all, they are the only asset that is uniquely your own. No other organization has, or can have, the same data that your organization has. Your data reflect your strategies, customers, products, employees – everything that matters in your organization. Competitors can copy your processes, buy the same equipment you do, steal your customers, and entice your employees with better offers. But unless you let them, they can’t have your data and information”.³

³ Redman, Dr. Thomas C., *Data Driven: Profiting from your most important business asset*, Harvard Business Press 2008

Opportunities

A significant potential benefit of Cloud based solutions will be that they remove the financial excuse for **not** addressing the issues of Information Asset Management (a catch all term I use for Information Quality, Data Protection, Data Governance and Information Security) up front and, in many cases, the move to a Cloud environment will actually require these issues to be addressed.

In addressing the issues, organisations will need to give serious consideration to issues such as:

- What information do you actually need to know to run your business?
- What is the quality of your information?
 - How much of it is 'fit for purpose' for today and
 - How much of it would be fit for the purposes you are likely to have tomorrow or in five years?
- What are the purposes for which you are using information? Are you actually allowed (legally/ethically/contractually) to do that?
- How capable is your information of helping you execute your strategies
 - If you are going for 'lean', how much "data clutter" do you have?
 - If you are going for 'risk adverse', how much of your data clutter is a Data Protection time-bomb?
 - If you are going for 'customer intimate', do you actually know who your customers are? Do you know them once, twice or ninety-nine times?
- Who are your Cloud partners?
 - Are they trust worthy?
 - Do your agreements with them tick the necessary boxes from a Data Protection perspective (and if not, are you happy with that level of risk and are you happy to consciously make a decision that could cost you your data?).
- Does your organisation culture
 - Emphasise the value of information to the business?
 - Emphasise the importance of respecting the privacy of people's data and protecting it?

- Support the management of information in a way that ensures quality and manages the risks of non-quality information (including Data Protection issues)?
- Do you have a framework for governance of information as an asset that
 - Is aligned with your strategic goals
 - Is **NOT** based in IT and **IS** a part of the overall “corporate governance” framework?
 - Is allowed to give management the answers they need rather than the responses they want?
 - Supports intrinsic as well as extrinsic motivating factors amongst all staff to ensure the quality of your core assets?

This list is not exhaustive. I could add points about the need to have systems in place that manages information as well as if not better than you currently manage paper clips, photocopiers and company expense accounts. Suffice it to say, the “T” in IT has historically been seen as a value adding technology bordering on proprietary in many organisations. Once you move that into the Cloud, you immediately have to begin looking at the “I”, and that will inevitably mean changing how the “We” manage information in line with its meaning and purpose to the organisation.

For example, if you were planning to move from an on-site CRM system to a Cloud platform and profiled the quality of the data in your on-site system (which means, by the way, investing time in defining some rules for what is good and bad quality information) and found that only 20% of it was meeting the minimum quality standards you’d set, what would that do for your strategy?

My personal experience with this type of approach has been that prior planning has prevented problematic performance. In one case, by having a clear understanding of the quality of data and the likely success rate in cleansing and standardising it the Single View of Customer team I was leading implemented changes to the target database at design stage so that there would be a destination for unfixable data. We also secured agreement that Call Centre staff would fix the unfixable while on calls with customers (to ensure accuracy).

The Threat of “Instant Pudding”

When it comes to quality, W. Edwards Deming put it best:

There is no instant pudding.

One of the dangers of how Cloud services are being marketed , to my mind, is that they are being presented as the panacea for a new age. I fear that there is a significant risk of people being sold the sizzle of finest fillet steak and being served overcooked hamburger.

Moving your information systems from an on-site platform to a Cloud platform will not improve your organisation’s effectiveness if you do not, at the same time, invest in ensuring an organisation culture that values information as an asset. While you may save on “cost of ownership” as compared to an on-site system, the cost of ownership may not actually be the real problem area affecting your business. Jumping into the cloud may simply shift some overhead costs but may not shift your headaches about costs.

For example, an IBM study has found that workers in the average organisation spend **30%** of their time, on average, searching for information, with 50% of those searches not resulting in success. The 30% consists of searching time, and also time spent checking and validating the accuracy of the information. As previously mentioned, Gartner has identified that organisations quite literally burn the equivalent of 10% to 35% of their turnover each year due to poor quality information

Shifting from one technology platform to another will not fix this kind of problem. The solution lies in up skilling and empowering your management and staff so they can make the right choices and decisions to ensure that the meaning of information and its purpose is fully understood in the organisation and, as a result, people will understand why you shouldn’t put sensitive data or personal comments about customers in a field which might be displayed on your e-CRM website or get printed on an order docket.

