

Using Mobile Devices to Deliver Knowledge at the Teachable Moment

Power in the palm of your hand

Smart phones—and, more recently, tablet computers—are becoming the principal digital tools of our generation. The tagline “We have an app for that” has entered our cultural lexicon, and many appear to be perpetually hunched over iPhones, BlackBerries, and other devices. But how do these technologies affect the way we document and transfer knowledge inside organizations?

Smart phones have been around a long time. There are well-established corporate policies and precedents for:

- ▶ how to manage security;
- ▶ who pays for the device and its text, voice, and data charges;
- ▶ how to ensure information security; and
- ▶ how the IT function can establish, manage, and integrate the whole system.

What are not well-established are guidelines for how knowledge management (KM) professionals can capitalize on these ubiquitous, addictive pocket friends. What is appropriate to share through that tiny screen? How much do people want to know, and when do they want to know it? What can we learn from these systems?

The growing dependence on continuous communication via mobile devices is just the beginning. Demand for access to content and instant answers in the “I need it now” world is becoming more prevalent. The opportunities for knowledge sharing, knowledge reach, and knowledge co-creation are vast. Now is the time for the KM community to seize these opportunities and leverage mobile devices to deliver knowledge at [the teachable moment](#)—the moment at which someone is most in need of, and therefore most receptive to, learning.

The Benefits of Mobile KM

Mobile devices enable an organization to respond to employees’ teachable moments, no matter when or where they occur, as long as employees have access to a smart phone or tablet computer. The potential benefits to the KM community include:

- ▶ **Convenience and the ability to accomplish tasks quickly**—Today’s knowledge workers can access information as needed with little or no wait time. This speeds up the cycle times for a wide variety of tasks and enables more flexible work environments.

- ▶ **Reductions in infrastructure**—Mobile devices are compact and don't require ancillary equipment such as keyboards. In addition, mobile devices require less support than desktop computer systems, and upgrades consume fewer resources. Moreover, upgrades or replacements can be done as needed, instead of organization-wide.
- ▶ **Information sharing**—Mobile devices enable employees to capture and share data and information in real time regardless of location, which in turn facilitates collaboration and knowledge sharing.

Perhaps the most compelling driver for KM's embrace of mobile computing is the seeming permanence of this technological trend. Fifty percent of Web searches are already performed on mobile devices,¹ and mobile Internet access is predicted to overtake access through desktop computers by 2015.² People employ mobile devices for an ever-increasing host of tasks and applications, and mobile device users consistently seek out new functionality that will enable them to do more on the go. If KM does not keep pace with the growing demand for mobility and convenience, it risks losing connection with employees' teachable moments and becoming obsolete.

NO MORE WRITING

In the future, we won't be using pens, pencils, and keyboards much. We will be interacting with our devices using our voice. Voice recognition, while not perfect, is becoming ubiquitous and much more reliable. Remember, there are no pens and pencils on the Starship Enterprise, but there's a lot of cabling.

—Carla O'Dell
President, APQC

The Need for Policies and Guidelines

According to Forrester Research, about one-fifth of business workers telecommute regularly between one and five days per week. About 38 percent work off-site, whether at client sites or other locations.³ Individuals in certain job roles, such as sales, already rely heavily on mobile computing and seldom use traditional desktops in their day-to-day work. These mobile workers require advanced devices that enable them to stay connected to corporate networks.

Surprisingly, some organizations still do not have guidelines governing the use of mobile devices. A large percentage of the work force already uses mobile devices purchased with personal funds—devices that are neither supported nor approved by their employers—to accomplish

¹ "Infographic: Mobile Statistics, Stats & Facts 2011." *Digital Buzz Blog*, April 4 2011: www.digitalbuzzblog.com/2011-mobile-statistics-stats-facts-marketing-infographic.

² Jolie O'Dell. "New Study Shows the Mobile Web Will Rule by 2015." *Mashable*, April 13 2010: mashable.com/2010/04/13/mobile-web-stats.

