Information **Chaos** V Information **Opportunity**

THE information challenge for the next decade

34 immediate actions to conquer information chaos

By John Mancini, AIIM President

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The Challenge of Information Chaos

34 immediate actions to meet the business challenge of the century

The game has changed. Information is the world's new currency. Read just about any business publication and you will quickly conclude that how an organization manages its **information assets** is now just as fundamental a source of competitive differentiation as how it manages its physical assets, its human assets, and its financial assets.

Everything, every process, is being re-imagined. According to Gartner senior vice president Peter Sondergaard: "Every budget is an IT budget. Every company is an IT company. Every business leader is becoming a digital leader. Every person is becoming a technology company. We are entering the era of the Digital Industrial Economy."

You probably were expecting a "but."

Here it comes.

Information is everywhere and it is poorly (if at all) managed. Amidst all of this opportunity, organizations are drowning in a sea of content and information. File servers are overflowing and multiplying, making it difficult for anyone to find anything. Information is leaking out of the organization at every turn. If information silos in our existing solutions weren't bad enough, we now have our content popping up in new silos in cloud applications that are beyond the reach of our conventional information governance frameworks (and that's even assuming our employees are using a company-approved cloud provider and not their own).

While social technologies by themselves will not disrupt rigid hierarchies (organizational culture, after all, is the trump card), they can be a rapid accelerator for organizations committed to becoming flatter and more agile.

Content and information is coming at us at breakneck speed in an ever-changing array of formats and as Frank Baum might say if he were writing the Wizard of Oz today, "on PCs and laptops and tablets and phones, oh my!" Organizations are struggling with the cost of legacy Systems of Record and fearful of the loss of control that's represented by new Systems of Engagement.

Information Chaos reigns supreme.

What Is Information Chaos?

Information (documents, emails, videos, podcasts, voicemails, texts, tweets, Facebook posts, LinkedIn conversations, customer analytics, etc.) surrounds us. We rely on this information for entertainment and to do our jobs. Access by employees to information and manipulation by companies of their customer information to serve customer needs is THE competitive advantage today.

Better information equals better results.

The problem? That information is everywhere and not always managed effectively. By managed we mean channeled towards some business outcome. We use the phrase **"Information Chaos"** to describe this ongoing and accelerating state of massive information disruption.

This paper outlines the three tectonic trends that are shaping the world (Consumerization, Cloud and Mobile, and the Changing Nature of Work) and the four questions surrounding information INSIGHT, TRANSFORMATION, ENGAGEMENT, and RISK that must be answered in the context of these trends. We conclude with a proposal for 34 actions companies can take to begin channeling their information into true business advantage.

It's going to be a wild ride. Join us.

In the face of this massive change, CIOs are increasingly under siege. There clearly is no more vulnerable place to be than CIO at a major organization – one newly appointed CIO told me "CIO" ought to stand for "Career Is Over." Per the Harvard Business Review, The Economist, Corporate Executive Board, Intel, TNS Global, here are some perspectives of CEOs about their CIOs:

- Almost half of CEOs feel IT should be a commodity service purchased as needed.

- Only a quarter of executives feel their CIO is performing above his or her peers.

- Almost half of CEOs rate their CIOs negatively in terms of understanding the business and understanding how to apply IT in new ways to the business.

- 57% of executives expect their IT function to change significantly over the next three years, and 12% predict a complete overhaul of IT.

