



I D C - I V I E W C O N T E N T

A Consumer Revolution In The Enterprise

June 2010

By John Gantz

Sponsored by Unisys

Content for this paper is excerpted directly from the IDC iView, "A Consumer Revolution In The Enterprise", June 2010, sponsored by Unisys. The multimedia content can be viewed at <http://www.unisys.com/iview>

THE REVOLUTION

At this moment, IDC data tells us there are more than 1.2 billion consumers with Internet access, 700 million consumers with their own PCs, and 2 billion consumers with mobile phones.

With these devices and this access, these consumers send billions of emails a year and trillions of text messages. In addition:

- 620 million amuse themselves by watching videos or YouTube or listening to music on the Web
- 610 million use instant messaging
- 500 million actually download music, video, or TV
- 400 million participate in online communities, and more than 100 million create blogs
- 500 million access the Internet from mobile devices, at least some of the time (Their access to and their use of Web-based applications continue to grow at a double-digit rate.)

Of those 1–2 billion consumers using mobile phones, computers, and the Internet, 300 million are also information workers (iWorkers) at companies, government agencies, and educational institutions with 500 or more employees.

And what they have at home, they want in the workplace. They want to use multiple electronic devices to access multiple Web-based applications, and they want to do so with the same ease at work that they have at home. In fact, they don't often differentiate among activities, devices, and applications used for work and those used for personal pursuits. The pressure on IT organizations to integrate consumer-oriented devices and applications will only increase as younger workers, who have grown up in a world of texting, social networking, and smart phones, make their mark in the workplace.

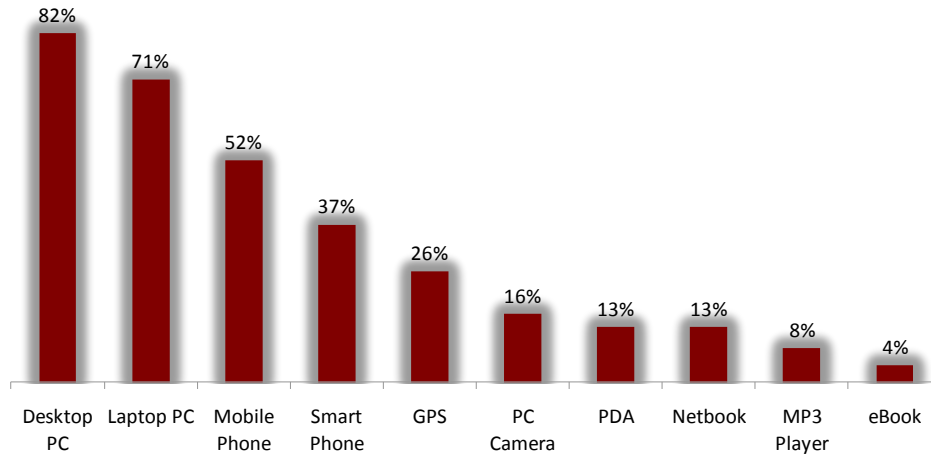
This consumer-driven revolution of devices and Web-based enterprise applications is no surprise. Enterprises in the post-Internet crash era have been rushing to support multiple device types and to roll out new Internet-based applications known, at one time, as Web 2.0 applications.

Figure 1 shows the percentage of information workers in a global survey conducted by IDC for this iView — a total of 2,820 responses from enterprises with 500 or more employees from 10 countries — using different types of devices for business tasks in their jobs.

The average respondent used four devices for work, at least some of the time, including multiple computers and phones, audio players, GPS, eBooks, and so on. How much more will that number grow, as tablet PCs like the Apple iPad pick up steam in the market and other new devices come along?

Figure 1: Devices Used in the Enterprise*

Percent of Respondents Using for Business Purposes



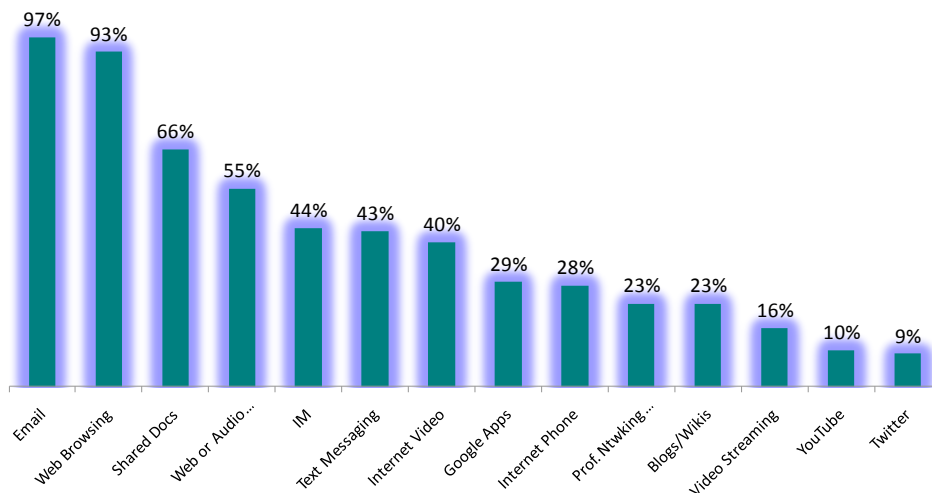
Source: Information Worker Custom Survey, Sponsored by Unisys, May 2010

n = 2,820
*500+ employees

The companion figure, Figure 2, shows the Web-based applications these workers use today in the workplace. And these are not necessarily casual users: 40% access social networks daily and only a third *never* access social networks.