³ T.J. Keitt and Heidi Shey. *Understanding the Influential Information Worker*. Forrester Research, February 11 2010.

work-related tasks. The key issue is whether the information that employees transmit through these devices is being shared and managed appropriately. Sensitive information may be travelling through unsecured channels, leading to security and privacy risks. In addition, the legalities of who owns content transmitted through mobile devices are still unclear. In 2010, the U.S. Supreme Court heard a case regarding an employer's right to monitor a worker's company-provided device, but the court declined to establish a clear precedent on this issue. It cited the ever-changing technology landscape and evolving cultural attitudes toward technology as reasons to avoid rigid legal interpretations.⁴

Even when security breaches and legal disputes are avoided, lack of top-down leadership in the area of mobile computing can lead to problems. For instance, a lot of content has not been designed to be delivered on a small screen via a potentially slow Internet connection. If employees cannot easily access and read a particular piece of content on their mobile devices, they may ignore that content, leading to inefficiencies and/or missed opportunities.

Clear policies, along with company-issued hardware and software, can go a long way toward mitigating concerns. This is especially true regarding data-security and employee-privacy issues, which are some of the most serious ramifications of unregulated mobile computing. However, organizations whose guidelines go beyond legal issues to provide direction on application design and knowledge sharing are more likely to end up with effective mobile work forces in which employees have access to knowledge at the teachable moment.

Getting Started with Enterprise Mobile Computing

As mobile computing grows, so do employees' expectations around real-time communications and content delivery. KM leaders who want to optimize collaboration and knowledge sharing in their organizations must exploit mobile devices as conduits for knowledge capture and flow. By understanding and capitalizing on the functionality that mobile devices offer, knowledge managers can integrate mobile knowledge exchanges and contributions into the broader KM system, enabling them to be recorded and tagged for future reuse.

For organizations that want to integrate mobile devices into their IT and communications frameworks, the first step is to conduct a workplace survey. Find out what employees need in terms of mobile capabilities, what devices and applications they're already using, and what drawbacks are associated with current practices. It is a good idea to reach out to all parts of the organization when assessing user needs and behaviors. According to an Aberdeen Group report on enterprise mobile adoption published in 2006, 74 percent of organizations that were successfully leveraging mobile devices at the time had assembled cross-functional teams to

⁴ David J. Goldstone and Daniel B. Reagan. "Social Networking, Mobile Devices and the Cloud: The Newest Frontiers of Privacy Law." *The Metropolitan Corporate Council*, August 1 2011: www.metrocorpocounsel.com/articles/15020/social-networking-mobile-devices-and-cloudthe-newest-frontiers-privacy-law.

address mobility within their organizations.⁵ Today's firms would benefit from emulating these early adopters.

Once an organization surveys its employees and understands their needs, it can roll out mobile devices and capabilities more quickly and easily than desktop applications. However, special attention must be paid to potential security issues when mobile capabilities are selected.

Adoption issues for mobile devices are usually minimal. Since most knowledge workers are already familiar with basic business technology and software, they are unlikely to have problems learning to use similar, more streamlined applications on mobile devices. Moreover, many workers have already incorporated mobile devices into their personal and professional routines.

Designing and Delivering Mobile Content

The array of different devices on the market underlines the need to design mobile KM approaches that are agnostic to technology type and vendor. Technology changes rapidly. Design for the user, make some assumptions about the capabilities of most devices, and then design policies and approaches independent of the specific device(s) that will be used.

FOCUS ON THE USER EXPERIENCE

At this time, APQC recommends using mobile devices primarily for presence notification, alerts, and concise communications via e-mail and instant messaging. Avoid asking employees to review long content pieces that may download slowly and be difficult to read on a small screen. However, devices and connectivity are improving, and tablet computers circumvent many problems traditionally associated with small-screen devices. As you design your content delivery system, don't limit your ability to transmit longer, more visually rich content pieces in the future.

To encourage adoption and use, make accessing mobile applications and content as easy as possible. For example, many organizations put preconfigured links on the home screens of employees' smart phones. This makes it faster and more convenient for mobile workers to retrieve and contribute knowledge. In addition, the links serve as visual reminders that keep knowledge sharing top of mind for employees.

If certain content must be protected behind a firewall that requires authentication, make sure that the content is sufficiently useful and compelling to justify the extra effort required to obtain it. Employees will not go through a complicated login process for "nice to know" information.

⁵ Phillipe Winthrop. *Enterprise Mobile Adoption: A Corporate Conundrum*. Aberdeen Group, 2006.