On the one hand, in the Digital Industrial Economy, Information is the world's new currency. On the other, Information Chaos reigns supreme.
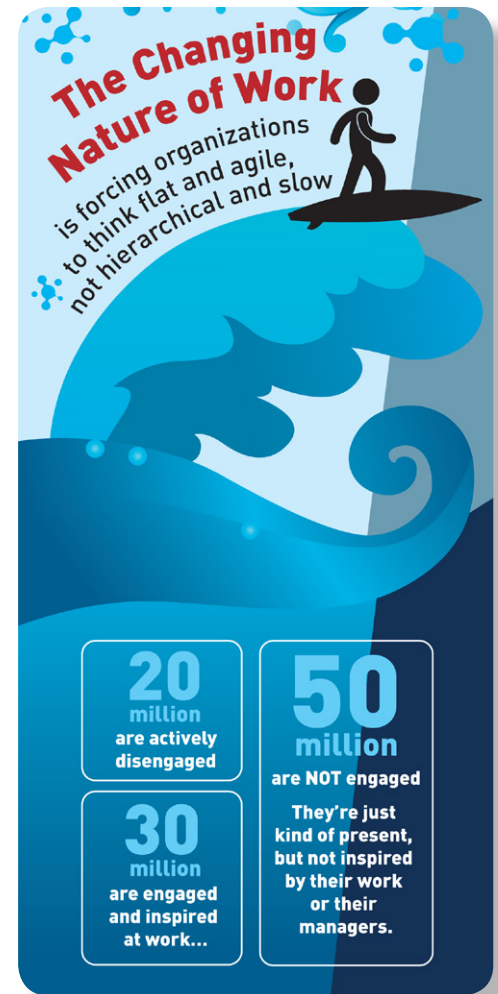
Welcome to the new game.

How Did We Get Here? The Impact of the Three Disrupters

Three major disruptors are simultaneously colliding. This overlapping collision is transforming the world.

1. *Consumerization: transforming what users expect from applications.*

2. *Mobile and Cloud: leading to an expectation of anywhere, anytime access.*

3. *Changing Nature of Work: forcing organizations to think flat and agile, not hierarchical and slow.*

Managing the Information Chaos created by the volume, variety, and velocity of information and content from these disrupters is THE business challenge of the next decade (at least). Here's why each of these is so disruptive to how we manage information.

The Changing Nature of Work is forcing organizations to think flat and agile, not hierarchical and slow

20 million are actively disengaged

30 million are engaged and inspired at work...

50 million are NOT engaged

They're just kind of present, but not inspired by their work or their managers.

Consumerization: transforming what users expect from applications

We are in an era of massive decentralization of technology resources and a massive increase in the talent available to use those resources. In *Digital Disruption: Unleashing the Next Wave of Innovation*, Forrester's James McQuivey looks at the four major factors necessary for massive disruption:

1. *"A computer? Check.*
2. *An Internet connection? Check.*
3. *A programming language and SDK? Check.*
4. *A friction-free platform for distributing and making money…? Check."*

Find employees who want to be great at what they do.

Then let them.

There are more sources of innovation available in more places in the world than ever before, and the era in which organizations could exclusively depend on their internal IT resources as a source of competitive advantage is at an end.

What this means is that how we look at applications in the enterprise, how we buy enterprise technology, and how we deploy enterprise systems are all changing simultaneously. There are more sources of innovation available in more places in the world than ever before, and the era in which organizations could exclusively depend on their internal IT resources as a source of competitive advantage is at an end.

It wasn't that long ago that complex enterprise systems were the exclusive domain of a limited number of vendors who delivered complex and expensive solutions to a relatively limited number of primarily large customers. That's all changed. SaaS companies like Salesforce.com, Workday.com, Marketo.com, and Basecamp.com have totally revolutionized the market for enterprise-scale solutions.

The assumption that many business people now have is that solutions can be delivered as seamlessly and as simply as consumer-based solutions are delivered in our private lives. This isn't fair – and it certainly isn't this simple – but that is the assumption. As organizations increasingly confront information management challenges that begin with paper and end somewhere in the cloud, the potential for increasing Information Chaos intensifies.

Mobile and Cloud: leading to an expectation of anywhere, anytime access

Cloud and Mobile are the two great technology steroids. They change everything. They change our expectations of where we can work, when we can work, with whom we can work, and on what devices we can work.

According to Portio Research (March 2013), 1.2 billion people worldwide were using mobile apps at the end of 2012. This is forecast to grow at a 29.8% each year, to reach 4.4 billion users by the end of 2017. Much of this growth will come from Asia, which will account for almost half of app users in 2017.

