

Trends in Online Knowledge Management



Overview and Introduction

This white paper was recently presented at the Institute of Information Management National Conference in May 2011. The paper reviews the challenges and risks associated with achieving information transparency in today's dynamic business and government environments. Specifically, this paper will address:

- Three Realities Shaping Knowledge Management;
- Benefits of Information Transparency;
- The Data Transparency Evolution;
- Costs of Not Being Transparent; and
- Ways to Mitigate Against Risks.

Three Realities Shaping Knowledge Management

The information management industry has reached an inflection point. Coming together in a perfect storm are three realities (as illustrated in Figure 1) that are creating both opportunities and challenges for organizations (businesses and government) who are seeking to facilitate information transparency so workers and communities can make evidence-based decisions. They are: the data deluge, technology innovation and the user's demand for 'on demand'.

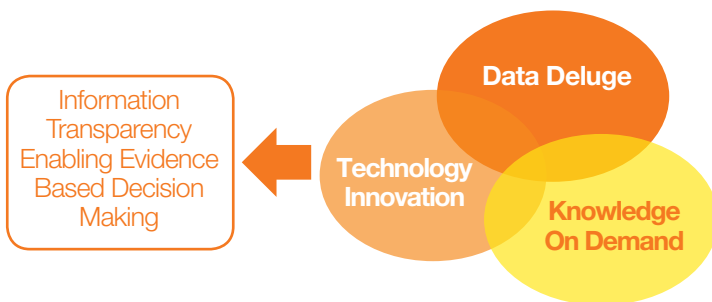


Figure 1: Three Realities Creating A Perfect Storm

At the same time, attitudes of end-users of information are also changing. In a multi-device, on-demand world, knowledge workers expect instant information gratification, and consumers (interacting with Government departments) are demanding the same. Ironically, it is a personal experience with technologies that are shaping corporate expectations as per Figure 2.



Figure 2: Personal Experience With Technology Shapes Corporate Expectations

The challenges for organizations are therefore, making information 'transparent' for smarter decision making and operational effectiveness, but at the same time, protecting the enterprise from risks in making data and information open to multiple end-users.

Reality 1: The Data Deluge

The world is being overwhelmed with digitized data – which is ultimately transforming business for the better, but in doing so, is presenting a host of challenges along the way. According to the "Digital Universe" study conducted by IDC in 2010, the volume of newly created and replicated digitised data between now and 2020 will grow to a startling 35 trillion gigabytes as per Figure 3 below.

Technically storing this amount of information is one challenge, but to filter the information and extract the valuable items from the noise, and then to ensure the value can be easily found, shared and used operationally is another.

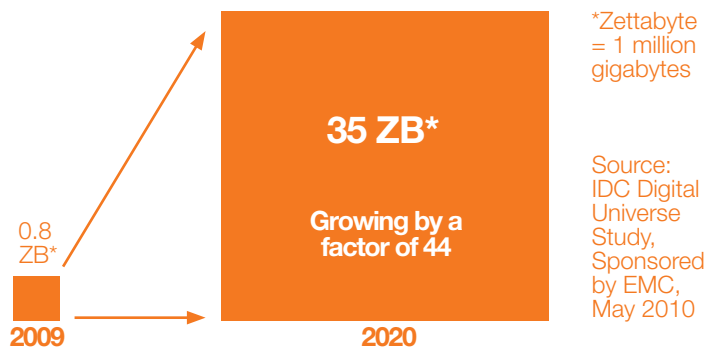


Figure 3: The Digital Universe 2009-2020

Reality 2: Technology Innovation

With the emergence of both social media and cloud computing technologies, SaaS information management and collaboration tools have entered the corporate technical spectrum. For SME's, this means cost effective access to enterprise grade functionality. For large organizations, now operational line managers are able to easily and quickly source solutions to transparently connect information, staff knowledge and live data with decision makers. Many of these solutions can seamlessly integrate with existing IT infrastructure.

Reality 3: Knowledge Workers Demand for 'On Demand'

From a user perspective – an attitudinal shift is occurring and organizations need to move quickly. As consumer technologies are becoming easier to use and more affordable, on a personal level, individuals are using a range of technologies, devices and media to access information and collaborate (socially) with friends.

This paradigm shift leads to more informed personal decisions. However, as these individuals show up at work, innovative technology is often deemed 'against policy' and there are corporate limits placed on the types of software programmes 'sanctioned' to share corporate knowledge and collaborate with colleagues. This creates inefficiency and employee frustration. The result is a growing impatience with the lack of usability and quality of information on internal systems.