This is not an overnight process, particularly in larger and better established organisations. It requires a focus on Change Management and communication of some clear values, dissemination of intelligent and intelligible policies, and an investment in the capability to measure the quality of your Information Asset in ways that make sense to the business and are aligned with the Purpose of information.

Information as an Asset

Without wanting to labour the point, Information is an Asset. If we look at the text of FASB9, the Accounting standard that defines what an Asset is, Information meets all of these tests.

- It contributes, either on its own or in combination with other assets, to the generation of net cash inflows or the delivery of services
- It is under the control of the organisation as a result of a transaction that has occurred in the past
- The organisation can gain access to the benefit (the information) and control access to the benefit.

Information has a number of other attributes⁴ however that make it a 'super asset' which can be of great benefit or risk to the organisation. I've listed some of them below:

- It multiplies – all activities that use information create more data in the process.
- Information can have subtle meanings, often industry specific or unique to a business strategy (from which competitive advantage can emerge and internal holy wars about definitions begin)
- Information creates value only when on the move and in use.
- Information is Organic – business rules and processes can change the naming, labelling, or format of a fact (e.g. an item purchased on-line might have a price of €45, but a business rule might require items over €40 to have insurance paid for shipping, so a new value pops into existence associated with the order "INSURANCE_NEEDED='Y'").
- Data can be shared, lost or stolen (but you might not notice it happen, because of the next attribute)
- Information is not consumed with use. If I am using a customer's data, someone else can use the same data for a different process or purpose. If that access is unauthorised, then there is a problem.

⁴ This section is based on material in *Data Driven* by Dr. Tom Redman

The Information Asset Life Cycle

Like all assets, Information has a life cycle. The generic life cycle for any asset is summarised in the acronym POSMAD, which stands for

- Plan (what information do we need, what is its meaning/purpose?)
- Obtain (how do we get that information?)
- Store/Share (where do we put it? Who do we share it with, internally or externally?)
- Maintain (how do we keep it up to date and of high quality?)
- Apply (how will we put it to use and generate cash inflows or deliver services?)
- Dispose (when/how will we get rid of the information?)

All too often, organisations leap into the Information Life Cycle at the “Obtain” step and rush to the “Store/Share” with a short term focus on how they might want to “Apply” the information. As a result, they often lack a plan for disposing of data. Likewise, they often wind up Sharing and disclosing information to other people or organisations, or Applying it to new purposes, without necessarily having the consent of the original providers. And, equally as often, the choices they have made regarding the storage of the information might not be entirely appropriate to the actual nature and meaning of the information.

And, in my experience, any consideration to the maintenance of the information to ensure it is accurate and up to date, as opposed to the maintenance of the technology or database itself, is often an afterthought.

Most of the problems witnessed over the few years in operational efficiency and Regulatory Compliance contexts can be traced ultimately from a failure to engage in planning for Information as an Asset.

For example, most Data Protection failures reported in Ireland or the UK stem ultimately from a lack of planning and an absence of processes or awareness around how to manage information to meet Data Protection requirements.

Whether it is HMRC putting all the tax details for 2.5 million people on two CD-roms and putting them in the post or Local Authorities in Ireland disclosing the second home ownership status of people by putting everyone’s email address in the “To” line of an email, the lack of planning is a strong predictor of poor performance.

Of course, if you have a very large appetite for Risk, then who needs a plan.

Comparing Information to other Assets

It constantly baffles me why organisations fail to plan properly to manage Information as an Asset. We do it with almost every other asset we use in business.

If you are buying a laptop, you will engage in planning to ensure you know what you need in the specifications versus the budget you have available. You will then go and obtain that laptop from a supplier (Dell, PC World). You will have some thoughts as to how you'll store it (in the office at home, in a safe in a hotel room, locked to a table or in your bag at a conference) and how you'll share it. Maintenance concerns may see you buying some screen cleaners and making sure you keep the software updated or buying an extended care package. Apply, well that's how you'll go about using it and will have fed into your "Plan" decisions. And from the day you buy the laptop you will be thinking about how you dispose of it, and the data that is on it, in a secure way (such as removing the hard-drive and hand in the old laptop to be recycled when buying your new one).

If you are working in a larger organisation, you probably have a Procurement person to take care of most of the Planning and Obtaining, but the rest of the life cycle would still be your responsibility.