There has also been a revolution in the platforms we use to host content and processes. According to ABI Research (March 2013), 56 billion smartphone apps will be downloaded in 2013. By operating system: 58% will be Google Android; 33% Apple iOS; 4% Microsoft Windows Phone; 3% BlackBerry.

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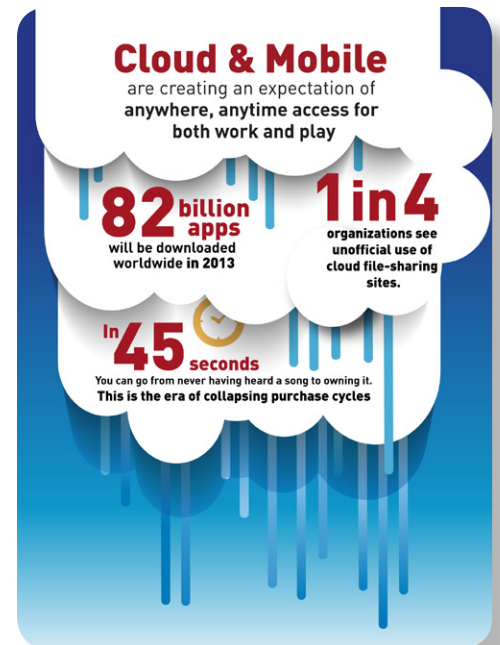
This can't help but influence how we ultimately think about Enterprise applications. Gartner (April 2013) predicts that by 2017, 25% of enterprises will have an enterprise app store. They also note, "Apps downloaded from public app stores for mobile devices disrupt IT security, application and procurement strategies. Bring your own application (BYOA) has become as important as bring your own device (BYOD) in the development of a comprehensive mobile strategy."

A new generation of knowledge workers brings radically different perceptions of how individual employees connect with enterprise systems. Per the CISCO 2012 Connected World Technology Report, "For the 'always-connected' generation, a single mobile device will do, whether it is a personal device or a company-owned device, which creates challenges for the IT managers who must safeguard company assets and information." Our own research reveals that two out of five workers under age 30 say their company's policy forbids them to use company-issued devices for non-work activities; however nearly three out of four (71%) say they don't always obey those policies. Organizational policy has not yet caught up operational reality. In 50% of organizations, employees are encouraged to use social tools in relation to their job, but in half of these – 26% – no guidelines are given for how they should accomplish this. (AIIM, Social in the Flow).

Cloud technologies work in a constantly reinforcing loop with mobile technologies to disrupt the way we traditionally think about information management.

There is a tendency to think about the Cloud purely in terms of cost savings. However, as *Forbes'* Joe McKendrick points out, "IT cost savings and speedier deployment are but a brief prelude to the main story. It's only the first 10%. The remaining 90% is what happens to the business itself. It's the transformation,

Cloud & Mobile are creating an expectation of **anywhere, anytime access for both work and play**

82 billion apps will be downloaded worldwide in 2013

1 in 4 organizations see unofficial use of cloud file-sharing sites.

In **45** seconds You can go from never having heard a song to owning it. This is the era of collapsing purchase cycles

enabling it to react to market opportunities, communicate and collaborate internally and externally, design and test new products, and become more agile. This 'second chapter' to cloud will produce far greater, but far more intangible, benefits."

> *By combining content and processes in new and unexpected ways, organizations can dramatically mitigate risk; reduce process costs; better engage with customers, employees, and partners; and transform information into insight.*

According to Geoffrey Moore, "SaaS [software-as-a-service] frees us all from the tyranny of the product release business model. Yes, with SaaS there is some level of ongoing disruption that you must cope with both within IT and with your user base, but please, do not even mention that in the same breath with the kind of burden the product release model imposes. Instead, thank your lucky stars you are getting innovation that you are paying for when you are paying for it. It is current, and so are you. This is huge!"

The challenge, of course, in all of this is that mobile and cloud technologies increase the volume, variety, and velocity of information in our organizations – and heighten Information Chaos in the short term.

