September 2009

Building The Future Of Collaboration

A commissioned study conducted by Forrester Consulting on behalf of Adobe Systems, Inc.
Table Of Contents

Executive Summary ............................................................................................................................... 3
Technology Enables, And Complicates, Team Collaboration .............................................................. 7
Technology Enables, AndComplicates, Team Collaboration .............................................................. 7
The Identity Of Core Collaboration Tools Remains Unsettled............................................................ 14
Information Gathering Is A Sore Spot For Ad Hoc Collaboration ....................................................... 19
The Bar Has Been Raised For Communications Quality ................................................................. 25
People Are The Problem: Unsecured Information Puts Organizations At Risk ................................. 30
Conclusion: Bridging The Gap ............................................................................................................. 36
Appendix A: Methodology .................................................................................................................. 38
Appendix B: Endnotes.......................................................................................................................... 39

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Executive Summary

In today’s global enterprises, effective collaboration is imperative for business success. However, effective collaboration remains challenging as ad hoc teams working across time, geographical, language, and technical boundaries increasingly drive knowledge work.

To understand more about collaborative work in US companies, Adobe Systems commissioned Forrester Consulting to conduct a study of US knowledge workers. Forrester was also commissioned by Adobe to conduct a similar study of European knowledge workers in December 2008. The studies surveyed knowledge workers about their requirements, habits, tools, concerns, and desired improvements when working with others to produce specific deliverables and achieve business goals. The major findings of the studies deliver key insights about the nature, methods, and perceived limitations of collaborative work among US and European knowledge workers.

In particular, this study delves into five key thematic areas of collaboration in the workplace:

- Knowledge workers’ need for real-time collaboration.
- The Web 2.0 gap between tool availability and adoption.
- Challenges in gathering information quickly, accurately, and efficiently.
- The increasing need to create compelling communications.
- Securing sensitive information.

As collaboration grows in importance for knowledge work, the tools must embrace and refine current work habits, while also enabling a transition to more efficient and effective communication and collaboration. Enterprise IT must go beyond simply providing more collaboration solutions. Forrester’s high-level recommendation is that enterprise IT must find the best way to support workers’ current work habits while better leveraging emerging solutions that fit enterprise IT and knowledge worker needs and expectations.

Knowledge Workers’ Need For Real-Time Collaboration

The advantages of real-time collaboration are well-established, but work by dispersed teams across boundaries of time and place is on the rise, and the default solution (email) does not fully meet their needs for effective communication and collaboration. The US survey findings show that:

- Daily (35%) or weekly (34%) collaboration is common for the majority of our respondents.
- Seventy-three percent of knowledge workers in large enterprises (5,000+ employees) collaborate with people in different time zones and regions at least monthly, and 24% of them do so on a daily basis.
- Telephone (87%) and, when possible, face-to-face meetings (77%) are the predominant means of collaboration.
- Email and attachments (77%) comprise the primary mode of collaborating across boundaries of time and location.
• Workers experience core problems with the use of email for both collaboration and information gathering, and would like to learn about new tools. Speed and efficiency of collaboration (68%) and reduction of paperwork (68%) are the top benefits sought when looking for improved ways to collaborate with others.

The Web 2.0 Gap Between Tool Availability And Adoption
Better solutions for communication and collaboration have appeared, but an ultimate tool with broad appeal has yet to emerge. When it comes to newer technologies, the survey shows that:

• Conferencing technologies are catching on with distributed teams but have not reached critical mass. Consider the following:
  – Usage ranges for conferencing tech: video conferencing (11%), team sites (17%), and IM (25%).
  – Confidence in the ability to improve collaboration is much higher, reaching 42% for video conferencing.

• New “Enterprise 2.0” technologies address some needs but — so far — do not present a mass-market solution. For example:
  – These solutions support distributed, near, or real-time collaboration — but adoption remains low, at 7% for social networks, 5% for blogs, and 4% for wikis.
  – Confidence that these new technologies can improve collaboration is also very low.
  – Use of and confidence in new technologies are highest among younger workers; they may show more broad appeal as newer generations move up.

Challenges In Gathering Information Quickly, Accurately, And Efficiently
The systematic gathering of information presents unique forms of “collaboration” challenges. It’s apparent that enterprises’ form solutions have not served the ad hoc use case. The survey reveals that:

• Increasingly distributed collaboration and team work requires knowledge workers to gather information from others. Sixty-three percent of knowledge workers say they collect the same multiple pieces of information from a number of people they work with about once a month or more.

• Email (73%) and telephone (59%) are by far the dominant methods for ad hoc data gathering but have clear deficiencies:
  – Email-based gathering creates redundancies and extra work.
  – Telephone-based gathering is time-consuming, unsystematic, and does not document results.

• Knowledge workers complain that current tools need to:
Be faster and more efficient (66%).
Reduce the need to retype gathered information (55%).
Reduce paper (51%).
Be more engaging (47%).

Learning about new tools to collect information has broad appeal; 66% are interested in knowing more about tools to simply create electronic forms and analyze the information collected.

The Increasing Need To Create Compelling Communications
The bar for more compelling and effective ways to communicate is rising, and the current tools will not fully empower knowledge workers. Survey findings support this theory and show that:

- Knowledge workers will need to create collaborative communications in an ever-more compelling way. Today, 45% of US knowledge workers need to create high-impact, engaging communications once a month or more. And 76% of these communications involve combining multiple documents of different file types (text, images, photos, graphics, videos, forms, technical docs, etc.) to clearly create an impression, tell a story, detail a case, or make a convincing argument.

- Most of the collaboratively created communications are customer-focused (47%) or sales-related (40%) and drive customer experiences.

- Default tools do not give knowledge workers the edge they need. Compound PPTs (53%) and multiple email attachments (51%) are the preferred methods but have clear deficiencies. Primary knowledge worker complaints include software version issues (56%), not knowing the recipient will understand the meaning or complete story being told (38%), and lack of control over the narrative (37%).

Securing Sensitive Information
Increased collaboration means that companies are more often exposing confidential/sensitive information. The survey found that knowledge worker behavior and attitudes are not in tune with enterprise IT security concerns. Specifically:

- Knowledge workers are regularly sharing sensitive information. More than half of those surveyed indicated that they create and share sensitive information or documents every two to three weeks or more.

- Confidence that information shared outside of the company is safe is mixed; one-half are uncertain about the security of shared knowledge.

- To secure shared information, knowledge workers use PDFs and passwords — US knowledge workers are far more likely (58%) to use software controls to protect sensitive information than Europeans (38%).
Enterprise IT: Focus On Core Collaboration Challenges While Leveraging Emerging Technologies

In conclusion, the survey data shows a marked propensity among knowledge workers in the US to stick with what they know for team collaboration — email and attachments — despite the recognition of needed improvements and availability of potentially better alternatives. There were some differences between US and European knowledge workers, particularly with Europeans lagging slightly in adoption of technology solutions, but overall results are similar.

Enterprise IT can best enable their organizations by supporting employees in the ways they want to work, while also introducing and leveraging emerging technologies that can bring greater efficiencies to core collaboration processes, including information gathering, creating compelling communications, and securing information.
Technology Enables, And Complicates, Team Collaboration

In the beginning, collaborative work — efforts requiring people to work together on a common goal — was necessarily restricted to groups of people who could be together in the same place and at the same time. Collaboration was face to face and took place in real time. The advent of reliable means of reserving and transmitting written text, and later voice messages, made it possible for people to communicate and collaborate over increasingly long distances. The history of communications can be seen as an effort to reduce the time and the costs of supporting work among distributed teams (see Figure 1).

Today, technological advances such as the PC, the Internet, and broadband connectivity make it easier for people to work together even when they cannot meet face to face. At the same time, business practices such as globally distributed organizations, multicompany solutions, and remote workers have increased the ability — and the need — for teams of distributed workers to collaborate on projects and deliverables. As these trends make collaborative work pervasive, enterprises face the challenge of providing workers with tools that make team collaboration easier, faster, more productive, and more secure. The survey shows that while knowledge workers in the US favor the telephone and email for collaboration, they also express dissatisfaction with current collaborative methods and a desire to learn about alternatives.

