



# Digital workplaces – an implementation checklist

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Intranet Focus Ltd  
12 Allcard Close  
Horsham RH12 5AJ, UK  
+44 1403 267030  
[www.intranetfocus.com](http://www.intranetfocus.com)

## Digital workplaces – an implementation checklist

There has been an increasing amount of interest in the evolution of intranets into digital workplaces. Towards the end of 2011 Infocentric Research and NetStrategy/JMC published reports that set out possible frameworks for digital workplaces, and the Digital Workplace Forum was launched by the Intranet Benchmarking Forum. These reports provide the vision, but so far little attention has been paid to issues which might affect the rate of development of digital workplaces.

The start date for the concept of a digital workplace is often set at 2000, when the term was used in the launch of eRoom Technologies Inc., later to be acquired by EMC. Arguably the initial vision for a digital workplace came from the development of Enterprise Information Portal (EIP) technology in the late 1990s. A report from Merrill Lynch in 1999 suggested that the EIP market would be worth \$14B by 2002 but by that year most of the venture capital funded companies had gone out of business. The fundamental problem was that integrating information was much more difficult than integrating technology. Portal technology is still an important integration platform but is based around the JSR168 portlet specification that was first published in 2003.

In many respects intranet and portal technology has not changed much over the last decade. Intranet Focus Ltd worked on a number of EIP projects in the period from 2000 to 2005 and in our view the lessons we learned are as relevant to digital workplaces as they were to EIPs.

The rapid development of mobile technologies, especially tablet adoption by managers, is likely to stimulate interest in digital workplaces over the next couple of years, and NetStrategy/JMC has suggested My Apps, Smart Systems, People-Centric and Super-Search as potential development scenarios. Our concern is that the vision is not fulfilled because of a lack of attention to some of the underlying technology, information and governance issues.

This report sets out twenty of these issues. These should not be seen as ‘barriers’, just issues that need to be identified, assessed and actioned so that the speed of digital workplace development is accelerated. Some of these issues may not be relevant to every company, and the implications of others may be fully understood. It is issues that fall into neither of these two categories that deserve attention, and is where Intranet Focus Ltd will be able to offer some solutions.

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### Research Notes

*This is the second in a series of Research Notes that Intranet Focus Ltd are publishing in 2012. For further information see <http://www.intranetfocus.com/resources/downloads>*

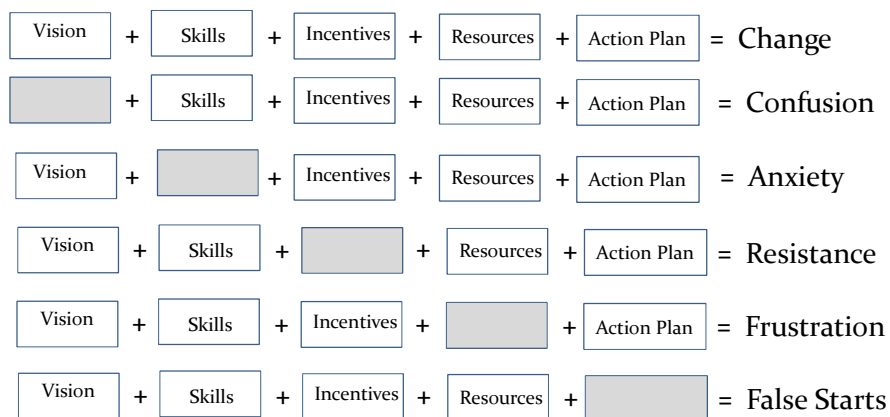
## The challenge of change

There has been an increasing amount of interest over the last year about digital workplaces, largely initiated by the Digital Workplace Maturity Model developed by the Intranet Benchmarking Forum (IBF) in 2010. The IBF have now launched the Digital Workplace Forum, setting out this vision of the digital workplace.

“Organizations have built physical workplaces; we know them and understand them. We now need to design and shape the Digital Workplaces where increasingly staff and contractors work. These are effectively work/technology environments that operate irrespective of location and (in the future) device. If you are working from a cafe on a smartphone, accessing IM, sales data or online expenses forms, you are in the DW. Sometimes you will be in the intranet, sometimes not. But always you are in the Digital Workplace.”