Changing Nature of Work: forcing organizations to think flat and agile, not hierarchical and slow

According to the BusinessDictionary.com, a flat organization is one "in which most middle-management levels and their functions have been eliminated, thus bringing the top management in direct contact with the frontline salespeople, shop floor employees, and customers."

The flattening of hierarchies is accelerated by Consumerization and cloud and mobile technologies. In *Throwing Sheep in the Boardroom: How Online Social Networking Will Transform Your Life,* Work and World, Matthew Fraser and Soumitra Dutta, two professors at INSEAD, talk about how corporations are evolving from a traditional pyramid set-up to a much flatter network one. "Network organizations are generally characterized by informal trust networks," the authors write. Their employees are "intrinsically motivated based on personal satisfaction…The advantage of network organizations is their adaptiveness and capacity to innovate when faced with change and uncertainty. . . . Network organizations, needless to say, are the habitat of Web 2.0 social media." (quoted from *Forbes,* 2/2/2011).

Per Jason Fried, co-founder of 37signals, a Chicago-based software firm, and co-author of the book Rework: "We're not big fans of what I consider 'vertical' ambition – that is, the usual career-path trajectory, in which a newbie moves up the ladder from associate to manager to vice president over a number of years of service. On the other hand, we revere 'horizontal' ambition – in which employees who love what they do are encouraged to dig deeper, expand their knowledge, and become better at it. We always try to hire people who yearn to be master craftspeople, that is, designers who want to be great designers, not managers of designers; developers who want to master the art of programming, not management."

While social technologies by themselves will not disrupt rigid hierarchies (organizational culture, after all, is the trump card), they can be a rapid accelerator for organizations committed to becoming flatter and more agile. This raises levels of Information Chaos as older and more rigid information workflows are disrupted, without a clear picture of what will take their place.

34 Actions You Can Take to Get Control of Information Chaos

Managing the volume, variety, and velocity of information and content from these disrupters – as both a valuable business asset AND a source of cost and risk – is THE business challenge of the next decade. By combining content and processes in new and unexpected ways, organizations can dramatically mitigate risk; reduce process costs; better engage with customers, employees, and partners; and transform information into insight.

The rules are changing.

The intersection of content and process over the past twenty years was best summarized by this continuum:

Capture -> Manage -> Store -> Deliver -> Preserve.

In this world, much of the following was true...

- The focus of IT was on cost reduction.
- Senior executives were largely oblivious to technology, and IT was a cost to be minimized.
- IT job security was found in system complexity.
- As mobile and social entered the world of systems of record, initially just their sheer existence was a source of competitive differentiation.
- System implementations were long and paid for by capital expenditures (CAPEX).
- Technical skills in and of themselves had value.

As a result of the disruptive power of Consumerization, Cloud and Mobile, and the Changing Nature of Work, there is now a massive migration in progress.
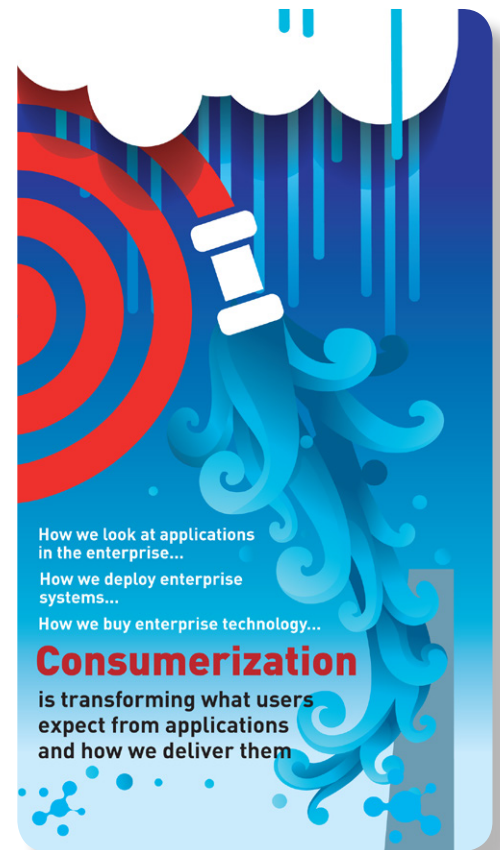
The intersection of content and process in the world we are moving into is best summarized by this new continuum:

Capture -> Analyze -> Engage -> Automate -> Govern.