Figure 1: History Has Been A Quest For Shorter Response Times And Lower Costs

Source: September 4, 2008 "Distributed Teams Need Real-Time Collaboration Tools" Forrester report.
Collaboration Among Knowledge Workers Is Now The Norm . . .

In today’s information-centric enterprise, knowledge workers rarely produce and deliver work in isolation — 99% of knowledge workers in the US and Europe work together with others. The survey indicates that most workers in the US often collaborate with two or more people, with 35% reporting daily collaboration and 69% at least several times a week. In the US, this is true across every generation, with younger workers (18- to 30-year-olds) collaborating as frequently as their older colleagues, despite the more typical “work on a team, but work independently” responsibilities of younger employees.2

. . . And Teams Are Usually Widely Dispersed

Crucially, US knowledge workers frequently collaborate with people in other locations or other geographies and time zones — meaning that coming together to work face to face as a team is not a viable option. An overwhelming 70% of the respondents said their work at least monthly involves collaborating with two or more people in different time zones and geographical regions. Further, 73% reported working with people in different locations within their own company and 67% reported working with people in other companies at least monthly. This cross-organizational collaboration is very high in midsize and large organizations: 70% of midsize organizations and a barely higher 73% of large organizations report this requirement (see Figure 2 and Figure 3).

Figure 2: Most Knowledge Workers Frequently Collaborate With Two Or More People

“How frequently does your work involve collaborating with two or more people?”

- Daily, 35%
- Several times a week, 34%
- Once every 2 or 3 weeks, 13%
- About once a month, 7%
- Less often than once a month or Never, 10%

Base: 700 US knowledge workers
Source: A commissioned study conducted by Forrester Consulting on behalf of Adobe, September 2009
Because of the overwhelming need to collaborate with widely dispersed teams, enterprise IT managers are faced with a range of challenges to support the needs of knowledge workers. The tactical and strategic issues around collaboration enterprise IT must address:

- **Securing the content.** How the content being shared is accessed, stored, distributed, and exchanged poses risk when sensitive information is involved. Enterprise IT must ensure that sensitive information that is part of the team collaboration is safe, because they are often held responsible when there is a breach.

- **Providing the tools.** Enterprise IT is responsible for providing the tools that knowledge workers employ to collaborate efficiently. They must make sure that technology doesn’t become disruptive but instead enables people to work the way they want to.

- **Being a business partner.** Enterprise IT can exert tremendous influence on a company’s chosen technologies. To be able to secure content and provision the best collaborative tools, enterprise IT must be a strategic partner to the business to improve how people collaborate through the “right” technology for their needs.

**Traditional Collaboration Methods Are Preferred — When Possible**

The telephone — a technology that has been in commercial use for nearly 120 years — remains the favored collaboration tool among US knowledge workers. Asked to name their three most
common means of collaborating with others, 87% designated the telephone, with 77% for email messages, and 77% for face-to-face meetings (see Figure 4).

The widespread use of the telephone and the high rankings for face-to-face meetings (77%) illustrate that, when possible, workers favor real-time interactions over asynchronous exchanges, which may introduce delays and uncertainties about the quality of communication.

Figure 4: Traditionally, People Collaborated In A Room, Face To Face — They Retain This Preference For Real-Time, Synchronous Collaboration, But The Use Of Email And Attachments Are Also Prevalent

“When you collaborate with 2 or more people, which of the following methods do you use?”

<table>
<thead>
<tr>
<th>Method</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone</td>
<td>87%</td>
</tr>
<tr>
<td>Messages within the text of an email</td>
<td>77%</td>
</tr>
<tr>
<td>Sharing documents or files as attachments to an email message</td>
<td>77%</td>
</tr>
<tr>
<td>Face-to-face meetings</td>
<td>77%</td>
</tr>
</tbody>
</table>

Base: 695 US knowledge workers
Source: A commissioned study conducted by Forrester Consulting on behalf of Adobe, September 2009

But Email Is The Default Solution For Collaborative Deliverables

Forrester’s research on collaboration stresses an important distinction between “communication, which allows people to exchange words or text,” and “collaboration, which harnesses communications to help teams work together on documents, presentations, and projects.” Thus, although the telephone is the most prominent collaboration method named in the survey, more attention is warranted by the frequency of email and attachments, as these support teamwork on documents and other tangible deliverables. For example, 81% of knowledge workers said the “high-impact” deliverables they are increasingly asked to produce involve combining multiple file types to create an impression and tell a compelling story. Telephone conversations would naturally contribute relatively little to the teamwork around such deliverables.

Workers Look For Evolutionary Improvements In Collaboration

Although satisfaction with current modes of collaboration is generally high, workers readily acknowledge that improvements are needed. Well-known pain points such as miscommunication, misplaced files, and delays while waiting for others to respond are evident in the desired improvements selected by the respondents. The responses reveal a set of related concerns, such as (see Figure 5):

- **Evolutionary improvements in collaboration.** Given the lack of pronounced dissatisfaction with current methods, it’s clear that US knowledge workers don’t aim to
Building The Future Of Collaboration

reinvent the collaborative wheel. However, when asked what benefits they would seek when improving collaboration, 68% cited a desire to improve the speed and efficiency of collaboration and 62% named improving the exchange of information and ideas. In short, while comfortable enough with today’s collaborative environment, they hope tomorrow will be similar, but better.

- **A reduction of paperwork.** For collaborative work, especially among dispersed teams, paper-based processes can significantly slow down and hamper the exchange of information and ideas. Unsurprisingly, almost seven in 10 respondents cited a reduction of paperwork as a desired benefit of improved collaboration (the most-often-named improvement sought by knowledge workers). Broadening the “digitalization” of knowledge work and collaborative efforts will reduce the use of paper and could also satisfy the 36% of respondents who cited a desire to reduce travel to off-site meetings.

- **Better connections with other team members.** Collaborating with others via email can often leave knowledge workers in the dark. Have the others read my email? Will they respond in a timely manner? Do they understand the security policies for the attachments? The desire to work more effectively as a team is evident in three related desired benefits of improved collaboration: easier access to team members (40%), more effective management of a work process or project (47%), and, with an added security twist, better control over who has access to information (36%).

**Figure 5: Despite High Levels Of Satisfaction, Knowledge Workers Acknowledge That Collaboration Can Be Improved In Many Ways**

“What benefits would you seek when looking for improved ways of collaborating with others?”

- Reduction of paperwork: 68%
- Speed and efficiency of collaboration: 68%
- Improved sharing of information and ideas: 62%
- Better team work among team members: 47%
- More effective management of a work process or project: 47%
- Easier access to team members and colleagues across locations and regions: 40%
- Better control, to specify who has access to information: 36%
- Reduction of travel to meetings: 36%

**Knowledge Workers Need Control Over Stories**

Collaborative work, and the deliverables that result from it, is not simply about exchanging information. Both teams and individual workers are constantly putting information components together in a way that makes the strongest, most persuasive case for the point they want to
establish or defend. In face-to-face presentations, knowledge workers can control the structure and tone of such stories and ensure that they are properly consumed and understood. When communicated at a distance, however, for example by multiple email attachments, the loss of control over the story becomes a pervasive concern of knowledge workers. After software compatibility problems (which would prevent the story from reaching the recipient), workers cited losing control over the intended story (36%) or the order in which elements are consumed by the recipient (31%) as problems encountered in using attachments or .zip files for high-impact documents. In addition, 29% said that a collection of files is simply incompatible with the aim of providing an engaging experience for the recipient (see Figure 6).

**Figure 6: Email And Attachments Raise Concerns Of Communication Effectiveness**

"Which of the following problems have you experienced when using your current tools for creating high-impact documents (for example, when you combine related documents or files in an email or share them in a .zip file)?"

- Some people may not have the correct software to open and read some of the files I send: 61%
- I can't be sure the recipient will understand the overall meaning or complete story I want to tell: 36%
- I can't control the order in which people will engage with the content: 31%
- A collection of files does not provide an engaging experience for the recipient: 29%
- It is too much work for the reader to organize and digest all the content: 23%

Base: 566 US knowledge workers that create high-impact, engaging communications
Source: A commissioned study conducted by Forrester Consulting on behalf of Adobe, September 2009

**European And US Knowledge Workers Have Similar Collaboration Needs**

When looking at the collaboration needs and tools for knowledge workers in US and European nations, the overarching conclusion is that they look more similar than different (see Figure 7). In particular:

- **Knowledge workers in Europe are as likely as those in the US to collaborate with others.** While the nature of collaboration is different — European knowledge workers are more likely to meet with people in different companies, and US knowledge workers are more likely to meet with people in different time zones and geographies — workers in both regions engage in similar levels of collaboration.

