



The rewards and risks of enterprise mobility

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Executive summary

With enterprise documents increasingly available to workers on the go, opportunities to collaborate and work more efficiently are without bounds. Initiatives that provide employees with solutions for accessing, editing, and collaborating on documents in the cloud from mobile devices are leading to new business models that drive down costs while improving service and outcomes.

The productivity gains that are uniquely enabled by the cloud and mobile also present significant security challenges. Valuable and private data stored on mobile devices presents potential nightmare scenarios for departments and teams using the technology as well as CIOs, CSOs, and IT managers, particularly on employee-owned devices that are out of their control. The growing trend of a more distributed and independent workforce is further weakening IT's control of data behind the firewall. If not managed correctly, these challenges can lead to a reduction in productivity or unnecessary risk taking.

This research report will outline for IT managers the importance of balancing the advantages and risk of increasing enterprise mobility and will explain the following:

- To be successful, enterprises need to provide employees and partners with solutions that are simple, intuitive, functional, and fast.
- As infrastructure moves to the cloud, IT departments need to refocus on balancing the tasks of protecting company data while driving efficiency through new technology and services.
- Collaborating with and co-opting users into risk-management practices will lead to operational efficiencies, competitive advantages, and lowered risk.
- The increased mobility of the global workforce is contributing to the demand for cloud infrastructure. As this technology is implemented, users are demanding mobile access to documents locked behind the firewall.
- The mobility of data facilitated by new technology is a challenge IT managers will need to closely manage.

Unlocking the benefits of mobile content management

Content-management systems, which serve as a central repository for content and enable enterprises to manage their resources while making them more accessible to employees, have been available for years. Content like files, videos, and photos can be indexed; versions can be tracked; and access and distribution can also be controlled. While these systems already provide efficiencies and control, extending them to mobile devices is bringing additional benefits, including:

- Greater productivity through efficient content management
- Reduction of hardware costs
- An increased return on IT assets
- Users' ability to work when and where they are the most productive

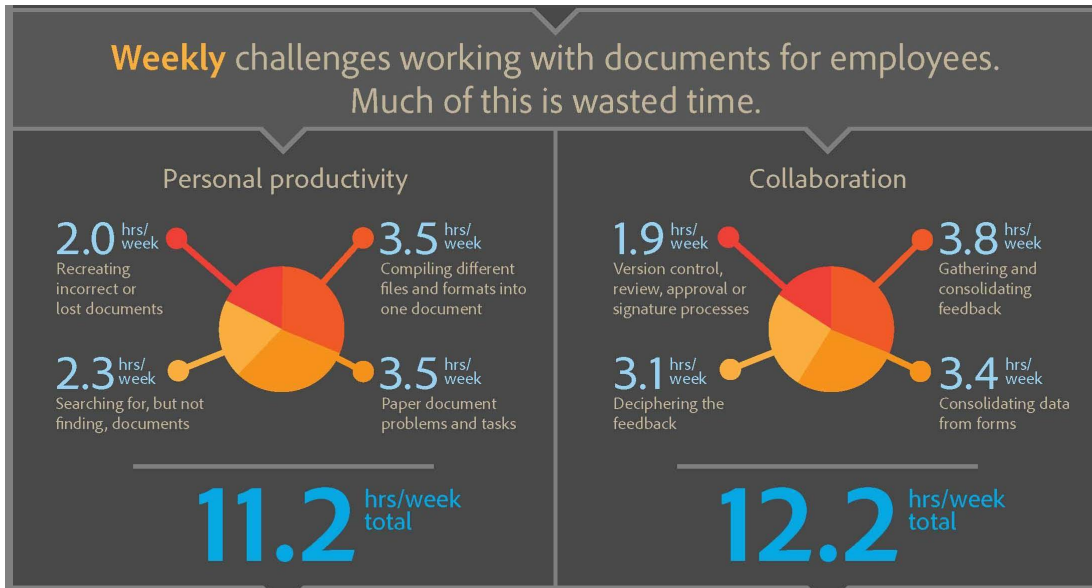
Efficient content management

Inefficiencies in content management represent a significant expense for enterprises in costs and wasted time. Adobe commissioned a study, conducted in June 2012, that found that knowledge workers waste approximately \$19,732 each year working with documents (Figure 1).