Another view of digital workplaces has been developed by NetStrategy/JMC, which uses the term to convey the sense of an eco-system of enterprise platforms and services that enable people to work, collaborate, communicate, develop services and products, and better serve customers. According to the NetStrategy/JMC Digital Workplace Trends Report 2012 companies are already working on the integration of a number of corporate applications around an intranet as a precursor to a digital workplace, and are also establishing digital governance teams. 13% of respondents have a unified digital landscape in which all tools are delivered through one platform. A greater number, though still only 21%, have a unified entry point with global navigation and consistent design.

If the vision of a digital workplace is to come to fruition then there is going to be some significant changes in working processes and working practices. We use the diagram below to help clients understand the elements of a successful change management project.



Adapted from T. Knoster, R. Villa, and J. Thousand. "A Framework for Thinking About Systems Change." In R. Villa and J. Thousand, eds. *Restructuring for Caring and Effective Education: Piecing the Puzzle Together*. Baltimore: Paul H. Brookes Publishing Co., 2000

In the case of a digital workplace there is broad consensus on the vision, but little thought seems to have been given to the skills that will be needed, such as data scientists to manage the petabytes of data that companies are acquiring. Achieving change always needs incentives for employees to adapt to new ways of working that might not be of immediate benefit to themselves, and there is always a tendency to underestimate the resources that will be required, especially in a period of economic pain.

Then comes the Action Plan, and the primary objective of this Research Note is to help companies identify elements of the Action Plan that may not yet have been given specific attention.

We have not added a 'score' into this checklist. Some of the issues may not be relevant to your company. So quickly go through and strike through the sections concerned. You may be left with perhaps ten issues. If you have plans to address these will this guarantee that your digital workplace will be a success? No. But if you do not have plans then the chances of your digital workplace being a success may very low indeed. The questions are listed out in a table on p14.

### **1997– 2012 Learning the lessons of history**

The concept of the digital workplace is usually attributed to Jeffery Bier, who founded Instinctive Technologies in 1996. This company capitalised on the work that Bier had done at Lotus Corporation on collaborative applications, and in 2000 was relaunched as eRoom Technologies.

A component of the branding was the concept of a digital workplace. Bier set out five criteria for a digital workplace which still hold good today.

- It must be **comprehensible** and have minimal learning curve. If people have to learn a new tool, they will not use it, especially those people outside the firewall. The digital workplace needs to be as simple and obvious as e-mail or instant messaging.
- It has to be **contagious**. The digital workplace must have clear benefits to all parties involved, to both distributed workers and the different enterprises interacting in these new workplaces. The workplace also has to be a trusted place, thus secure, both for the individual and the companies involved. People have to want to use it.
- It must be **cross-enterprise**. The digital workplace must span company boundaries and geographic boundaries. It also must operate outside the corporate firewall with an organization's customers, suppliers and other partners, and require very little IT involvement, or it will not gain acceptance.
- The workplace has to be **complete**. All communication, document-sharing, issues-tracking, and decision-making needs to be captured and stored in one place.
- The digital workplace must be **connected**. If not, it will not gain acceptance.

Of great importance in understanding the value and challenges of digital workplaces is the rise (in 1997) and disappearance (by 2005) of Enterprise Information Portals. Merrill Lynch published a seminal report on the market in November 1998 which stated

“We believe the power of the Enterprise Portal lies in the fact that from a single gateway, users will be able to find, extract and analyze all of this information. Furthermore, we also believe that these new EIP systems will shift the focus away from the actual content of the information to the context in which the end user consumes the information, whether the end user is an employee, customer or supplier. In this way information consumers will finally be able to benefit from data and information by accessing, mining and transferring it into disparate applications where it can be used again.”