In this new world, much of the following will be true:

- The central mission of IT is value creation.

- Senior executives are now technology aware. (Note that this is different from technologically competent, but that's another story.)

- The coin of the realm is now simplicity rather than complexity.

- We have quickly moved into an environment in which mobile and social are becoming table stakes rather than differentiators in an enterprise IT strategy.

- The desired purchase mode is by the drink rather than by the gallon – operating expenses (OPEX) instead of CAPEX. Oh, and also don't talk to me about implementation cycles longer than a quarter.

- The really desirable technology players are those with domain/technical skills, but in a business context. Technology staff who can think more like engineers ("How can I fit the pieces together for systems that we didn't necessarily invent here?") have increasing value.

As we shift our frame of reference to the world that is ahead, four major questions emerge for information professionals and the organizations they serve:

1. How do we manage the RISK of growing volumes of content?

2. How do we TRANSFORM our content-intensive business processes?

3. How do we use content to better ENGAGE customers, employees, and partners?

4. How do we get any business INSIGHT out of all the information we are gathering?

Managing the volume, variety, and velocity of information and content from these disrupters – as both a valuable business asset AND a source of cost and risk – is THE business challenge of the next decade.

Action Plan: RISK

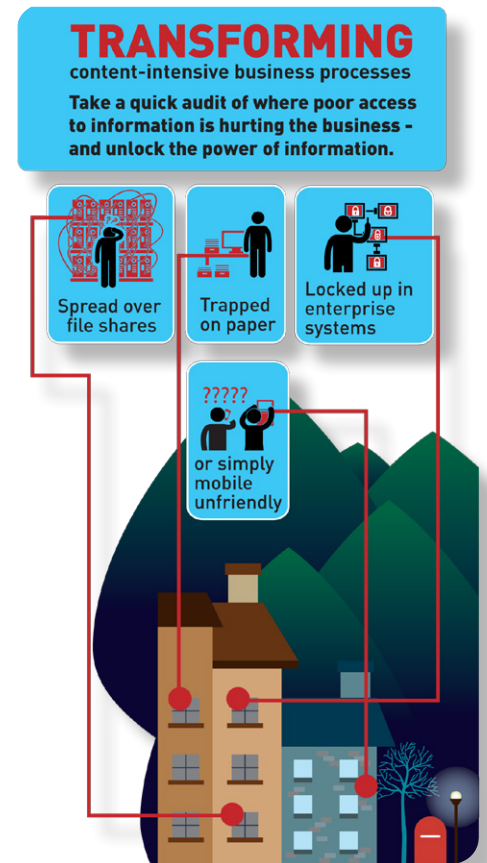How do we manage the RISK of growing volumes of content?

1. Look to your existing policies and seek to align your electronic records practices with those that you already have for physical records.

2. If you do not have an up-to-date Information Governance Policy that is supported across the enterprise, kick-off a project to create one. Do not consider this to be something for the records management or compliance departments: look to set up an information governance committee with representation from all areas of the business.

3. If you already have an Information Governance Policy but it is not being enforced, determine ways to monitor compliance. Look particularly at the implementation of deletion for electronic records beyond their retention period, and see if this can be automated.

4. Ensure that new staff and existing staff are fully trained on compliance with the policy.

5. Your Information Governance Policy needs to evolve over time to include new media and new content types such as social content.

6. Raise the issue of the effect of managed retention on storage volumes. Ask the question, "What if we continue to do nothing?" Consider using automated agents to de-duplicate content and to reallocate metadata. This will assist with retention enforcement.

7. Look for automated classification capabilities in your existing systems or future purchases. These can make a big difference to user acceptability and to the accuracy of indexing.

8. In particular, consider using auto-classification to deal with your email archiving. Ensure you have clear policies in place, preferably ones that do not rely on individual actions.