In response to these inefficiencies, enterprises are leveraging mobile collaboration technology and content-management solutions. Examples include:

- Reduced time working with paper documents such as printing, collating, and binding paper documents
- Reduced time gathering and consolidating data from the field
- Reduced time finding and compiling files to be used outside the office
- Better version control to incorporate feedback more effectively and support buy-in and approval

Figure 1. Time spent working with documents



Source: Adobe Systems

Lower-cost document distribution

When the New Zealand Law Society implemented a mobile content-management system, it experienced a significant reduction in costs associated with the distribution of documents into the field: printing and shipping costs as well as time spent collating and organizing documents.

The New Zealand Law Society, which is the regulatory authority for lawyers in New Zealand, has a requirement to distribute sensitive documents into the field. The society regulates all lawyers practicing in the country, and while membership is voluntary, any person wishing to practice law in New Zealand must obtain a practicing certificate from the society. When complaints are filed against a lawyer in New Zealand, a committee of constantly changing volunteers must review the case. Documents must be collated into a case file, printed, and shipped to committee members. Because the case files can be 2,500 pages, they are often too big to distribute via email.

The society estimates that the mobile content-management system will save \$16,000 per year for each committee of eight volunteers. Committee members are also much happier because they do not have to carry around large binders of paper or worry about inadvertently exposing sensitive information. Moving from paper to digital documents also makes committee meetings more efficient. PDF documents are easier to navigate with bookmarks than paper binders, and any last-minute files can be downloaded during the meeting. The New Zealand Law Society also strengthened its security procedures, as it can

ensure that documents never leave its control. Previously, the society could not ensure that the paper documents were adequately destroyed after serving their purpose.

The London Borough of Camden, one of 32 boroughs in London, has a similar requirement. It has a population of 220,100 and is divided into 32 wards. The council has more than 8,500 employees. One of the council's duties is to support the community through social work. Its social workers are required to review case documents before meeting with a variety of different stakeholders. To ensure that each meeting participant has the right documents, the borough assembles thick paper packets of pertinent material and mails them to the appropriate individuals prior to a meeting. It currently has implemented a content-management system and is in the process of evaluating a mobile component of this solution to reduce administrative costs associated with document handling and distribution.

Better data capture in the field

In addition to document distribution, the London Borough of Camden is also looking to leverage mobile content-management solutions so that it can capture data in the field. The borough employs eight building surveyors who inspect buildings and residences in Camden. The current process for doing this consists of multiple steps, including:

- Pulling together all the files relative to the inspection job
- Printing the documents
- Traveling to the site
- Taking photos of the site
- Taking notes
- Returning to the office to match pictures with the notes and write up a report

The borough expects that the use of mobile content management will enable surveyors to take notes and file their reports from the field, eliminating double typing as well as the need to return to the office. Officials expect that these gained efficiencies will allow them to reduce their head count by 25 percent, which will, of course, save taxpayers money.

Better and faster decisions and outcomes

While time and cost savings realized from mobile document-management systems are relatively clear, better decision making and outcomes enabled by mobility solutions are less apparent but often more profound.

Seattle Children's Hospital is a premier pediatric teaching hospital in Seattle. In an effort to better serve the surrounding community, the hospital contracts with regional hospitals to provide specialized medical care. Typically, a doctor sees a child needing medical attention in the regional hospital. If the primary care physician believes a specialist is warranted, she will consult with a specialist at the Seattle Children's Hospital. Before the ubiquity of mobile devices equipped with high-quality cameras, doctors would primarily collaborate verbally, discussing conditions such as rashes, birth defects, and seizures. Once tablets such as the iPad were introduced into the regional hospitals, doctors quickly realized the value of the onboard camera. Videos and pictures are much more explicit than words, so doctors use their devices to take pictures and videos of patients' conditions and then email them to specialists at the Seattle Children's Hospital. The improved exchange of information provided by these images allows doctors to better prioritize the more acute patients for transportation to the Children's Hospital. Better decision making also helps reduce stress on patients and their families, because those patients determined to have less-serious conditions can receive treatment closer to home.