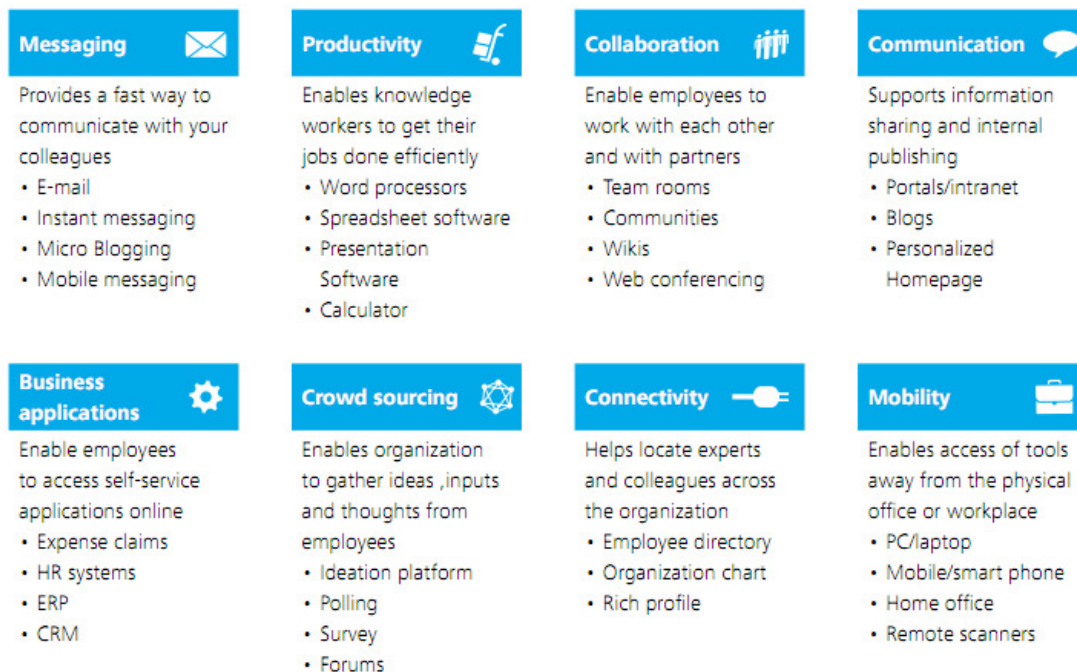
The forecasts made by Merrill Lynch and other analysts were not achieved and most of the EIP companies vanished though Plumtree survived until 2005. Portal technology is still an important

integration platform, but over the last decade the vision of an Enterprise Information Portal seems to have been lost. Intranet Focus Ltd was involved in a number of portal projects from 2000 through to 2006, and the experience gained from these projects is incorporated into this Research Note as many of the reasons for the failure of EIP projects need to be taken into consideration when developing digital workplaces.

In 2005 Forrester Research Inc. started to work on the evolution of an ‘Information Workplace’, and the Gartner Group has developed an “Online Workplace Framework”. These two companies make their reports only available to their clients.

## The scope of a digital workplace

The range of applications, services and information that needs to be integrated is quite substantial. The diagram below, from the report The Digital Workplace – Think, Share, Do published by Deloitte in 2011, is a useful framework to use as the basis for considering the core elements of a digital workplace.



© Deloitte 2011 from The Digital Workplace – Think, Share, Do <http://www.deloitte.com>

There are many similar frameworks, but we like the short scope notes for each of the eight sections.

The checklist that follows has sections on Information Technology, and Governance. Within each section the issues are in alphabetical order so that there is no implied prioritisation.

## Information

### Access to external information

Organisations also do not exist in a silo of internal information. External information has to be selected and integrated into decision making processes. There are some technology issues in this integration but often a bigger challenge is computing the licence fees for service provision. Often these are based on the number of users, or the number of items viewed/used. In a digital workplace it will be necessary to be able to provide the analytics that information vendors need to arrive at a fair contract price, and it is quite often the case that access is limited to a defined group of users, adding to the challenges of information security management.

**Q. Has an audit been carried out to identify external sources of information, both free and on subscription, and the potential impact of license terms on the integration of these sources into a digital workplace?**

### Information life-cycle management

It is generally accepted that the volume of information in an organisation is increasing rapidly. Research from the McKinsey Global Institute indicates that companies have hundreds of terabytes of data and information. The rate of growth comes not just from new information being added each hour but also because no information is ever discarded. This is on the assumption that storage is cheap. This is not the true cost of not discarding data and information because when employees search for information they find a significant amount of older information which may or may not be relevant to them, and yet which (for reasons associated with search technology) may be placed high in the list of relevant results. An information life-cycle approach is essential in being able to ensure that the information that is stored and made available is of the highest possible quality.