According to the 2010 AIIIM study, 60% find it easier to locate "knowledge" on the Web than on internal systems, and 59% agree that social networking will make a dramatic change to business life in the next few years.

The Benefits of Information Transparency

When information is transparent – it doesn't just mean that it's more available, but rather it can be easily accessed – and then the results of the application can be fed back into the knowledge management system. The benefits of transparency of data are reflected in the knowledge to action cycle in this the following diagram.



Figure 4: The Knowledge To Action Cycle

To facilitate any benefits, and to unleash the potential of knowledge, information must be:

- **Web-based** and available on-demand;
- **Machine readable, exportable and not 'locked'** in specific applications so it can be integrated and mashed;
- **Integrated** with other forms of Intelligence, including external (third-party) data sources;
- **A combination** of professional knowledge with expert opinion and feedback;
- **Push technologies** to automatically alert users of the most accessed, and most relevant information;
- **Structured** with both universal and user-generated metadata; and
- **Secure** and transparently tagged with user audit trails.

The Transparency Data Evolution

Once data is made available, the quality of information and the ease of access are paramount for transparency initiatives to evolve from basic visibility to ensuring users ultimately engage and improve the knowledge base. While the technologies to enable individuals to contribute to corporate knowledge are critical, putting the control into the hands of many to 'own' corporate knowledge is the secret to engagement as per Figure 5.

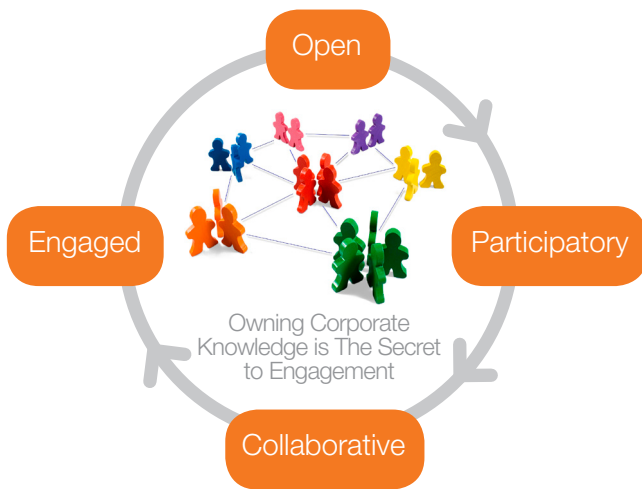


Figure 5: Elements To Owning Corporate Knowledge

Best Practices In Open Government & Corporate Information Transparency Initiatives

There are several best practice parameters information sharing portals should include, to ensure information can be readily used. Key features and functionality include:

- Providing access to raw data, downloadable in any format so the community or end user can complete their own analysis;
- Data that is summarized and explained reducing problems with interpretation or need for further support;
- Email Alerts which automatically pushes information out to end users;
- Single Sign On (i.e. Open ID) to increase user convenience by not having to remember multiple logins and only having to login in once;
- Capability for end users to ‘mash up’ data, using live data feeds from multiple sources creating integrated and dynamic information for end users;
- Multiple ways to access data through smart categorization and filtering techniques as well as linking related information;
- Listing ‘Most Popular’ and ‘My Favorites’ so users can determine where crowd gathering is occurring and follow suit if that is their desire;

Benefits of Information Transparency In The Corporate Environment

By allowing and encouraging an environment where information is made transparent there are clearly some key benefits including:

- Better evidence based decision making whereby strategy and operational formulators have easy access to critical market and business intelligence;
- Preservation of corporate knowledge and history so that information and knowledge is retained in a centralized repository and not in personal drives;
- Provides a useful training platform for staff inductions as all necessary information is relevant, up to date and in one place;
- Ultimately, making information transparent within an organization also sends important cultural cues of true openness, sharing and collaboration.

Introducing a user friendly knowledge or information management platform will be at a price but ultimately the real issue is how much will it cost by not having a solution in place!

The Costs Of Not Being Transparent

There have been several studies that quantify the productivity costs when corporate knowledge is not readily available. While this ‘hard cost’ reflects time wasted searching for documents, there are also indirect opportunity costs that rapidly compound. If employees struggle to find information easily and quickly, there will be less informed business decision making, as well as a worker perception of lack of transparency which undermines efforts to create a culture of openness and being progressive.