While sharing photos of patients taken using mobile devices is much more efficient, photos saved locally on a mobile device are not in the content-management system's control. The process of attaching a picture and finding the right doctor's email address was also a cumbersome process. Implementing a mobile document-management system provided real-time collaboration in a secure environment.

Global Partners, which is a Fortune 500 company and a leader in the storage, distribution, and marketing of energy products across the Northeast, also streamlined decision making by switching from communicating via email to collaborating with a mobile document-management solution. The company saw these gains across the organization but particularly in the marketing function. At the end of each day, analysts in the marketing department distributed pricing sheets for a group buy-in, generating a lot of emails and leading to problems with version control. By implementing a collaboration solution that included mobile access, the process was streamlined, enabling all stakeholders to provide feedback efficiently from wherever they were.

Flexibility in where and how people work

With mobile access to documents, workers are better equipped to work where and how they want, which can support a better work-life balance. They can more effectively work from home or on the road, wherever they are most productive. Giving employees more flexibility in how they work also leads to more hours worked. An iPass study published in the spring of 2013 found that the average mobile-enabled employee puts in an extra eight hours of work per week. As another example, lawyers at the firm Allens Linklaters found that with mobile access to legal documents from their tablets, they could spend more time with their clients.

Reduced hardware costs

The implementation of mobile content-management solutions also enables enterprises to reduce hardware costs. With employees able to access documents from tablets and smartphones, often they no longer require a PC for their job. The rise of the bring-your-own-device (BYOD) trend is also helping reduce hardware costs, because employees are granted access to enterprise documents from their personal devices.

Better leverage of enterprise assets

According to various market intelligence firms, enterprises spent around \$5 billion on content-management solutions such as SharePoint, Documentum, and iManage. With the advent of the mobile age, workers are increasingly working away from their desktops. Without mobile access to content-management solutions, these investments are not generating their greatest potential return.

The challenges of mobile document-management and collaboration solutions

While mobile content-management and collaboration solutions have the potential to revolutionize business processes, significant challenges exist. In many cases, without the right solution, security and regulations can limit an organization’s ability to realize the productivity opportunities that enterprise mobility affords.

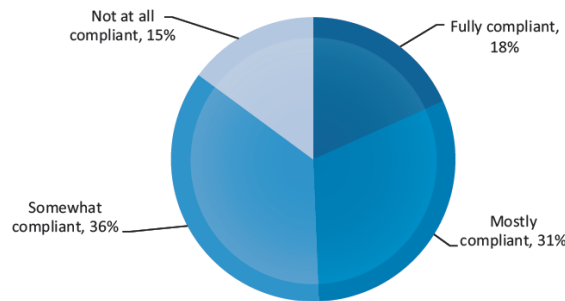
IT managers are charged with reducing risk and protecting data. Professionals are constantly looking to be more productive. With the plethora of consumer technologies available, workers will find ways to use technology to get more done. This dichotomy makes the effective implementation of secure mobile file sharing, synchronization, and content management a challenge. Many current mobile content-management processes are not compliant with internal and external security requirements.

Maintaining security and regulatory compliance

AIIM recently conducted research on the level of compliance of mobile content-management processes and found that only 18 percent of processes were fully compliant and half were either somewhat compliant or not at all compliant.

Figure 2. Compliance of mobile content-management processes

Figure 2: How compliant is your mobile content management process (based on your corporate policies, industry requirements, and/or government mandates)? (N=235, excl. 45 Don't Knows)



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Source: AIIM

Without the right amount of security, an infinite number of undesirable or catastrophic outcomes are possible. In the case of the New Zealand Law Society, if unsubstantiated complaints about a lawyer were

made public, a hardworking professional's career could be ruined. Inadequate protection of documents could also lead to the loss of business. In another instance, law firm Allens Linklaters reports that some clients are demanding that their case documents be separated from personal data on their lawyers' mobile devices.