**Q. Does your organisation have a life-cycle approach to the creation, use, storage and disposal of information?**

### Information security

IT departments are very concerned about maintaining the highest possible level of information security against external threats to the organisation. Over the last year there have been many reports of the web sites of high-profile organisations being disrupted by denial-of-service attacks. The move towards a “bring-your-own-device” mobile policy is giving IT departments significant cause for concern. The foreword to the Cisco 2011 Annual Security Report summarises the future in this way

“Ten years ago, employees were assigned laptops and told not to lose them. They were given logins to the company network, and told not to tell anyone their password. End of security training. Today, your “millennial” employees—the people you want to hire because of the fresh ideas and energy they can bring to your business—show up to their first day on the job toting their own phones, tablets, and laptops, and expect to integrate them into their work life. They also expect others—namely, IT staff and chief information officers—to figure out how they can use their treasured devices, anywhere and anytime they want to, without putting the enterprise at risk. Security, they believe, is not really their

responsibility: They want to work hard, from home or the office, using social networks and cloud applications to get the job done, while someone else builds seamless security into their interactions.”

**Q. Has your organisation started work to identify how to provide an appropriate level of security to a digital workplace?**

### **Master data management**

Master data is common data about customers, suppliers, partners, products, materials, accounts and other critical “entities,” that is stored and replicated across multiple IT systems. Historically intranet managers have not needed to pay attention to master data management but this will certainly change with the development of a digital workplace. Although in theory an organisation should have a single master data schema this is rarely the case, especially where the organisation has grown through acquisition. The importance of master data management is that a) it will act as an interface to relationships with suppliers and customers and b) enterprise search applications will increasingly be used to search across master data to link (for example) products to customer call centre complaints.

**Q. Are the implications of master data management being taking into consideration in planning the digital workplace?**

### **Suppliers and customers**

Organisations do not exist in a vacuum, but are dependent for their existence on suppliers and customers. The creation of a digital workplace may be of great benefit to employees of the organisation but act as a barrier to the transfer of information between the organisation and its suppliers and customers. This might be especially visible with social applications where differences in corporate culture are likely to be far more visible than in the case of accepting a purchase order.

**Q. Have you identified core customers and suppliers who could usefully be involved at an early stage in the development of a digital workplace strategy?**

## **Technology**

### **Cloud service implementation**

Most large organisations are looking carefully at the benefits and challenges of using public, private or hybrid cloud services. These services offer cost savings at a time when there is pressure on organisations to reduce overhead costs, and also offer speed of implementation, scalability and excellent performance. Providing high-security mobile services will be an important factor in stimulating the use of cloud services. The impact of cloud service adoption on a digital workplace will initially be an indirect one, in that IT departments will be focusing resources on evaluating cloud options and so reducing the time available in the near term to develop a digital workplace.

**Q. When evaluating cloud services is the IT department taking into account the potential requirements of a digital workplace?**

## **Enterprise information architecture**

The majority of employees have no sense of the number of applications that an IT department is trying to maintain to an adequate standard of performance and availability. In a large multinational company, especially one that has been created by acquisition, it could well be many hundreds of applications, many of which have to integrate with each other. Organisations develop enterprise information architectures to ensure that current and new applications have the required degree of interoperability. Any move towards a digital workplace has to be accomplished within this EIA and this may require a significant amount of work by the IT department.

**Q. Have you reviewed the implications of a digital workplace with IT staff responsible for enterprise information architecture?**

## **Enterprise mobility**

Enterprise mobility failed to take hold in 2011 in the way that most forecasters predicted, but the rate of adoption of tablets is going to transform enterprise information access in 2012. A survey by the International Data Group indicates that in Europe 20% of managers have given up using a laptop in favour of using a tablet. Indeed the arrival of tablet computing will be an important catalyst in the development of a digital workplace, and not just for field force employees. It is now clear that organisations will need to take an integrated approach to smart-phone/tablet/pc information access at a time when the deployment strategy looks to be favouring a Bring Your Own Device approach even if there are some major security concerns. The rate of development of this market is very high and needs active monitoring. It will be interesting to see the extent to which Microsoft endorses mobile digital workplaces in the next release of SharePoint in (probably!) 2013.