- **The tool sets, led by email, are the same in both Europe and the US.** Face-to-face meetings and telephone calls are the most popular communication methods, but in both regions, email is the most common means of collaboration. Seventy-seven percent of European knowledge workers and 76% of US knowledge workers collaborate using email.
• The need to manage how information is shared is virtually identical in both regions. US knowledge workers worry more about their collaborators having the right software to view their documents, and European knowledge workers worry more about controlling the information flow. But workers in both regions desire control over the information experience when collaborating with others.

Figure 7: US And European Workers Share Many Collaboration Needs And Concerns

“How frequently does your work involve collaborating with...[at least weekly]”

<table>
<thead>
<tr>
<th>Collaboration Scenario</th>
<th>Europe</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>two or more people</td>
<td>76%</td>
<td>69%</td>
</tr>
<tr>
<td>people from different departments</td>
<td>60%</td>
<td>60%</td>
</tr>
<tr>
<td>people in different locations</td>
<td>51%</td>
<td>50%</td>
</tr>
<tr>
<td>people in other companies</td>
<td>44%</td>
<td>36%</td>
</tr>
<tr>
<td>people in different time zones and geographies</td>
<td>23%</td>
<td>33%</td>
</tr>
</tbody>
</table>

Base: 700 US knowledge workers and 3041 European knowledge workers*

Source: A commissioned study conducted by Forrester Consulting on behalf of Adobe, December 2008* and September 2009
The Identity Of Core Collaboration Tools Remains Unsettled

US Firms Warm Up To Web 2.0 For Work

US enterprises are focusing on the efficiency of collaborative teamwork. In a 2008 survey of software adoption plans for 2009, 37% of respondents indicated that implementing a collaboration strategy was important or very important. In particular, many firms have begun to pay particular attention to the application of Web 2.0 technologies to the enterprise. In the same survey, 30% of those surveyed indicated that implementing Web 2.0 technology was either a priority or a critical priority for 2009.

In principle, many Web 2.0 tools have the potential to foster and improve collaboration among dispersed and virtual teams of workers within the enterprise. According to a recent Forrester report:

“Fostering collaboration behaviors to propel business results continues to be the elusive goal of many growing organizations. Web 2.0 pundits often preach that these tools hold the keys to transforming an organization’s culture. Pundits assert that Web 2.0 tools could aggregate business information and digital content into shared collections of highly valuable, but freely accessible, assets. If Web 2.0 on the Internet can do this with movie ratings, photographs, and all of human knowledge, then we could use those tools on the intranet for project plans, financial forecasts, and competitive intelligence.”

The 2008 Forrester survey indicated that in both North America and Europe, more than 50% of firms were planning to either purchase or consider at least some Web 2.0 technologies in 2009 (see Figure 8).

Figure 8: Forums And Wikis Will Lead The Charge Of Web 2.0 Technology In 2009

<table>
<thead>
<tr>
<th>Technology Type</th>
<th>Expand/upgrade</th>
<th>Implementing/implemented</th>
<th>Piloting</th>
<th>Interested/considering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussion forums</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wikis</td>
<td>6%</td>
<td>12%</td>
<td>10%</td>
<td>22%</td>
</tr>
<tr>
<td>Blogs</td>
<td>6%</td>
<td>13%</td>
<td>8%</td>
<td>22%</td>
</tr>
<tr>
<td>Podcasts</td>
<td>6%</td>
<td>9%</td>
<td>7%</td>
<td>22%</td>
</tr>
<tr>
<td>Social networking tools</td>
<td>4%</td>
<td>11%</td>
<td>7%</td>
<td>18%</td>
</tr>
<tr>
<td>RSS</td>
<td>5%</td>
<td>11%</td>
<td>6%</td>
<td>22%</td>
</tr>
<tr>
<td>Idea management tools</td>
<td>5%</td>
<td>9%</td>
<td>7%</td>
<td>32%</td>
</tr>
<tr>
<td>Microblogs</td>
<td>2%</td>
<td>14%</td>
<td>5%</td>
<td>15%</td>
</tr>
<tr>
<td>Mashups</td>
<td>2%</td>
<td>3%</td>
<td>4%</td>
<td>13%</td>
</tr>
</tbody>
</table>

Base: 1015 North American and European enterprise IT decision-makers
Source: Forrester Research Business Data Services Enterprise And SMB Software Survey, North America And Europe, Q4 2008
But Knowledge Workers Are Skeptical And Resistant

Although US enterprises appear to be warming up to Web 2.0 technologies, and Web 2.0 tools like wikis, blogs, and social networks are firmly established on the consumer Web, US knowledge workers aren’t finding reasons to use these tools at work.7 The survey showed low usage of Web 2.0 technologies for collaboration among US workers, with 5% using social networks for work purposes, 3% using blogs, and only 2% using wikis as a collaboration tool (see Figure 9). This last finding is particularly striking as other Forrester research indicates that among Web 2.0 tools, wikis have the most application to, and benefit, for corporate work environments.8

Figure 9: Web 2.0 Tools Have Not Yet Caught On

“When you collaborate with 2 or more people, which of the following methods do you use?”

<table>
<thead>
<tr>
<th>Method</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instant Messaging (IM)</td>
<td>25%</td>
</tr>
<tr>
<td>Social Network Web Site</td>
<td>5%</td>
</tr>
<tr>
<td>Blogs</td>
<td>3%</td>
</tr>
<tr>
<td>Wikis</td>
<td>2%</td>
</tr>
</tbody>
</table>

Base: 695 US knowledge workers
Source: A commissioned study conducted by Forrester Consulting on behalf of Adobe, September 2009

Why is the use of Web 2.0 tools for collaborative work purposes so low on average? After all, US consumers are very likely to use these tools at home. For example, a 2008 US study of more than 53,000 US adults found that 26% of US online adults visit social networking sites and 13% publish, maintain, or update a blog.9 At least three factors contribute to the low adoption of these technologies for collaboration in the work place:

- **Business investment in Web 2.0 is still project-oriented.** Although the implementation of Web 2.0 is not in question — for example, 51% of US and European enterprises plan wiki implementations this year — it’s not yet clear at what scale these investments are being made. If a Web 2.0 technology such as a wiki or social network is made available to only a single project team, then the majority of the workforce won’t yet know or care about it.

- **Many knowledge workers feel that existing tools are good enough.** Few employees like change — and if the existing collaboration tools are good enough, then the motivation to adopt a Web 2.0 tool such as a social network is not going to easily displace it. A leading indicator of this “workforce momentum” factor is the low level of confidence that US workers have in the capability of the new technologies to provide more efficient or effective ways to collaborate in the future. This study shows that only 7% of knowledge workers feel that...
social networks can improve collaboration, and wikis and blogs are lower still at 5% and 4%, respectively (see Figure 10).

- **A disconnect between enterprise tools and dispersed workers.** Still in its initial phase, the use of Web 2.0 technologies in the enterprise has been driven by workers who “self-provision” and use consumer tools such as social networks for work purposes. This trend, which Forrester calls “technology populism,” introduces numerous risks around security, control of intellectual property, and compliance. To balance the control of such risks with workers’ desire for more efficient collaboration, companies adopt enterprise-level tools from a variety of vendors — but it’s precisely this variety of solutions that makes it difficult for dispersed and multicompany teams.

**More Established And Familiar Solutions Are Gaining Ground**

Another set of collaborative tools — instant messaging, video conferencing, Web conferencing, and team sites — have been in use for 10 or more years and are a more natural extension of traditional work practices such as telephoning, teleconferencing, and file sharing. Use of these tools is considerably higher than use of Web 2.0 technologies, with Web conferencing at 26%, instant messaging at 25%, team sites at 17%, and video conferencing at 11% (see Figure 10).