9. Don't wait until you need an ediscovery process – you may be given a short time limit. Have processes and mechanisms in place.

Action Plan: TRANSFORM

How do we TRANSFORM our content-intensive business processes?

10. Question long-held assumptions that paper is essential in your business for legal compliance. Research others in your industry. Consult your auditors.

11. Highlight the role that paper-free processes can play in your key business improvement initiatives.

12. Audit those existing processes that use scanning and electronic workflows. Ensure that they are taking full advantage of the possibilities of OCR, data capture, and integration with core enterprise processes.

13. Take a quick audit of where poor access to information is hurting the business - trapped on paper, spread over file shares, locked up in enterprise systems, or simply mobile-unfriendly. Use this to energize your content management project. The more content you can converge into a single, searchable, mobile-accessible system, the fewer other places you need to go to solve the problem.

14. Take stock of your current enterprise content management (ECM) and document management (DM) systems and consider migrating content and consolidating. Modern auto-classification and migration products can take much of the pain out of selecting which content to recover from legacy systems, re-aligning the metadata on the way.

15. Physical signatures and legal admissibility are given as the biggest paper-free concerns amongst staff, with Legal Counsel, and to an extent Finance, being most resistant.

16. A great place to start is with these processes: HR, accounts payable, and customer correspondence.

17. Consider whether any of your current ECM systems are truly fit for purpose. If they are limited in core functional areas OR are not well matched to your specific industry requirements OR need massive customization, then consider consolidating around a new, better-suited system.

18. Look to integrate the ECM system with your other key enterprise or line-of-business systems to provide a single sign-on access point, centralized records management, and process integration.

19. If you are unsure of your expertise, or need some external influence to kick-start paper-free processes, consult a document process outsourcer and tap into their experience in your industry.
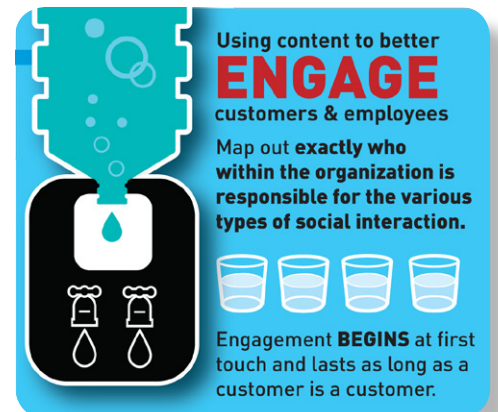

TRANSFORMING content-intensive business processes

Take a quick audit of where poor access to information is hurting the business - and unlock the power of information.

Spread over file shares

Trapped on paper

Locked up in enterprise systems

????? or simply mobile unfriendly

Action Plan: ENGAGE

How do we use content to better ENGAGE customers, employees, and partners?

20.   Define how social is relevant to your business. Consider internal and external social channels, and do not confine your thoughts to marketing or corporate communications.

21.   Map out exactly who within the organization is responsible for the various types of social interaction.

22.   Communicate with the Records Management team to categorize which social content should be stored – then create automated mechanisms to perform the task of taking that social content and turning it into suitable enterprise records.

23.   The most popular forms of internal social applications is staff communication; with 51% planning to implement a company noticeboard or forum within the next 12 months. 37% of respondents see knowledge sharing as a key part of that process. (AIIM, Social in the Flow)

24.   Whatever the business use, ensure that you create guidelines and policies that explain to staff and management:

   a.   Why the business has chosen to use social for this purpose.

   b.   How the user can contribute to this channel.

   c.   What forms of contribution are expected and acceptable.

   d.   The ramifications for failing to follow these guidelines. Ensure that the HR department is involved in the creation of this section.

25.   Explore how the deeper integration of social into your enterprise processes can be of benefit and analyze each process from the perspectives of:

   a.   Potential benefit of social integration.

   b.   The extent of the social community you wish to include.

   c.   Difficulty of integration – both technically and culturally.

   d.   Avoiding point solutions that cannot be widened to include other applications.

   e.   Cost of integration and time to deploy.