**Q. Do you have an enterprise mobility strategy that converges with your desktop strategy to provide a digital workplace?**

## **Enterprise search and search-based applications**

The fundamental search technologies go back at least two decades, but the pace of innovation in search has probably never been higher. At the same time the level of investment in search by most organisations is inadequate even for a good quality search experience for an intranet. Moving from here to the super-search scenario proposed by NetStrategy/JMC is a quite enormous leap of vision, budget and staff resources. As a digital workplace evolves ensuring that the search experience is effective is going to be a major challenge, and yet conventional browse/information architecture approaches are going to be difficult to adapt. Already most search companies are offering search-based applications, in effect enterprise search running in background mode to integrate information across multiple unstructured and structured repositories.

**Q. Does your search team have the expertise and resources needed to manage the search requirements of a digital workplace?**

## **Intranet suites**

Even at an intranet level there could be multiple content management, search and social media applications, along with a digital asset management application, and document and records management applications. Individually each of these does not require a substantial amount of IT support but changing any one of these will have implications for all the others. One of the attractions of an enterprise ECM suite, such as Oracle Web Center, Microsoft SharePoint 2010, Alfresco or one of twenty or more other suites, is that the integration issues are handled by the vendor. There are some downsides to these suites, notably the speed of upgrade release. The implementation of a digital workplace might be seen as a good reason for moving towards an enterprise ECM suite, but that is not a decision that can be made without a significant amount of research, planning and discussion.

**Q. Has an evaluation been made of the benefits and challenges of migrating to an enterprise content management suite to support the implementation of a digital workplace?**

## **IT priorities**

There is continuing pressure on IT departments to be more responsive to changes in business requirements at the same time as working with more limited resources. Although the intranet may be a high-touch application reaching almost all employees there will be many IT applications that are used by only a small number of employees (such as a treasury management system) that are very high on the list of business-critical applications. For companies with Microsoft enterprise licences Office 15 and SharePoint 15 are on the horizon and need to be factored in to medium term planning. The challenge for the intranet/digital workplace team will be to make a case for giving a digital workplace initiative a high priority.

**Q. Have there been discussions about the relative priority for digital workplace development against other IT objectives for the next two years?**

## **Unified information access**

Unified information access applications provide a single point of access to multiple heterogeneous sources of information. These platforms combine elements of database, business intelligence, and search technologies to make information access dynamic and ad hoc for business users. They are capable of indexing and integrating large volumes of unstructured, semi-structured, and structured information into a unified environment for information gathering, analysis, and decision support. This technology is at a fairly early stage of commercial development but is likely to become a core element of a digital workplace as it provides a flexible integration platform for multiple applications.

**Q. Have you assessed the potential benefits of unified information access and the implications for the future of the current enterprise search application?**

## Governance

### Change management

There is going to be a great deal of change on the way to a digital workplace and this will require a substantial investment in change management. The chart below provides an excellent overview of what can happen if one of the elements of a change management programme is missing. If more than one is missing then the outcome will be a catastrophe that claims the careers and reputations of managers at all levels.

**Q. Have the change management implications of a digital workplace been discussed with HR and training teams?**

### Data privacy

There has been legislation on data privacy in the EU since 1995, and all 27 member countries now have equivalent legislation. Outside of the EU only a small number of countries have equivalent legislation, and this has some very important implications for the way in which personal information can be communicated both within the EU and between EU member countries and almost any other country in the world. There is an increasing concern about data privacy because of concerns about the way in which social networking companies (such as Google and Facebook) have come under scrutiny for the way in which they handle personal data. This means that employees will be aware of the issues, and will expect solutions to be in place.

**Q. Is there a comprehensive strategy for compliance with data privacy taking into account all the countries in which the organisation operates or has business contracts?**

### Language support

It is probable that few managers are aware of the significance of the level of understanding of English in their organisations. In the USA there is a five-level categorisation of language skills and there is a six-level categorisation in the European Union. These categories take account of the variations in skills and experience needed to read, write, speak and understand a language. Someone might be able to read English fairly fluently, speak it to a limited extent, just about get the sense of what someone is saying in English at normal conversational speeds and have great difficulty writing in English. This might well be a significant problem with social media where the language can be highly conversational, and writing even something as short as a blog entry in English could be a substantial challenge to a non-native speaker.