**Figure 10: More Established Solutions Such As Conferencing And Team Sites See Broader Usage But Have Not Unseated The Primacy Of Email**

<table>
<thead>
<tr>
<th>Method</th>
<th>Usage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web conference solutions</td>
<td>26%</td>
</tr>
<tr>
<td>Instant Messaging (IM) or chat</td>
<td>25%</td>
</tr>
<tr>
<td>Team collaboration site</td>
<td>17%</td>
</tr>
<tr>
<td>Video conference solutions</td>
<td>11%</td>
</tr>
</tbody>
</table>

Base: 695 US knowledge workers
Source: A commissioned study conducted by Forrester Consulting on behalf of Adobe, September 2009

Once again, however, the adoption of the more established collaborative tools among US workers is still relatively low. Nevertheless, the familiarity bred by longer exposure to these tools clearly counts for a lot among US workers. Compared with the Web 2.0 technologies, workers expressed much higher confidence in the ability of the established team tools to improve their shared work; reaching 53% in the case of Web conferencing (see Figure 11).
Both US And European Workers Trail In Web 2.0 Hopes

As in the US, European firms have more desire to implement Web 2.0 applications like blogs, wikis, and social networks for collaboration than do their workers. In both regions, knowledge workers desire more traditional and comfortable collaboration tools like video conferencing and instant messaging than Web 2.0 tools like discussion forums, blogs, wikis, and social networks (see Figure 12).

When asked about what collaboration technologies they feel would bring the most efficiency or benefit, workers in both regions said:

- **Web conferencing, instant messaging, and video conferencing are most desirable.** These collaboration tools rank highest among newer technologies. European workers in particular are interested in instant messaging and video conferencing, and US workers are attracted to Web conferencing. In fact, a majority of US knowledge workers believe that Web conferencing can improve their collaboration and more than a third of European workers agree.

- **Wikis, blogs, and social networks are still only a faint hope for the few.** On both sides of the Atlantic, these newest tools are too seldom seen as solving collaboration problems. Fewer than 10% of knowledge workers in both regions see these Web 2.0 tools as interesting or important for collaboration.
Figure 12: Web 2.0 Tools Are Still On The Horizon For Most Workers

“Many people rely on face-to-face meetings, phone conversations and email as primary ways to collaborate with others. Which of the following newer technology solutions do you believe can provide more effective or efficient ways to collaborate?”

<table>
<thead>
<tr>
<th>Technology</th>
<th>Europe</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video conference solutions</td>
<td>47%</td>
<td>42%</td>
</tr>
<tr>
<td>Instant Messaging (IM) or chat</td>
<td>42%</td>
<td>36%</td>
</tr>
<tr>
<td>Web conference solutions</td>
<td>39%</td>
<td>53%</td>
</tr>
<tr>
<td>Team collaboration site</td>
<td>32%</td>
<td>33%</td>
</tr>
<tr>
<td>Social Network Web Site</td>
<td>9%</td>
<td>7%</td>
</tr>
<tr>
<td>Wikis</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Blogs</td>
<td>4%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Base: 700 US knowledge workers and 2693 European knowledge workers*
Source: A commissioned study conducted by Forrester Consulting on behalf of Adobe, December 2008* and September 2009

New Technologies Are Still Unable To Usurp Email

The survey data shows a marked propensity among knowledge workers in the US and in Europe to stick with what they know for team collaboration — email and attachments — despite the recognition of needed improvements and despite the availability of alternatives. Given the importance of collaboration and the increasing likelihood that teams will not be working together in close proximity, the challenge for enterprises provisioning collaboration support is clear: Not only must they provide knowledge workers with improved collaboration solutions but they must also support their current work habits while transitioning them to new, and constantly evolving, ways of working. This means finding ways to improve email-based collaboration and trialing newer solutions for specific use cases to test their viability.
Information Gathering Is A Sore Spot For Ad Hoc Collaboration

Working within and across teams to generate ideas and solve business challenges is the core of collaboration. But because of the relative immaturity of Web 2.0 collaboration tools and low adoption of newer technologies, US knowledge workers continue to struggle with data collection — the basic tactic for turning ideas into action. As if the efforts to coordinate time zones, phone numbers, and schedules weren’t frustrating enough, US knowledge workers also suffer frequent déjà vu. Because of the disconnected nature of collaborative efforts, many people are performing redundant tasks of collecting the same pieces of information over and over again (see Figure 13). This type of inefficiency and frustration stems directly from the methods employed to collect information, and enterprise IT’s challenge is to drive adoption of more effective methods that leverage technology to automate redundant tasks.

Figure 13: Increasingly Distributed Collaboration And Teamwork Requires Knowledge Workers To Gather Information From Others

“How often do you need to collect the same multiple pieces of information from a number of people you work with?”

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>10%</td>
</tr>
<tr>
<td>Less often than once a month</td>
<td>27%</td>
</tr>
<tr>
<td>About once a month or more often</td>
<td>63%</td>
</tr>
<tr>
<td>Daily</td>
<td>7%</td>
</tr>
<tr>
<td>Several times a week</td>
<td>20%</td>
</tr>
<tr>
<td>Once every 2 or 3 weeks</td>
<td>19%</td>
</tr>
</tbody>
</table>

Base: 700 US knowledge workers
Source: A commissioned study conducted by Forrester Consulting on behalf of Adobe, September 2009

Traditional Collection Methods Waste Time And Create Extra Work

As distributed collaboration and teamwork increasingly require knowledge workers to gather information from others, limits to the traditional methods of doing so surface. Data collection ranging from document feedback to information capture for business processes suffers when relying on telephone conversations or paper notes from in-person meetings. While real-time communications may be a preferred method of collaboration, the tools to input and synthesize data have not served the ad hoc use case. Consider the following:

- **Knowledge workers mostly hit “send.”** Email (73%) and telephone (59%) were the dominant methods for collaboration. This preference also holds for ad hoc data gathering. People favor the phone and email despite the availability of collaborative team sites and other new technologies geared at providing a virtual workspace. The reliance on these comfortable methods of communication hinders efficient data collection, creates opportunities for errors in transcription, and increases the time and effort to combine inputs.
• **Knowledge workers lose time with email.** US knowledge workers rely on email and use this method most frequently for distributing forms for data collection (see Figure 14). But once these forms go out, the effort to compile responses and put the data to work often creates redundancies and extra work. Without technology to extract and synthesize data collected via forms in email attachments, making sense of the answers received becomes largely a manual effort that creates extra busywork without adding value.

**Information Collection Methods Vary By Country**

US knowledge workers may ideally prefer to collaborate in person and over the phone, but email leads the way when it comes to document-based collaboration, especially collecting information. However, while email may be the dominant method of collecting information in the US, European countries show slightly different preferences (see Figure 14).

• **US workers rely heavily on paper forms for information collection.** Thirty-eight percent of US knowledge workers use paper forms for collecting information compared with 30% of Europeans. Both regions are consistent in their use of electronic tools — less than a third use more targeted applications for information collection, such as software solution or Web survey forms.

• **Europeans favor the phone more than US workers to collect information.** Conversations on the phone are close behind email in usage for Europeans, with a difference of just 7 percentage points between those using email (68%) and those using the phone (only 61%). In the US, this difference is 14 percentage points, with 73% using email and just 59% using the phone. This is consistent with slightly higher usage of technology approaches in the US compared to Europe.

**Figure 14: Most Knowledge Workers Hit Send And Wait For Reply To Collect Information**
US Knowledge Workers Perceive The Productivity Problem

It’s not as though US and European knowledge workers don’t recognize that they have a problem. They do. Common complaints about email and telephone-based data gathering note that it’s time-consuming, unsystematic, and does not document results. And they are looking for ways to improve information gathering to address these current deficiencies (see Figure 15).
Figure 15: Knowledge Workers Are Looking For Greater Efficiency Than Current Approaches Allow, So That Work Can Be Done Faster And Easier

“What benefits would you seek when looking for improved ways of collecting information from others at work?”