Looking at productivity costs when an integrated, dynamic and live knowledge management application is not in place, regardless of the size of the organization, thousands and with larger organisations, millions of dollars are potentially wasted in lost opportunity.

For example, assume you have 100 employees conducting a search for information on a daily basis. If each information search takes 10 minutes to complete (this assumes they find what they are looking for) and each employee is paid \$35 per hour then this search time in aggregate would amount to just under \$12,000 per month or \$128,000 annually. True, these are estimates, yet this exercise highlights the direct costs of information searches to an organisation. Refer Figure 6 for further detail.

Impact	Variables	No.
Assumptions	Staff	100
	No. of requests per day	1
	Time per request (mins)	10
	Gross Hrlly Salary (assuming \$70k salary)	\$35
Daily Impact	No. of requests per day	100
	Daily time spent (mins)	1,000
	Daily costs	\$583
Monthly Impact	No. of requests per month	2,000
	Monthly time spent (mins)	20,000
	Monthly costs	\$11,667
	Annual Impact	No. of requests per annum
	Annual time spent (mins)	220,000
	Annual costs	\$128,333

Figure 6: The Costs Of Not Being Transparent

Risks of Being Transparent

There are the obvious technical and infrastructure issues that need to be addressed to ensure knowledge stored online for on-demand use is secure and regularly backed up.

However, with the recent Wiki leaks scandal, there is a growing concern amongst corporations about data protection and intelligence leakage occurring while trying to encourage open and transparent access and dissemination of data.

The main concern being, by opening your sensitive data, disgruntled workers could easily release ‘inside information’ to competitors and the media. Though no system is completely foolproof, there are several measures that can be taken to prevent malicious data leakage.

There are several measures that can be taken to prevent malicious data leakage:

- **Usage Reporting Deterrence:** Knowledge management systems should have comprehensive audit trails that are obvious with end users. On one level, usage reporting is a great way to measure ROI of data and portal usage. The secondary benefit is that if people are reminded that usage is monitored, they are less likely to act maliciously. Usage monitoring also alerts administrators to unusual usage patterns. An example of a usage report is provided in Figure 7 as follows.



Figure 7: Examples of Usage Reports

- **Forced Terms and Conditions:** As a condition of entry into the knowledge management system, users can be forced to accept access terms and conditions reminding them of their responsibilities and obligations.
- **Download Approvals for Sensitive Information:** While in theory everyone should be able to access ‘everything’ – this isn’t practical with highly sensitive information. As such, the ability to “list” a sensitive document or file so people know it is available – but cannot download it unless they receive online approval is quite a useful feature. Such an online approval system is also enhanced when it is complemented with an audit trail and complete related approval history. An example of a Download Approval report is provided in Figure 8 below.

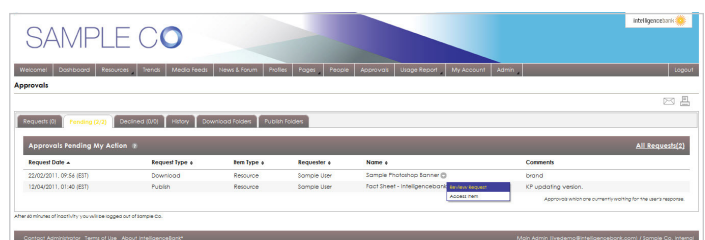


Figure 8: Example of Download Approval Report

- **Steganography – “Security through Obscurity”:** For highly sensitive information, some knowledge management platforms apply steganographic techniques when individuals download a document or file. For each individual download, a slight and unrecognizable variation to the document or media file is applied, which is linked to the individual. So if a sensitive piece of information ends up in the media or in competitive hands, the culprit can quickly and easily be identified.

Final Analysis

In summary, as the technology landscape changes, new opportunities in knowledge management arise. However, for knowledge management platforms to succeed, ease of use is critical for adoption, and the data stored must be accessible, structured and have the ability to be pushed and integrated.

About IntelligenceBank®

IntelligenceBank Pty Ltd is an online knowledge management firm, helping organizations optimize the value of their corporate intelligence, performance data and customer insights.

To do this, the IntelligenceBank® SaaS portal provides document management, online collaboration and business intelligence tools which dynamically integrate with live data feeds from external data sets – all within a single, easy to use online platform. The company also offers knowledge management consulting and implementation services.

IntelligenceBank® uniquely solves the paradoxical problem many organisations face – having ‘information overload’ while at the same time, people not having current and relevant information to do their jobs well.

IntelligenceBank is based in Melbourne, Australia with offices in New York City.