**Q. Is there a strategy for language support that extends beyond the translation of corporate policies and news?**

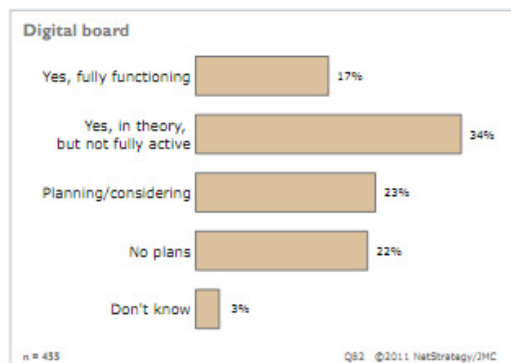
### Lines of responsibility

A very encouraging outcome of the Digital Workplace Trends survey is that digital boards, high-level

steering groups that make strategic decisions on both external and internal digital channels, are fully functioning in 17% of respondent organisations and in place in a further 34%. So in total just over half of the organisations have at least the beginning of a digital workplace governance structure.

Exhibit 10.

**Digital boards are fully functioning in 17 percent of organizations.**



These boards have a very wide representation, typically including IT, Communications, HR, Marketing, Strategy and Operations. The challenge for these boards will be to gain increased executive authority over the next two years, and in large organisations there will also be a need to bring major national and operating divisions into a governance structure that at present is likely to reflect a headquarters view of strategic and operational development.

To return to the diagram on p3, who is responsible for

- Vision
- Skills
- Incentives
- Resources
- Action Plan

**Q. Is there a roadmap for the development of executive authority by the group currently responsible for digital workplace vision and strategy development?**

### Multitasking

Even in the current working environment employees are faced with constant interruptions as other employees make contact by email, and a range of social media channels. There is a strong tendency to show a high degree of responsiveness as part of a commitment to the employer but research now shows that each interruption can have a significant impact on work performance for some time afterwards. Again employees now have multiple roles and responsibilities, and they themselves may quickly change between tasks in order to meet changing business priorities. If these interruptions increase in a digital workplace then the net gain in productivity (or whatever success metric is being used) may be

significantly lower than anticipated or promised.

**Q. Have any surveys been carried out about the extent to which employees feel that their productivity and quality of work are being compromised by constant digital interruptions.**

### **Unions and Workers Councils**

Unions and Workers Councils play an important role in making sure that the interests of all employees are represented in any discussions that might lead to the introduction of new ways of working, or changes in roles and responsibilities. Workers Councils in Germany have been especially concerned about the effective implementation of data privacy legislation. These organisations do not yet seem to have paid much attention to the potential impacts of a digital workplace on their members, but their level of involvement is likely to increase substantially over the next few years.

**Q. Do you have lines of communication with employee organisations that are appropriate for discussions around a digital workplace and possible changes in working practices?**

### **Usability and accessibility**

Many employees will only need to find information on an infrequent basis, and so need to be able to use IT applications which adopt a level of usability appropriate to the needs of employees with a requirement to make use of these systems. Some employees may have various disabilities which make it difficult for them to access IT systems. There are agreed guidelines on web accessibility which apply not only to web-based applications but to applications which use web technology as a presentation layer. In all EU member states there is legislation which aims to ensure that people with disabilities are not put at a disadvantage in the workplace. The Web Accessibility Initiative of the World Wide Web Consortium has developed a range of detailed guidelines on good practice but many companies put a low priority on usability and accessibility tests because they have a concern about the costs involved and the potential delay to the implementation of a new application.

**Q. Does the organisation take account of current and pending accessibility guidelines in the development of new web-based applications or where there is a web interface to an application?**

### **Working cultures**

The vision of many commentators is that the digital workplace will become ‘the way of working’. However the way of working in France is rather different to Saudi Arabia, and both are different to China. Will the digital workplace be seen as a way of imposing a unified culture? The chances of it succeeding are very close to zero. If the digital workplace encourages individuals to make decisions because they have effective access to the information they need this could be in direct conflict with working cultures where decisions need to go up the managerial line before they go across. There is an increasing amount of research being undertaken into multi-cultural collaboration and communication. To understand the significance of a message from someone, we need to understand that person’s perception and their view on the world including the system of symbols, values, norms and traditions

with which the person's culture is identified. Something as simple as a unified date format can take a long time to achieve because even this can be an important identifier of corporate culture and may require a lot of work on legacy content to retrospectively apply the agreed date format.