- Faster, more efficient collection of information: 63% Europe, 66% US
- Making it easier for people to provide correct, accurate information: 53% Europe, 54% US
- Reducing paper used to collect information: 49% Europe, 51% US
- Reducing need for re-typing of information I collect: 47% Europe, 55% US
- Making responding to my information request easier and more engaging: 42% Europe, 47% US
- Simplifying ways of analyzing the information collected: 40% Europe, 40% US
- Increasing the number of people responding to my information request: 34% Europe, 33% US

Base: 700 US knowledge workers; 2,693 European* knowledge workers
Source: A commissioned study conducted by Forrester Consulting on behalf of Adobe, December 2008* and September 2009

The strong desire to be able to work faster and be more efficient becomes heightened as firms’ reliance on knowledge workers’ productivity increases. Peter Drucker foresaw this modern challenge for business in 1999 when he said: “The most valuable assets of a 20th-century company were its production equipment. The most valuable asset of a 21st-century institution, whether business or nonbusiness, will be its knowledge workers and their productivity.”11 The most significant benefits sought by US knowledge workers address core business and personal concerns around information collection, such as:

- **Being faster and more efficient.** No one enjoys performing repetitive tasks or feeling undervalued because their boss doesn’t realize the efforts they go through to complete a report or project. Competitive advantage can be gained through being faster, and it’s much more rewarding to feel that your energy is being directed to constructive endeavors. It’s for these reasons that the top benefit sought by US knowledge workers is to be able to collect information faster and more efficiently.

- **Making it easier for people to provide accurate information.** The frustration of data collection doesn’t only reside with the person gathering the information but is also a sore spot for knowledge workers providing information. Improved means to extract more reliable information from those providing it can improve others’ reliance on data, simplify the effort to provide information, and reduce the need for retyping the information collected. These benefits can be translated into increased response rates and improved analysis in downstream processes.

- **Creating a more engaging experience for the user.** In concert with making it easier to provide correct information, US knowledge workers also want to make the experience of
those providing information more engaging. The benefits to an easier, more compelling experience to provide input can also create benefits, such as improved perception of your team and efforts, and improve response rates.

- **Minimizing the use of paper.** While benefits sought tend to relate to business impacts, personal values like being green and saving paper also come into play when US knowledge workers think about how they collect information. Paper forms are not only time-consuming to input and create opportunities for error, but they are also costly to the environment. More than two-thirds of US knowledge workers say being green matters to them (see Figure 16). This awareness of environmental impacts can help drive adoption of improved methods to collect information.

**Figure 16: Being Green And Saving Paper Matters A Lot To Most Knowledge Workers**

“How important is it to you to minimize the amount of paper used in sharing information, collaborating around documents and collecting information from others?”

<table>
<thead>
<tr>
<th>Response</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely Important</td>
<td>26%</td>
</tr>
<tr>
<td>6</td>
<td>25%</td>
</tr>
<tr>
<td>5</td>
<td>25%</td>
</tr>
<tr>
<td>Neutral</td>
<td>16%</td>
</tr>
<tr>
<td>3</td>
<td>5%</td>
</tr>
<tr>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>Extremely Unimportant</td>
<td>1%</td>
</tr>
</tbody>
</table>

Base: 700 US knowledge workers
Source: A commissioned study conducted by Forrester Consulting on behalf of Adobe, September 2009

**US Knowledge Workers Want A Better Way To Collect Information**

Given the pain US knowledge workers have around data collection, whether it be through forms attached in emails or ad hoc information gathering over the phone, it’s no surprise that they have an overwhelming interest in learning about improved methods. Sixty-six percent of US knowledge workers were interested in tools that allow you to simply create electronic forms and analyze the information collected. And for enterprise IT decision-makers, Forrester’s study shows that the top concerns are that people are satisfied with the technology and service provided and ensuring strong adoption (see Figure 17). Finding a better way to collect information becomes a challenge for enterprise IT, which needs to balance the desires of US knowledge workers to employ their preferred collaboration methods of phone and email while addressing the benefits they are seeking.
To achieve this goal, enterprise IT will need to develop a common approach that can:

- **Work with the preferred methods of US knowledge workers.** Collaborative workspaces haven’t gained the traction in businesses that phone and email overwhelmingly enjoy for collecting information. But developing data collection solutions via collaborative workspaces will be hard given the low adoption so far by knowledge workers of these approaches. So enterprise IT departments must embrace email and phone-based data collection and identify approaches that work in these environments, such as surveys or forms, that help compile data, not just collect it.

- **Realize quantifiable benefits in time, effort, and accuracy.** Benefits need to be measured. Any efforts made to change the current method of data gathering need to start by determining a baseline of time, effort, and level of accuracy currently achieved. Alternatives can then be measured against this baseline so that enterprise IT has a compelling story to tell the business about its success. Time, effort, and accuracy also have monetary correlations, so efforts to demonstrate return on investment (ROI) lend great support as well.

- **Meet expectations for an enhanced user experience.** Hand-in-hand with providing greater efficiency, improving the experiences of those providing input ranked high among US knowledge workers. Perhaps the ad hoc manner and varying forms used today to collect information inhibit greater input. As US knowledge workers have expectations about what a rich, engaging experience should be, enterprise IT must work with the business units to understand the pain points of existing experiences. Creating a clean, simple interface that engages the user will please all.
The Bar Has Been Raised For Communications Quality

The Internet and digital media revolutionized mass communications. Every day, people have access to multimedia content to get their news, go shopping, and be entertained. These vivid, integrated communications enhance customer experiences. Similarly, knowledge workers today want to be able to create high-quality, engaging experiences for their projects. In the enterprise, electronic communication mechanisms like email and portals enable sharing of rich, engaging content to communicate ideas and create deliverables. US knowledge workers believe that the benefits of improving the visual quality of these documents can improve their companies’ brand and image, lower costs, and build awareness (see Figure 18).

Figure 18: Quality Presentation Should Improve Brand And Sales And Lower Costs

“Which benefits would you seek from improving the visual or perceived quality of a document?”

- Improve company / brand / product image: 46%
- Lower costs: 45%
- Build awareness of your company or brand: 39%
- Increase sales: 38%
- Provide easier customer interaction: 37%
- Increase revenue: 36%
- Increase customer loyalty / retention: 35%
- Competitive advantage: 35%
- Increase use of services (online or in-house): 31%
- Increase margins / profits: 29%
- Build company / brand / product preference: 25%
- Increase key transactions: 19%
- Involve customers in creation and development: 13%
- Don’t know: 4%
- None: 4%
- Other: 2%

Base: 566 US knowledge workers that create high-impact, engaging communications
Source: A commissioned study conducted by Forrester Consulting on behalf of Adobe, September 2009

But as the bar for more compelling and effective ways to communicate is rising, the current tools will not fully empower them. An increasingly distributed workforce and lack of collaboration alternatives pose challenges to engagingly communicating ideas. And firms face numerous obstacles to improving their customer experience efforts, including lack of budget, cooperation, a clear customer experience strategy, and management processes (see Figure 19). In 2008, the US economic downturn’s impact on budgets surpassed all other barriers. The pressure to ensure quick-win, rapid ROI means that efforts to improve customer experience can be bolstered when tied to investments that improve productivity or provide other additional benefits.
There’s A Growing Need To Create Compelling Communications

As expectations for engaging communications experiences grow, knowledge workers find themselves increasingly needing to create high-quality, persuasive communications. Nearly half (46%) of all US knowledge workers indicate that they need to create high-impact content once a month or more (see Figure 20). And when they do, 76% are combining multiple files to present their work. Given this broad need for knowledge workers to communicate in ever-more compelling ways, enterprise IT organizations must adopt the “Design For People” approach to help US knowledge workers succeed.13 This means providing solutions to share high-quality communications, with knowledge worker needs in mind, and to build for change because their needs will shift as collaboration tools and enterprise Web 2.0 mature.