PROTECT THE ORGANIZATION AND ITS DATA

As mentioned earlier in this article, mobile knowledge sharing carries a unique set of privacy and security concerns. The best way to ensure that proprietary and sensitive data is protected is to incorporate mobile devices into an integrated, enterprise-wide communication strategy covering e-mail, Internet use, land-line phones, and smart phones. As you design and implement this strategy, partner with your IT department to identify and mitigate potential security issues associated with mobile knowledge sharing. Most IT departments that APQC has studied recommend making mobile devices thin clients. This means that the devices depend on servers for most content, so little corporate data actually resides on the devices.

In addition to technical specifications, the communication strategy should outline clear guidelines for appropriate user behavior. Share these guidelines with employees during new-hire onboarding and routinely thereafter to ensure they are aware of the organization's expectations around mobile-device usage. As part of the strategy development process, coordinate with your legal department to understand the complex legal issues surrounding the ownership of content transmitted through mobile devices.

How Leading Organizations Do It

Below are descriptions of how three organizations handle mobile computing within their IT and KM infrastructures. Every organization has its own perspective based on its industry, its market position, and the makeup of its work force. For example, with a massive remote staff and the technological savvy of IBM behind it, IBM Global Business Services (GBS) has invested heavily in advanced mobile solutions. Other firms' mobile KM needs may be more limited. However, all three organizations balance convenience and ease of access with sophisticated security features that protect personal privacy and intellectual property.

IBM GBS

Among the best-practice organizations that APQC has studied, IBM GBS has one of the most advanced mobile-device implementations. In terms of mobile computing, the firm's focus is on providing unique and relevant content, connecting colleagues, and allowing users to rate content and find content based on others' ratings. Mobile device users are primarily consultants and application management professionals. Based on subscriptions they set up, users receive alerts and notifications about new content, updated content, and other knowledge-related events and changes.

By using mobile devices primarily for notifications, IBM is able to bypass most security issues since users have to log in to a secure environment to obtain the content. The organization places explicit limitations on the type of content available on mobile devices in order to mitigate security and privacy concerns and reduce user frustration. In the future, IBM GBS is looking to expand its mobile capabilities through micro-blogging and expertise search.

BAKER HUGHES

At Baker Hughes, BlackBerry is the only company-approved device. It is used as a thin client, contains workflow approval applications, and is used to verify that employees are safe in the wake of a natural disaster such as a hurricane. Baker Hughes' usage policy requires a password with a 15-minute timeout and restricts application installations.

U.S. ARMY ARDEC

The U.S. Army Armament Research, Development and Engineering Center (ARDEC) developed a mobile knowledge hub based on the Army's system-wide knowledge base, Army Knowledge Online. Available via Blackberry and iPhone, the knowledge hub contains layered levels of access control, including ID badge/smartcard authentication, authentication via username and password, and authentication based on community of practice membership status.

Preparing for Whatever the Future Holds

As the power and speed of mobile devices increase, so do opportunities for employees to share knowledge and collaborate on the go. Mobile computing enables workers to access information at the teachable moment; share their expertise in real time; and engage in customized, self-paced learning. If KM wants to be on the right side of the mobile revolution, it must start building its infrastructure and creating mobile access points to knowledge and expertise. What begins with alerts and short messages may quickly evolve into the predominant content-delivery and communication system both inside and outside organizations.

ABOUT APQC

APQC is a member-based nonprofit and one of the leading proponents of benchmarking and best practice business research. Working with more than 500 organizations worldwide in all industries, APQC focuses on providing organizations with the information they need to work smarter, faster, and with confidence. Every day we uncover the processes and practices that push organizations from good to great. Visit us at www.apqc.org and learn how you can make best practices your practices.

ABOUT APQC'S KM ADVANCED WORKING GROUP

APQC's KM Advanced Working Group (AWG) is comprised of advanced KM practitioners representing a cross-section of private and public sectors and industries. The purpose of the AWG is to provide thought leadership in KM in order to enable organizations to create and use knowledge now and in the future. Members of the 2009–2010 KM AWG, which contributed to the research and content in this article, include:

- ▶ Baker Hughes,
- ▶ IBM,
- ▶ Petrobras,
- ▶ Singapore Armed Forces,
- ▶ U.S. Navy Carrier Team One, and
- ▶ U.S. Army Armament Research, Development and Engineering Center (ARDEC).

APQC President Carla O'Dell, KM subject matter expert Larry Prusak, and senior members of the APQC KM team also participated in the AWG.