If your company is hiring staff you will go through a similar process. Your plan stage will probably include a decision about whether you'll hire or contract staff, your obtain stage will involve interviews and assessments, your store decision will require you to find a desk for your new staffer, your share decision will affect whether other teams can use your new hire. You'll certainly have something to Apply them to when they start, and you'll probably invest in some level of training to Maintain their skills. And , in a few months or years, you'll want to Dispose of them through either redundancy, resignation or Retirement.

But you will have a plan for that.

For some reason, Information (as opposed to Technology that Processes Information) has not historically received the same attention in most organisations. All too often, people with the role title of "Chief Information Officer" were actually in charge of a **Technology** organisation, and were responsible for budgets for technology spending and investment.

However, this is beginning to change as CFOs and Risk Managers begin to see Information rather than technology as a serious issue of concern. Moving your information into a Cloud platform will only accelerate that shift as the technology essentially becomes a transparent commodity.

Homogenisation and Strategic Advantage

Another by-product of the shift to the Cloud is that, inevitably, there will be homogenisation of technology and tools. If a particular toolset or Cloud platform becomes the norm for your industry, and all your competitors have essentially the same toolkit as you, where will your competitive advantage come from?

Inevitably, the information your organisation has is a critical source of competitive advantage. Whether it is as a result of cost savings and improved customer satisfaction from having higher quality information or increased trust from being seen as the poster boys of Data Protection, the processes, procedures, culture, and governance that you have in place to support the effective creation, maintenance, and management of your Information Assets are where your “proprietary technology” will come from.

To illustrate this point, imagine you were to go to your local hardware store on any Bank Holiday. You see two people buying tools, you hear them talking about the pros and cons of each model with the store assistant, and you see them getting a feel for the weight and quality of the tools as they play with the display models. Both of the people are undertaking the same project, to build a unit of shelves either side of the chimney in their living room. You know both of them. One is Dave, a colleague from work, who has watched a few home improvement shows and has a few books on DIY. The other is Bill, the maintenance man from your building. Bill has done a number of courses on woodworking and construction and has lots of practical experience in the building trade as a carpenter.

Dave has grabbed a few sheets of timber. Bill, having selected his tools, is checking the grain and quality of the available wood before starting anything. In short, both are buying the same tools. But Bill has a better understanding of the “meaning and purpose” of the tools, so he is ensuring the quality of his materials and will probably wind up with a better looking set of shelves.

Once you and your competitors are working with the same tools, the quality of your raw materials (information) and your understanding of how to put it all together is critical to the success of your finished product.

Information and Risk Management

88% of Risk Managers can't be wrong. Information is either a significant or very significant issue in Risk Management. The issues boil down to this:

- Can we get the information to make assessments of risk?
- If we can get it, can we trust it?
- If we can get it, are we only getting one copy of it from one source?
- In general, are we keeping our information safe?
- What information do we have anyway?

The Cloud does not solve these questions. The Cloud does not provide a magic bullet to trusted data, nor does it produce a dashboard metric on Information Risk.

What the Cloud does provide is a set of platforms that reduce the cost of managing information by commoditising the storage and processing capabilities down to the level (ultimately) of a Utility. Cloud provides the opportunity to scale up for storage or processing power as required. In short, the technology questions are, relatively speaking, solved.

However the 'human' factors of risk and risk management are not solved by Cloud. Neither are the challenges of actually managing information as an asset. This requires a shift in mind-set in organisations to raise awareness of the role of information

- Making staff aware of where information is used and why
 - Helping them understand why information they are capturing is important and relevant in downstream processes
 - Help them appreciate the impact on risk management and other processes of incorrect, inaccurate, or incomplete information
- Helping staff to think of Information as a key business asset, not just another thing they use to do their jobs.

- Developing intrinsic motivation in your staff such that they understand why and how to create value using information in safe and trusted way.

A key part of this is thinking about how you measure your staff performance at the moment and considering how you can align your measurement systems with the needs of higher quality, better protected information in a way that encourages “Big C” Compliance (“this is how we do things around here”) rather than “small c” compliance (“we do it this way because we have to”).

Buzzword Bingo

Of course, the in-tray is cluttered with a variety of buzzword programmes and acronym initiatives, of which the move to Cloud is just another item.

MDM, Data Governance, ERP, CRM, BPR, BPA, BPM, Data Protection, Information Quality, Information Security etc. are all initiatives which clutter the communication. Add issues like BASELII or other Regulatory initiatives and you have a recipe for confusion and unproductive competition.