From a Design For People perspective, organizations historically have pretty much only focused on the highly predictable, structured parts of business processes. Activities like desktop computing, authoring documents, and collaborating with others are rarely, if ever, considered part of a new application. It’s as if there are two parallel universes: Structured business processes make up one world, and all the other work that people do outside the structured process is another. The result? People are left to figure out how collaboration, content creation, voice communications, and other less predictable interactions fit into the business process.
Top US High-Impact Communications Differ From European Deliverables, But The Challenges Are Universal

When it comes to developing these high-impact communications, US knowledge workers create a lot of customer-facing materials. Europeans knowledge workers also regularly produce high-impact communications, but there is a different emphasis by region on certain types of high-impact communications (see Figure 21). Europeans overall tend to be engaged with more high-impact communications, particularly customer-facing and engineering or technical documents. US knowledge workers meanwhile are far more likely to be generating financial reports or regulated documents.
But these efforts often face tactical challenges that span geographies. In the exchange of content through email or by employing new technologies, software compatibility becomes a big concern. This is especially true when creating high-impact content that may originate in specialized applications that enable sophisticated design, presentation, or multimedia. In fact, 61% of US knowledge workers say they have experienced problems from others not having the correct software when using current tools for creating high-impact documents (see Figure 22). In Europe, 56% of knowledge workers report the same issue.
Figure 22: Wrong Software Is The Top Concern For Sharing High-Impact Deliverables

“Which of the following problems have you experienced when using your current tools for creating high impact documents (for example, when you combine related documents or files in an email or share them in a .zip file)?”

<table>
<thead>
<tr>
<th>Problem</th>
<th>US</th>
<th>Europe*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some people may not have the correct software to open and read some of the files I send:</td>
<td>56%</td>
<td>61%</td>
</tr>
<tr>
<td>I can’t be sure the recipient will understand the overall meaning or complete story I want to tell:</td>
<td>38%</td>
<td>36%</td>
</tr>
<tr>
<td>I can’t control the order in which people will engage with the content:</td>
<td>37%</td>
<td>31%</td>
</tr>
<tr>
<td>A collection of files does not provide an engaging experience for the recipient:</td>
<td>33%</td>
<td>29%</td>
</tr>
<tr>
<td>It is too much work for the reader to organize and digest all the content:</td>
<td>28%</td>
<td>23%</td>
</tr>
<tr>
<td>None of the above:</td>
<td>13%</td>
<td>14%</td>
</tr>
<tr>
<td>Other (Please specify):</td>
<td>0%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Base: 566 US knowledge workers and 2,522 European knowledge workers
Source: A commissioned study conducted by Forrester Consulting on behalf of Adobe, December 2008* and September 2009

Tools Used By Knowledge Workers Fail To Meet Expectations

Despite the need to develop and collaborate on so much customer-facing content geared at enhancing experiences, today’s default tools do not give knowledge workers the edge they need. This failure confirms enterprise IT professionals’ worst fears about their efforts to provision knowledge workers: a clear lack of satisfaction with the technology provided. The biggest knowledge worker complaints are:

- **Technical difficulties prevent viewing.** There is no greater aggravation than trying to coordinate technologies in order to view materials. After spending time and effort to create engaging, high-impact content, being frustrated by incompatibility can cause missed deadlines. So it’s no wonder that software version issues rank as the No. 1 complaint, with far more than half (61%) of US knowledge workers saying that this is a concern.

- **Meaning not being accurately conveyed.** Sending multiple attachments or large PowerPoint presentations to tell a story creates anxiety for US knowledge workers who can’t be assured that the recipient will understand the overall message being communicated. More than one-third of respondents (36%) expressed concern that their storylines won’t be understood.

- **The lack of control over the narrative.** The challenge to make sure their story can be understood stems from sending communications as multiple email attachments, which makes it difficult or impossible to manage how the materials are consumed. Controlling the order in which people view high-impact communications also ranks as a concern for 31% of US knowledge workers.
People Are The Problem: Unsecured Information Puts Organizations At Risk

While firms regularly invest in technology and define processes to secure data, people often foil the best-laid security plans. Increased collaboration means that companies are more often exposing confidential/sensitive information. But knowledge worker behavior and attitudes are not in tune with enterprise security concerns. In fact, Forrester's 2008 Security Forum US found that delegates overwhelmingly chose "poor protection of information assets" and "employees acting in unauthorized ways" as the top two enterprise IT threats they will face in the coming year. Meanwhile, protecting sensitive corporate data tops the list of business priorities for US and European enterprise IT security groups this year (see Figure 23).

Figure 23: Data Protection Tops The List Of Business Objectives For Enterprise IT Security Groups

Forrester believes that all security and risk leaders know that successful security programs blend people, technology, and process elements (see Figure 24). People are the most important and yet the most difficult component to address. Without receptive people, you can't implement desired technology and process. This is also the most difficult component, though, because people are much less predictable and measurable than technology or process. Also, information security requires adapting to a changing threat landscape, and people are inherently resistant to change.

The fact is that security is not a top priority for most employees. This disconnect between the importance that enterprise IT managers place on security versus knowledge workers means that enterprise IT organizations must market their message on the criticality of security to their firms' knowledge workers. Raising awareness and changing behavior requires an enterprise IT messaging effort that engages the business and illustrates the risks posed by a lackadaisical
attitude around document-level content security — from potential job loss to privacy breaches that could result in legal action.16

**Figure 24: Information Security Framework**

![Information Security Framework Diagram](image)


**The Belief Is That Sensitive Information Is Secure . . .**

Knowledge workers frequently share sensitive information — at least once a month or more for most US professionals (see Figure 25). Because they are handling so much sensitive information, the content they exchange can pose a substantial security risk. Despite these risks, enterprise IT continues to lack control over their knowledge workers to prevent accidental exposure of sensitive information.

Enterprise IT security professionals are right to be concerned: Knowledge workers are sharing everything from legally and financially sensitive content to IP and competitive positioning information, as well as documents that need to comply with government or regulatory standards, or corporate guidelines. And because they are handling so much sensitive information, the content that knowledge workers exchange can pose a substantial risk.

The struggle to minimize the risk posed by knowledge workers sharing sensitive information is compounded by the fact that the workers themselves do not perceive it as a problem. Confidence is high that shared sensitive information is secure: Seventy-eight percent of US knowledge workers have a strong belief that information shared within their organization is safe (see Figure 26). This rate goes down when shared outside of their organization but still represents more than 40% of knowledge workers having confidence that their sensitive information is safe.
Figure 25: Knowledge Workers Regularly Share Many Types Of Sensitive Information

“How frequently do you create and share information or documents of the following types?”

<table>
<thead>
<tr>
<th>Type of Information</th>
<th>Never</th>
<th>About once a month</th>
<th>Daily</th>
<th>Only once or twice</th>
<th>Once ever 2 or 3 weeks</th>
<th>Less often than once a month</th>
<th>Several times a week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comply with strict government or regulatory standards or corporate guidelines</td>
<td>22%</td>
<td>14%</td>
<td>11%</td>
<td>13%</td>
<td>11%</td>
<td>12%</td>
<td>17%</td>
</tr>
<tr>
<td>Important to my company’s competitive position in the marketplace</td>
<td>21%</td>
<td>11%</td>
<td>8%</td>
<td>13%</td>
<td>17%</td>
<td>16%</td>
<td>14%</td>
</tr>
<tr>
<td>Intellectual property or information that is proprietary to my company or workgroup</td>
<td>20%</td>
<td>11%</td>
<td>10%</td>
<td>14%</td>
<td>14%</td>
<td>17%</td>
<td>14%</td>
</tr>
<tr>
<td>Legally or financially sensitive</td>
<td>9%</td>
<td>12%</td>
<td>11%</td>
<td>16%</td>
<td>15%</td>
<td>18%</td>
<td>19%</td>
</tr>
<tr>
<td>Information that must not be modified by others</td>
<td>10%</td>
<td>11%</td>
<td>10%</td>
<td>14%</td>
<td>16%</td>
<td>20%</td>
<td>18%</td>
</tr>
<tr>
<td>Sensitive information that requires the protection of the privacy of others</td>
<td>12%</td>
<td>13%</td>
<td>9%</td>
<td>12%</td>
<td>14%</td>
<td>18%</td>
<td>22%</td>
</tr>
</tbody>
</table>

Base: 700 US knowledge workers
Source: A commissioned study conducted by Forrester Consulting on behalf of Adobe, September 2009

Figure 26: Confidence In Sharing Information Is High For Inside An Organization, But Drops Sharply For Outside The Organization

“When you share documents with sensitive information with others, how confident are you that it is safe from unauthorized access or use?”