Figure 2: Web-Based Apps Used in the Enterprise*

Percent of Respondents Using for Business Purposes



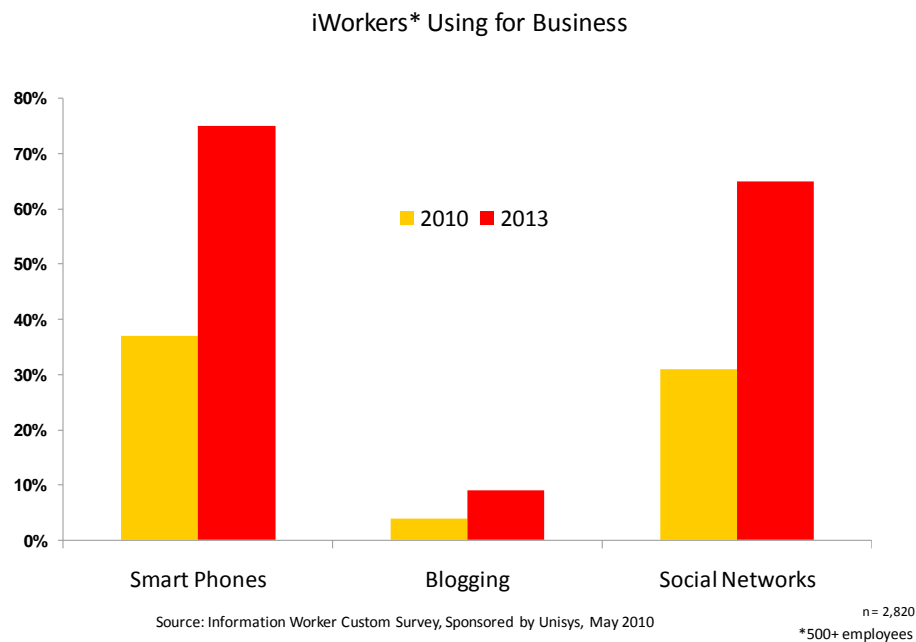
Source: Information Worker Custom Survey, Sponsored by Unisys, May 2010

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But what is a surprise — or what *could be a surprise for the unprepared* — is the speed with which these devices and applications are penetrating deeper into the enterprise.

Using information from the survey and from IDC's core research on Internet usage and device population, we can reasonably project penetration and adoption rates for devices and applications in the next few years. Figure 3 shows this for just three core areas: using smart phones for business, creating blogs (at work), and using social networks for work.

Figure 3: Rapid Change in Usage



For instance, we expect the number of iWorkers in enterprises with 500 or more employees using smart phones to grow from 90 million to 160 million from the end of 2009 through 2014. This growth follows the general growth of smart phones in the world from fewer than 400 million last year to more than a billion in 2014. IDC expects the number of discrete applications available for smart phones to hit 500,000 this year.

Figure 3 also shows rapid growth in the number of iWorkers in our sample set that will be writing, not just reading, blogs and the number accessing social networks.

(Although the percentage creating blogs looks small, it presents potential challenges. These blogs are coming from the workplace. Does the enterprise have editorial control? Who is reading the blog? Customers? Can customers post to the blog? Is there a historical record of the blog? Who's in charge?)

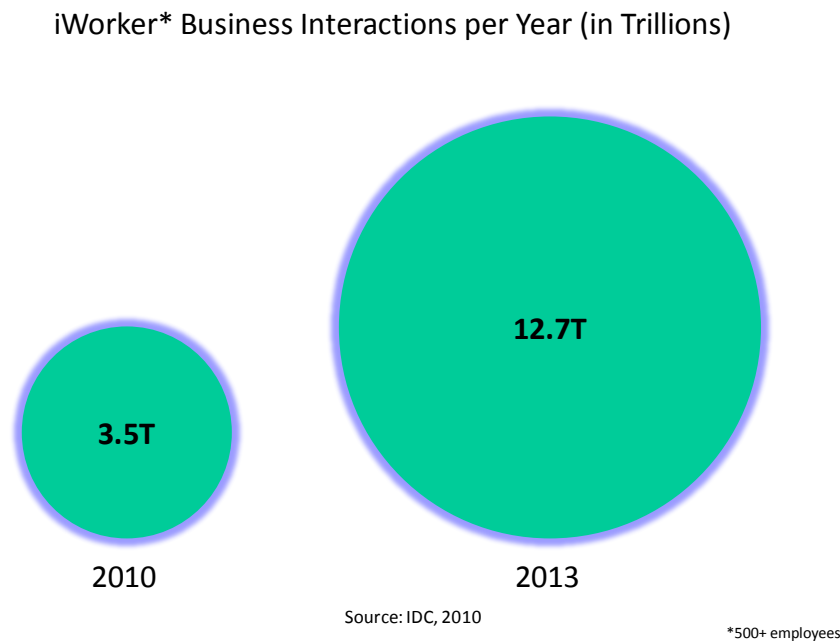
Now, consider the following progression:

- The number of iWorkers is growing as the global workforce increases and as more workers become information workers.
- The number of devices they use is growing.
- The variety and the number of applications available to them are growing.