However, if we paraphrase Bill Clinton – **It’s the Information, stupid.**

MDM is a strategy for managing core information – but it must still exist in the context of an Information Life Cycle and must be governed and managed effectively. It is not a “fire and forget” solution to life’s ills.

Data Governance is, at its simplest, the formal process of having a plan and ensuring it is executed around how your Information Assets are managed. But the focus is the Information. Governance for the sake of ticking boxes does not result in effective information or an improved organisation. Shifting ungoverned information into the Cloud is a recipe for uncontrolled risk.

ERP, CRM, and similar initiatives such as BPR (Business Process Re-engineering), BPA (Business Process Automation), BPM (Business Process Management) all, ultimately, result in changes to work practices and processes that impact on the quality and use of Information. Unfortunately, there is a tendency to think of these as “Technology” projects when, in fact, they often represent significant changes to the engine of your business.

Unless consideration of the information aspects of these changes is built in from the start of the programme, the law of unintended consequences will inevitably come to pass. What information do you need? What information do you have? Is it fit for today's purpose? Is it ready for tomorrow's purposes?

Information Quality and Information Security as disciplines and as requirements in business are supportive of and complimentary to Data Protection and Data Governance. A key factor in both is that they are not a once off effort and must be part of a continuous change process to ensure that the security of the information is assured but also to avoid constant non value-adding cycles of scrap and rework on data as records are cleaned and reloaded.

Ultimately, an effective information quality strategy can provide invaluable support for a proactive Data Protection Strategy, in the context of an effective Data Governance framework, with a goal of providing trusted information for Risk Management and assessment. Organisations that take the financial savings offered by Cloud and use them to tackle these issues holistically across the Enterprise (not on a silo'd departmental basis and not as distinct "Programmes" but as a broader **strategic** change in the organisation) will likely achieve greater benefits from those who seek simply to run "Business as Usual" in the Cloud.

This is the challenge and the balance that organisations need to strike.

Conclusion

I cannot under emphasise the simple message that, in the rush to the Cloud and the increased standardisation of applications accessed through or on a Cloud, it will inevitably be the case that only those organisations who shift their investment to the management and control of the information and processes at the heart of their businesses in strategic way who will achieve significant and sustainable competitive advantage.

On one hand, I agree wholeheartedly with the Data Protection Commissioner's advice that Data Controllers must remember that the Data Protection Acts are technology-neutral and the fundamental principles of the Data Protection Acts apply regardless of how or where information is being stored.

On the other, however, I must just as vocally echo Tom Redman (paraphrasing Nicholas Carr) when he points out that Information is possibly "the ultimate proprietary technology", the source of competitive advantage, particularly as the technology becomes ubiquitous and commoditised.

When it comes to moving Financial Services applications into the Cloud, it is critical that organisations remember that there is a balance that needs to be struck in the management of their information. Outsourcing the Technology stack into the Cloud simply means that the Business leadership need to step up to the mark and ensure that they have the most appropriate and capable structures and culture in place to manage Information as an Asset, regardless of where it is actually sitting.

Information is **not** the responsibility of the IT department. Drucker highlights that we have spent the past fifty to sixty years having the IT department doing the technology very well. The time is NOW for the **business** leadership of organisations to grasp hold of the challenge and opportunity that lies in properly managing the meaning and purpose of information in your organisation, assuring its quality, ensuring its trust, and making it the root of the unique value proposition of your organisation.

There is no instant pudding. However, if the opportunity is grasped the pudding will leave a lot more than a sweet taste in your mouth.

To paraphrase Clinton yet again: "**It is the Information Stupid**"

About Castlebridge Associates

Castlebridge Associates was founded in late 2009 with a simple mission – to help organisations manage their “Business Fuel” (Information) as well as they manage the other assets in their business.

We provide coaching, training, mentoring, and strategic consulting services around the planning and management of Information Quality, Data Governance, and Data Protection initiatives, particularly with regard to Regulatory Compliance and Risk Management impacts.

Our focus is on the Business aspects of Information Asset Management, and we are resellers for a number of software companies in the Information Quality Management space.

Castlebridge Associates is a participant in the ERIC Enterprise Platform Programme in the Institute of Technology Carlow, and has been successful in securing Enterprise Ireland support to help develop the business.

Our Founder, Daragh O Brien, is a noted expert in the field. He has written countless articles, blog posts, conference presentations and other material on a variety of topics in this field. He is a regular presenter on the International conference circuit and was a founder member of the International Association for Information & Data Quality. He is a Fellow of the Irish Computer Society.

To find out more about what Castlebridge Associates can do for you and your organisation, please contact us

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