**Q. Are there people on your team with personal experience to advise you on the way in which the digital workplace needs to take account of working cultures in your organisation?**

**The implementation checklist**

Question	Y/N/DK
Has an audit been carried out to identify external sources of information, both free and on subscription, and the potential impact of license terms on the integration of these sources into a digital workplace?	
Does your organisation have a life-cycle approach to the creation, use, storage and disposal of information?	
Has your organisation started work to identify how to provide an appropriate level of security to a digital workplace?	
Are the implications of master data management being taking into consideration in planning the digital workplace?	
Have you identified core customers and suppliers who could usefully be involved at an early stage in the development of a digital workplace strategy?	
When evaluating cloud services is the IT department taking into account the potential requirements of a digital workplace?	
Have you reviewed the implications of a digital workplace with IT staff responsible for enterprise information architecture?	
Do you have an enterprise mobility strategy that converges with your desktop strategy to provide a digital workplace?	
Does your search team have the expertise and resources needed to manage the search requirements of a digital workplace?	
Has an evaluation been made of the benefits and challenges of migrating to an enterprise content management suite to support the implementation of a digital workplace?	
Have there been discussions about the relative priority for digital workplace development against other IT objectives for the next two years?	
Have you assessed the potential benefits of unified information access and the implications for the future of the current enterprise search application?	
Have the change management implications of a digital workplace been discussed with HR and training teams?	
Is there a comprehensive strategy for compliance with data privacy taking into account all the countries in which the organisation operates or has business contracts?	
Is there a strategy for language support that extends beyond the translation of corporate policies and news?	
Is there a roadmap for the development of executive authority by the group currently responsible for digital workplace vision and strategy development?	
Have any surveys been carried out about the extent to which employees feel that their productivity and quality of work are being compromised by constant digital interruptions?	
Do you have lines of communication with employee organisations that are appropriate for discussions around a digital workplace and possible changes in working practices?	
Does the organisation take account of current and pending accessibility guidelines in the development of new web-based applications or where there is a web interface to an application?	
Are there people on your team with personal experience to advise you on the way in which the digital workplace needs to take account of working cultures in your organisation?	

## Resources – books and reports

### **Digital Transformation – a Roadmap for Billion-Dollar Organisations**

CapGemini Consulting

<http://www.us.capgemini.com/insights-resources/publications/digital-transformation-a-roadmap-for-billiondollar-organizations/>

### **Digital Workplace Trends Report 2012**

NetStrategy/JMC

<http://www.digital-workplace-trends.com>

### **The Digital Workplace – Think, Share, Do**

Deloitte & Touche LLP

<http://www.deloitte.com>

### **The Digital Workplace**

Infocentric Research

<http://www.infocentricresearch.com/Research/Publications/The-Digital-Workplace.aspx>

### **The Digital Workplace – How Technology is Liberating Work**

Paul Miller

<http://digitalworkplacebook.com/>

### **Digital Workplace Maturity Model**

Intranet Benchmarking Forum.

<http://www.ibforum.com/ibf-shop/free-report-the-digital-workplace-maturity-model>

### **Forrester Information Workplace programme**

Forrester Research (reports only available to Forrester clients)

### **Gartner Online Workplace Framework programme**

Gartner Group (reports available only to Gartner clients)

### **Managing Tomorrow's People**

PWC

<http://www.pwc.com/gx/en/managing-tomorrows-people/future-of-work>

### **Workplace 2030**

Oracle Corp.

<http://www.oracle.com/oms/oracleassets/enterprise-1381915.html#workplace>

## Other resources

**Digital Workplace Forum** <http://www.digitalworkplaceforum.com>

**Intranet Pioneer Blog** <http://www.intranet-pioneer.com> Mark Morrell

**Tieto Future Office** <http://blogs.tieto.com/futureoffice/> Tieto Corporation