Heightened security and more-restrictive procedures may reduce risk, but often productivity suffers. MeriTalk released a study in Aug. 2013 finding that mobile-enabled federal employees estimated they would gain an average of seven hours of productivity per week if they did not face slow connections, cumbersome security procedures, and limited access to data via their mobile devices. The abandonment of DRM technology is another example of how cumbersome access to data leads to users abandoning the process. After years of struggling to protect its intellectual property, even the music industry has ditched DRM technology.

If mobile content-management technology is too cumbersome, workers will resort to riskier commercial solutions, such as Dropbox or Google Drive, or just revert back to the old paper process, nullifying any productivity gains and the company's technology investment.

Managing a distributed, independent, and ad hoc workforce

The challenges of balancing security and usability will only intensify as the global workforce becomes more distributed and independent. In the U.S., currently 17.7 million workers operate as independent contractors, freelancers, and consultants, according to estimations from MBO Partners, which also predicts that this number will grow to 24 million by 2018. Organizations that work with freelancers, ad hoc workers, and volunteers face unique challenges when rolling out mobile content-management solutions. In these situations, IT departments have little or no control over the devices and systems these workers use and do not use. Without workers on site or under the authority of corporate directives, training these professionals on mobile content solutions and securities policies also becomes an ordeal.

Independent teams, board members, and volunteers that meet on a regular but intermittent basis also present challenges to managing credentials on content-management systems. Allens Linklaters was faced with these issues in its efforts to support members of its board. The board met four to five times per year, and its content-management system allowed tokens and certificates to expire between meetings, requiring additional administration intervention.

Solutions

Gaining the right balance between the usability and security of mobile collaboration solutions can be the key to unlocking productivity. To drive usage, three fundamental factors must be present in any mobile app, including mobile content-management and collaboration apps:

- They need to be fast
- They need to be simple
- They need to be reliable

Fast

Users consume documents and data much differently on mobile devices than they do on desktops. Mobile users tend to spend much less time per session than desktop users, and these sessions are getting shorter. A recent study by Localytics found that session times for mobile apps decreased 14 percent over the past year, but mobile apps were launched 28 percent more frequently. This suggests that users are using apps more often but for shorter periods of time. This trend makes low latency and fast applications key drivers for usability. Enterprise applications being mobilized need to be designed from the ground up to account for bandwidth constraints and network availability. If secure mobile content-sharing apps are not as fast, or faster, than consumer-based applications, users will not use them.

Simple

As enterprises move from desktop to mobile, a fundamental shift in mindset needs to occur. Simplicity is key, and more is not better. User interfaces must be simple and intuitive, and additional features that add limited value must be passed over. The best applications make sophisticated and complex technology invisible, which is often a challenging feat. The distributed mobile workforce also makes intuitive UIs important, because training is hard to deliver.

Reliable

Along with simple interfaces, the technology behind the app must be bulletproof and must work 100 percent of the time. Solutions should be able to support a large number of business processes and constraints. Good examples are supporting large file sizes and providing access protocols that support various business processes of the users.

Key capabilities

To drive productivity and retain security, mobile content-management solutions should include these main features.

1. **The ability to edit documents.** Users must be able to edit documents to do their jobs. Mobile content-management solutions need to enable document editing within a secure environment so that workers can complete their tasks without having to bring a file outside the secure workspace.
2. **The ability to create a variety of documents in a secure environment.** Workers who spend time in the field documenting observations need the ability to incorporate images and videos into their workflow. In many cases these files are just as sensitive as documents and need to be secure from the moment they are created. Future enhancements to this type of feature might include the ability to edit and annotate videos and images. The Seattle Children's Hospital would certainly benefit from the ability to integrate text with pictures and videos to support better collaboration.
3. **Synchronization and data caching.** It is important in any mobile solution that files and documents created on a mobile device are successfully saved on a central server. Without reliable wireless coverage, applications need to operate without data connectivity. Appropriate caching schemas can also reduce latency and improve performance.