Using content to better ENGAGE customers & employees

Map out **exactly who within the organization is responsible for the various types of social interaction.**

Engagement **BEGINS** at first touch and lasts as long as a customer is a customer.

Action Plan: INSIGHT

How do we get business INSIGHT out of all the information we are gathering?

26. Ignoring the "how" for now, imagine what piece of information, business intelligence, customer understanding, or incident prediction would transform your business. Does the data exist that you would need to analyze in order to find this key parameter? Where is it?

27. If it is in-house, how accessible is it? Is it in a sufficiently clean and managed state? Does it involve connecting more than one dataset together?

28. If it exists outside of the business, how readily available is it? Would you need to subscribe, or simply capture a publically available data-stream or social feed?

29. If your content data is dirty, duplicated, or inconsistently tagged, consider using a data cleaning or migration package to apply better policy rules.

30. Once you have the content data under management, look at automated extraction of identifiers that you can use as keys to connect with unstructured or transactional datasets.

31. Looking at the volume of the data you have identified, or the speed at which you need to analyze it, or the complexity of textual analysis that you require, do you need a stronger toolset than you already have?

32. Treat external (or internal) social media monitoring as a special case, and discuss it with your PR team.

33. How will you acquire the skills needed to carry out the project? Using external consultants will get you started but may not be cost-effective in the long term. Recruiting new staff or training existing staff may work better, but look for "data entrepreneurs" who can combine technical skills with business acumen.

34. Consider how best to source suitable analytics tools. In-house development around open source products could leave you reliant on expert individuals. Purchase of a best-of-breed tool for a single requirement may be the simplest way to solve your problem but will not help others in the business with their needs. A productized analytics toolset may be the best answer, particularly if it is well integrated with your existing content and search systems.

Getting business INSIGHT out of **ALL** the information you are gathering?

If your content data is: dirty, duplicated or inconsistently tagged, **consider using a data cleaning or migration package to apply better policy rules.**

Ready to move from Information Chaos to Information Opportunity?

Where Do You Start?

AIIM Training Will Improve Your Professional Knowledge.

- **Enterprise Content Management**
  Improve customer and staff engagement, ensure compliance, and automate business processes.

- **Business Process Management**
  Map, design, and automate operational processes for your organization using a combination of strategies, change management, and technologies.

- **Taxonomy & Metadata**
  Optimize navigation, findability, and information discovery through content classification.

- **Information Governance**
  Create an information accountability framework that reduces costs, manages risk, and optimizes value.

- **Managing Records & eDiscovery with SharePoint 2013**
  Manage records, ensure compliance, and prepare for civil litigation requests.

- **Electronic Records Management**
  Know what to keep and what to discard as volume, variety, and velocity of digital information intensifies.

Start now with one of these six courses.

About John Mancini

John F. Mancini joined AIIM in May 1996 as President. Prior to joining AIIM, Mancini spent 11 years in various positions at the American Electronics Association in Washington, D.C., most recently as Executive Vice President and Chief Operating Officer. He has also served as Executive Director of the Foundation for Public Affairs. He holds a bachelor's degree from the College of William and Mary and a master's degree from Princeton University.

Mancini is a frequent speaker at meetings and conferences throughout the world on various topics focused on trends in the technology marketplace and the evolving and expanding role of information professionals in helping organizations build effective information management strategies.

Mancini blogs under the title "Digital Landfill", is an active participant on multiple social networks (usually as "jmancini77"), and of course, this paper.

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John Mancini,
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About AIIM

AIIM (www.aiim.org) has been an advocate and supporter of information professionals for nearly 70 years. The association's mission is to ensure that information professionals understand the current and future challenges of managing information assets in an era of social, mobile, cloud, and big data. Founded in 1943, AIIM builds on a strong heritage of research and member service. Today, AIIM is a global, non-profit organization that provides independent research, education, and certification programs to information professionals. AIIM represents the entire information management community, with programs and content for practitioners, technology suppliers, integrators, and consultants.

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