<table>
<thead>
<tr>
<th>Confidence Level (1-7)</th>
<th>Completely Unconfident(1)</th>
<th>Completely Confident(7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inside your company</td>
<td>1%</td>
<td>18%</td>
</tr>
<tr>
<td>Outside your company</td>
<td>3%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Base: 700 US knowledge workers
Source: A commissioned study conducted by Forrester Consulting on behalf of Adobe, September 2009
But The Truth Is Sensitive Data Is Not Consistently Secured

To secure shared information, just over half of knowledge workers regularly use software controls and PDF, but more than one-third still share paper copies (see Figure 27). Those not taking any measures to ensure the security of sensitive information put the entire organization at risk. The broad use of PDF by more than half of US knowledge workers (58%) reinforces its acceptance as a preferred means for document exchange. But how can an enterprise IT organization know how to combine the technology, process, and people and measure their effectiveness?

Developing security metrics to measure efforts needs to focus on each input for the solution. For people, this means defining metrics around training and awareness. Areas to focus on from the process side include information risk management and information asset management. And technology metrics will look to understand how sensitive data is stored, accessed, and handled.

For enterprise IT, regardless of whether sensitive content is shared within or outside the organization, efforts need to be made to:

- **Educate knowledge workers about the risk they pose.** The data clearly shows that there is little concern that sensitive information is at risk of being exposed. Surfacing risks such as privacy breaches or exposure of competitive information and the personal implications that result — from embarrassment to loss of employment — will help make the case. Enterprise IT also needs an engaging way to convey this message as it sells its importance to the business.

- **Find tools and processes that minimize the exposure of sensitive information.** Enterprise IT's role is to support business needs. As noted, designing for people means that tools and processes to minimize security risk need to be flexible to work the way that people want to work. Taking away USB sticks or creating barriers to the current way of exchanging communications will not go over well with workers. Instead, focus on the points in the process that pose the greatest exposure, and find ways to integrate tools or process steps that minimize risk but don’t change how people want to work.

- **Reduce security risk by aligning technology, processes, and people.** Efforts to educate knowledge workers, refine processes, and provision tools lower the risk of exposing sensitive information. Data breaches are embarrassing, painful, and costly. In the US alone, more than 250 million records containing sensitive personal information have been involved in security breaches since January 2005.

US Workers Are More Likely To Secure Sensitive Information . . .

To secure shared information, knowledge workers use PDF files and passwords, but US workers consistently demonstrate a higher use of security approaches across the spectrum of tools (see Figure 27). The lack of consistency in approaches to security and the tools used underscores enterprise IT security managers’ fears about the risk posed by people in the information life cycle. In today’s workplace:

- **Passwords are used by most to protect sensitive information.** On average, more than half of knowledge workers rely on passwords to secure sensitive information. But still, it’s just 53% of European and 59% of US knowledge workers leveraging these controls for content — not the level of usage sought by enterprise IT security professionals.

- **European knowledge workers lag in use of security controls.** Europeans lag in use of nearly every security control tool. This consistent gap in adoption of new technologies and
controls positions the US to develop early learning on best practices and drive feature improvements.

- **The US leads in the use of software to prevent access to or limit the use of docs.** From processes to tools to secure sensitive information, US workers hold an edge in putting processes in place to secure content. US knowledge workers lead in the use of software controls or software to prevent access to portions of a document.

**Figure 27: Workers Use A Variety Of Controls When Sharing Sensitive Information**

<table>
<thead>
<tr>
<th>Control Type</th>
<th>US %</th>
<th>Europe %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use software controls (like passwords) to allow only authorized people</td>
<td>53%</td>
<td>59%</td>
</tr>
<tr>
<td>to open and read the document</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create and share a PDF version of the original document</td>
<td>49%</td>
<td>58%</td>
</tr>
<tr>
<td>Share only a paper copy of the document to prevent people from editing my</td>
<td>34%</td>
<td>42%</td>
</tr>
<tr>
<td>original document</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use software controls to limit use of the document (e.g., restricting</td>
<td>29%</td>
<td>43%</td>
</tr>
<tr>
<td>printing, editing or sharing)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use software to prevent access to portions within a document that contain</td>
<td>14%</td>
<td>18%</td>
</tr>
<tr>
<td>sensitive information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use a document management solution to manage access and versions of a</td>
<td>11%</td>
<td>13%</td>
</tr>
<tr>
<td>document</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Base: 700 US knowledge workers and 3,041 EMEA knowledge workers

Source: A commissioned study conducted by Forrester Consulting on behalf of Adobe, December 2008* and September 2009

. . . But Are Least Satisfied With The Tools And Processes In Place

Even though US knowledge workers lead in the use of controls and tools to secure sensitive information, they aren’t satisfied with their current approach. While 70% of all knowledge workers surveyed indicate satisfaction with the tools in place, US workers — who employ the most tools — have dramatically lower levels of satisfaction, at only 17%. This is a big disconnect and puts the onus on enterprise IT to find methods that knowledge workers can more readily embrace for sharing sensitive information.

**Information Security Starts With Individuals**

While data center security is the first step toward data protection, it will not guard against insider abuse or access control violations. Forrester believes a much more comprehensive but time-consuming strategy will focus on the process of managing the data life cycle, starting from classification and ending with disposal. Adequate user security awareness and training is required to ensure that the users become the first line of defense.¹⁹
This people-first approach to information security will lay the foundation for all other enterprise IT security initiatives (see Figure 28). Despite well-written policies and good intentions, breaches could happen in most organizations today. And because knowledge workers’ use of controls to secure information varies and the level of satisfaction is low for many, enterprise IT security needs to increase awareness and training around the available and preferred document-level security tools.

**Figure 28: Information Security Must Start At The Individual Level**

Conclusion: Bridging The Gap

In today's fast-paced, interconnected world, effective collaboration is becoming increasingly important. Knowledge workers still heavily rely on email and telephone for collaboration, but these don't fully meet their needs. There’s interest in new, improved ways of collaborating, but the low adoption of Web 2.0 technologies throughout US demonstrates a lack of readiness by US knowledge workers to radically change the way they work. Today’s collaboration requirements are only a midpoint on a trend line toward a highly distributed, digitally connected, partner-fueled, and customer-driven future.

To help knowledge workers progress in an evolutionary manner, enterprise IT must promote more effective collaboration that supports and improves existing email-based collaborative behavior while also facilitating the adoption of new and more efficient tools. Supporting people in the way that they really want to work means taking a knowledge-worker-centric view of collaboration (see Figure 29). In the universe of the knowledge worker’s needs, tools must be flexible to help speed functions, locate information, provide context for work, and enable processes. From a collaboration perspective, this focus will ensure that enterprise IT efforts to improve information collection, the creation of high-impact communications, and secure sensitive information are flexible enough to be adopted and successful.

Figure 29: People Need Flexible Tools To Support The Way They Really Want To Work

Enterprise IT can begin to bridge this gap and enable the transformation to support knowledge workers in the way they really want to work by:

1. **Building a collaboration framework for documents that supports behaviors.** Today, the overwhelming majority of knowledge worker collaboration involves documents that are exchanged via email. Facilitating efficiencies within the email framework while extending access to Web-based conferencing and team sites can improve collaboration. Knowledge workers have been slow to adopt newer technologies, so focus on solutions that integrate...
with ingrained behaviors as a way to ease better collaboration technologies into daily activities.

2. **Upgrading document-based data collection.** Knowledge workers everywhere can’t keep up with their work. Often, it’s because they are rekeying information collected, receiving inaccurate information, or using more paper in their processes than they want or need. We know that the Web is a more satisfying information collection method than email, but if documents had better data collection functionality, the most common way of working — email — could also become the most satisfying and efficient way to gather data.

3. **Identifying security tools and processes that match how people work.** The natural actions of regular people are the biggest challenge in securing information. Given that email and document-based collaboration are at the core of how knowledge workers get their jobs done, enterprise IT professionals need to understand how people actually work and create processes and technology solutions that fit into the way they work. For example, protecting a document with a strong password as a matter of course or setting up secure email links with key partners can improve security without compromising efficiency.