Four security features are also vital for any successful mobile content-management solution.

1. **Deployment options.** Pick the right deployment option from public, private, or hybrid clouds to suit IT budgets, timelines, and data security and control requirements.
2. **Access control.** The ability to manage and control which workers have access to certain documents is of paramount importance in mobile document-management solutions. This is especially important as the global workforce becomes more distributed and independent.
3. **Visibility.** The content-management solution must be able to tell who is viewing files and understand how to effectively manage people and security.
4. **Data-loss prevention and malware protection.** These are always areas where security solutions must remain vigilant.

Cultural considerations

The emergence of cloud computing, driven in large part by mobility, has changed the role of IT departments. As the process of managing bits and bytes and infrastructure moves offsite, IT managers become the protectors of company data and consultants on the application of technology.

IT needs to understand how users leverage the plethora of new apps and services to innovate new processes in an effort to be more productive. Once understood, IT needs to offer (or implement) solutions that protect data without disrupting processes. In the case of Seattle Children's Hospital, business process engineers noticed how doctors were using technology and saw a risk in pictures and videos of patients remaining saved on mobile devices. By implementing mobile secure-container technology, practitioners were able to use their own devices to take pictures of patients, but the images were automatically uploaded to the cloud so no pictures or videos remained on devices. In this situation, practitioners, business process specialists, and IT worked together to make existing technology support increased productivity through mobile. Simply banning consumer technologies and slapping the wrist of violators would be counterproductive.

IT needs to make the appropriate mobile applications and services discoverable as well. All users need to do to implement a consumer solution is download it from the app store. It should be this easy in the enterprise as well. User control of functionality is also an important factor for driving adoption. For example, users of collaboration solutions must be able to create collaborative workspaces without involving the IT department.

As IT and professionals work together to drive productivity, users need to be co-opted into security compliance. Users empowered with more control over the technology they use must also take responsibility for the risks they assume. Both IT and users need to educate each other on opportunities for productivity gains as well as potential security risks. Working together to find solutions will lead to the most desirable outcome. Should IT find users utilizing unsecure consumer technologies to execute their daily function, IT must better understand the motivations that led to these transgressions and create secure solutions. IT also should create communications paths for employees to raise concerns before taking risks with corporate data. With the appropriate support in place, employees should have no excuse for using commercial solutions, and significant repercussions may be in order should they take this path.

Closer collaboration between users and IT may be easier said than done. IT professionals may not have the will or capacity to shift their focus from infrastructure management to workflow architecting. Changes

in corporate structure and budgets may also generate pushback from IT. Individuals with a broad understanding of IT, workflows, and security risks may be required to ensure that users get the most out of the technology that is made available to them. This might require the involvement of outside consultants.

Key takeaways

- Mobile collaboration and content-management systems can reduce a significant amount of time wasted dealing with documents. In some cases, this can amount to saving \$2,000 per user per year.
- Better and faster decisions and improved service can also be important gains afforded by mobile collaboration and content-management solutions.
- Solutions need to be simple, fast, and reliable. Mobile solutions require more-refined technology and user interfaces. Users will not bother with slow and complicated apps.
- IT and users need to work together to improve productivity and reduce risk. IT managers need to look at their role as something different from managing bits and bytes to something that supports productivity.
- Together, users and IT must build security around business processes that are innovated through experimentation with emerging mobile and cloud technology.

About Peter Crocker

Peter Crocker is the founder and principal analyst at Smith's Point Analytics, a full-service market research and consulting firm focused on the mobile and wireless industry. Crocker has five years of experience in the mobile and wireless market, both as an analyst and as a marketing professional. Prior to founding Smith's Point Analytics, he was a senior analyst with VDC Research, covering the enterprise mobility and mobile software markets. In addition to Crocker's experience following the market as an analyst, he has been instrumental in building business and guiding strategy at mobile software startups including Pyxis Mobile and Medxforms. He also has a background in financial service and consulting and holds an MBA from the College of William and Mary. Crocker has been a regular contributor to online and print publications such as *Mobile Enterprise Magazine* and *Rethink Wireless*.

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