Enterprise IT departments that can successfully lead this evolution will benefit the business by enabling greater productivity and efficiency. Knowledge workers that can realize improvement without having to radically change their approach to collaboration for collecting, creating, and securing sensitive information will also be more satisfied with their workplace.
Appendix A: Methodology

In this study, Forrester conducted an online survey of 700 knowledge workers within organizations in the US to understand more about collaborative work in US companies. Questions provided to the participants asked about how workers collaborate and the tools they use. The study was conducted from February to September 2009. Additional information on the respondents includes the following:

- 700 US-based respondents.
- Respondent will have an Internet-connected computer.
- Respondents will have office productivity software tools.
- Respondents needed to be employed full time.
- A split by organization size: 1 to 49, 50 to 499, and 500-plus.
- Various industries, with no more than 20% of government and education professionals.

Included in this research, Forrester also looked at an online survey also conducted on behalf of Adobe for a similar project in Europe. This research was an online survey of 3,000 knowledge workers within organizations in Europe to understand more about collaborative work in this geography. The research for the study was conducted in September 2008 and the project was completed in December 2008. The breakdown of responses by country was:

- 600 online interviews per country for France, Germany, and the UK.
- 300 online interviews per country for Netherlands, Sweden, Italy, and Spain.
Appendix B: Endnotes

1. To get work done, distributed and B2B teams need real-time collaboration tools that replicate the power and experience of face-to-face meetings and support “pervasive” interactions. Fortunately, real-time tools are getting better. Presence shows team members’ context; instant messaging (IM) moves the dialog to mobile devices; Web conferencing allows video and document sharing; and telepresence delivers face-time quality. But which tools are best for your teams? A new analysis, based on the way your teams interact and how they are distributed, will help you choose the right tools and vendors. Source: September 4, 2008, “Distributed Teams Need Real-Time Collaboration Tools” Forrester report.

2. As Baby Boomers leave the workforce, opportunities will arise to adjust work environments to meet the needs of the changing workforce. For example, the Millennials’ attitude toward technology and work could become the predominant culture as the average age of employees moves downward. Millennials question why workers perform any type of manual work. If a task can be automated, Millennials ask — and even demand — to know why it isn’t. If a Millennial worker perceives that his employer has outdated systems or insufficient enterprise IT tools, he will change jobs to find a better work environment. This approach is in sharp contrast to the Baby Boomer mindset; Baby Boomers will tend to soldier on with outdated processes, semi-automated work, and laborious work methods. The changing workforce presents a new opportunity to bring in collaboration tools, informal learning, the Information Workplace, Enterprise Web 2.0, virtual worlds, and other new technologies that a younger workforce will adopt readily. Source: March 4, 2008, “The Workforce Is Changing; What Are You Doing About It?” Forrester report.

3. Source: Forrester’s Enterprise And SMB Software Survey, North America And Europe, Q3 2007. From July to September 2007, Forrester conducted a phone survey of more than 2,200 enterprise IT decision-makers in North America, France, Germany, and the UK, asking about their firms’ enterprise software adoption plans.

4. The term "Web 2.0" was coined by Harvard Business School Associate Professor Andrew P. McAfee, MIT Sloan Management Review, Spring 2006. Enterprise Web 2.0 commonly refers to the use of Web 2.0 tools in the context of business (and in most cases within the intranet). Web 2.0 refers to the concept of a transformed work environment that adopts the cooperatives behaviors found in successful Web 2.0 communities. Source: Andrew McAfee, "The Trends Underlying Web 2.0," Harvard Business School, March 4, 2008 (http://andrewmcafee.org/2006/03/the_three_trends_underlying_enterprise_20/).

5. No longer new, Web 2.0 technologies solve problems that enterprises have today — but most have not yet used these tools to anywhere near their potential. Waiting for tools to mature seems prudent, but if you wait too long, employees may create their own collaborative environments on the Web. Timing your next move requires you to track the maturity of enterprise Web 2.0 technologies. In a careful examination of the marketplace and trends for enterprise Web 2.0 tools, we reveal that organizations find wikis valuable, forums stable (though underutilized), and report mixed success with blogs. Enterprise social networking tools stand ready to redefine workplace collaboration, adding new value to your organization's content by associating it with peers and experts. Source: November 3, 2008, “Forrester TechRadar For I&KM Pros: Enterprise Web 2.0 For Collaboration” Forrester report.

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This is a graphical analysis of Forrester’s North American Technographics® Benchmark Survey, 2008. It is our annual guide to device adoption and forecasts, demographics, and technology attitudes and behaviors based on a mail survey of 60,847 adults. Source: July 21, 2008, “The State Of Consumers And Technology: Benchmark 2008” Forrester report.

Thanks to an advancing technology-native workforce, ubiquitous broadband, and abundant collaboration and Social Computing tools, information workers can now provision their own software tools, information sources, and social networks via the Web to support their jobs. Individual people, not IT organizations, are fueling the next wave of IT adoption we’re calling Technology Populism. The upshot: Information and knowledge managers must balance new opportunities — derived from rich social interaction powered by Enterprise Web 2.0 tools — and new risks — like compromised security and privacy and poor control of intellectual property. Technology Populism is a wake-up call that forces information and knowledge management (I&KM) professionals to rethink how they currently evaluate, provision, and support collaborative software and services. New policies and guidelines will be paramount. Source: February 22, 2008, “Embrace The Risks And Rewards Of Technology Populism” Forrester report.


Executives have been saying for awhile that customer experience is important. Only recently, however, have many of them begun to understand its direct link with loyalty. As a result, companies are starting to develop more disciplined approaches to customer experience management. But they have a long way to go. When we examined responses to our Experience-Based Differentiation (EBD) self-test, it was clear that many organizations are pretty low on the customer experience maturity scale. That’s why there are significant opportunities for improvement, especially when it comes to Web sites — 60% of which failed our evaluations in 2008. So where is customer experience today? In its adolescence. Customer experience management will need nurturing and patience over the next few formative years. Source: April 24, 2009, “The State Of Customer Experience, 2009,” Forrester report.

Forrester's concept of "Design For People" emphasizes the close alignment of the technology that businesspeople use with the collection of business processes they participate in and the individual's work assignments, work style, and preferences. Source: August 27, 2008, “Develop Your ‘Design For People’ Game Plan” Forrester report.

Forrester held its second Security Forum EMEA in Amsterdam on April 2 and 3, 2008, with 125 security and risk management (SRM) professionals in attendance discussing how to tackle transformation and achieve excellence in SRM. We asked many of these delegates about the
issues that matter the most to them in performing their jobs — the challenges and worries that they face every day. The SRM professionals we spoke with are focusing their attention more on the internal threats to their information security rather than on those coming from beyond the extended enterprise. Source: July 25, 2008, “European Security Managers Turn Their Gaze Inward In 2008” Forrester report.


16 In a recent survey, Forrester found that the majority of security metrics programs are still in their infancy or planning phases. The respondents cited two main challenges in developing their metrics programs: finding the right metrics and translating the security metrics into business language. A lot of security managers are focused on gathering and reporting tactical and status update information. To develop a successful security metrics program, CISOs need to identify, prioritize, monitor, and measure security based on business goals and objectives. They should then focus on translating those measurements into business language to help executive management in strategic business decisions. Source: January 18, 2007, “Defining A High-Level Security Framework” Forrester report.

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18 The Privacy Rights Clearinghouse is a nonprofit organization that has been tracking data breaches in the US since 2005. It provides a chronology of data breaches and details about the type of breach on its Web site; visit http://www.privacyrights.org/ar/ChronDataBreaches.htm#CP for more information.

19 The first crucial step to data security is to develop a policy and educate and train the users. Source: January 20, 2009, “Twelve Recommendations For Your 2009 Information Security Strategy” Forrester report.

20 Enterprises risk losing customer confidence, reputation, and shareholder value, and the impact of an extensive leak of corporate data could result in losses of similarly epic proportions for their business. Data-centric security and data leak prevention (DLP) technologies don't fix inherently broken processes and eliminate human error, but they do ultimately enable enterprises to better safeguard their information assets based on policies and risk. Ultimately, the HMRC breach — and the others that will undoubtedly follow — will boost European and global enterprise interest in a DLP and data-centric security approach. Source: January 16, 2008, “Oops! Data Leaks Are Not Just An American Problem” Forrester report.