This growth compounds. If you think of the ways that iWorkers will be able to interact with each other and with customers, partners, and others in the course of their work — from email and texting to instant messaging and Web conferencing and through multiple social networks — you can see how the number of interactions between these employees and their contacts will grow even faster than any single device or application.

In fact, Figure 4 shows our estimate of how many interactions iWorkers at enterprises with 500 or more employees will generate this year and in 2013. These interactions will grow by a factor of nearly four!

Figure 4: Even More Rapid Change in Interactions



It is this figure that perhaps speaks most to the challenge to enterprise IT departments. More interactions from more workers, going inside and outside the company, will create:

- A need for IT infrastructure to provide security, reliability, and scalability
- A need for policies around the nature of the interactions (e.g., Who can email the press? Who can contact customers?)
- A need for deployment tools and training to allow end users to take advantage of these new devices and applications without unduly straining IT resources
- A need for new skills and tools within IT to create company-specific applications that take advantage of the new devices and application platforms

Supporting new mobile devices and new Web-based applications is no longer solely the purview of the leading edge. It is now something average companies need to deal with today. If they do so correctly, they can grow to be well above average. If they do not, then they risk the reverse happening.

DISAPPEARING BOUNDARIES

At the end of 2009, according to IDC estimates, 6 billion devices on the planet — growing to 7 billion this year — were connected to networks. These devices include computers, printers, mobile phones, smart phones, camera phones, Internet phones, MP3 players, games, digital cameras, PC cameras, surveillance cameras, handheld and in-vehicle GPS devices, test and measurement systems, medical electronics, RFID and barcode readers, slot machines, and dozens of other types of gadgets, gizmos, and chip-powered devices.

In fact, by 2009, four out of five of these devices were *not* computers (either PCs or servers). Nearly half could be considered consumer electronics. Over the next three years, this category will double in size, growing much faster than the traditional computer segment.

Obviously, not all of these devices will find their way into the workplace — but a surprising number will. Certainly, all the categories of phones, many cameras, and even some pure consumer electronics will. One-quarter of respondents to the survey said that they were using GPS devices for work, one in twelve said they used MP3 players at work, and although only 10% said they used eBooks or tablet computers at all, half of those who did used them for business, either solely or in addition to using them for their own purposes. For that matter, 4% even said they used video games for business.

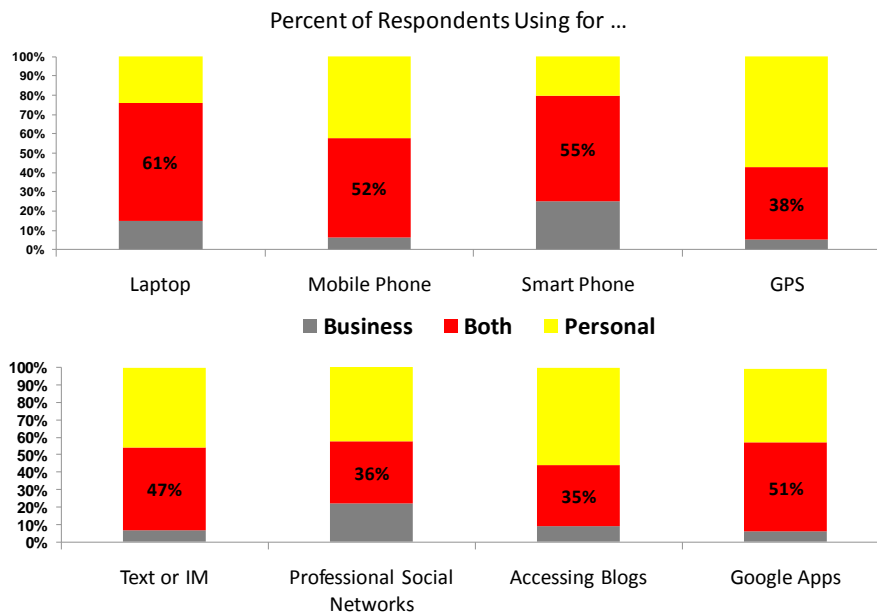
This doesn't mean that every device imaginable will wend its way into the enterprise, but as we have seen in Tab 1, The Revolution, the modern enterprise already supports a number of these devices.

And that means that, like it or not — or know it or not — the modern enterprise is also supporting all manner of personal devices, information, and behavior.

Figure 5 illustrates this, showing a handful of devices and Web-based applications used in the enterprise and indicating what respondents to our survey told us when asked if these devices and applications were for personal use or business use, or both.

In most cases, the business-personal overlap runs from a third to more than a half of categories.

Figure 5: What's Personal and What's Business?



Source: Information Worker Custom Survey, Sponsored by Unisys, May 2010

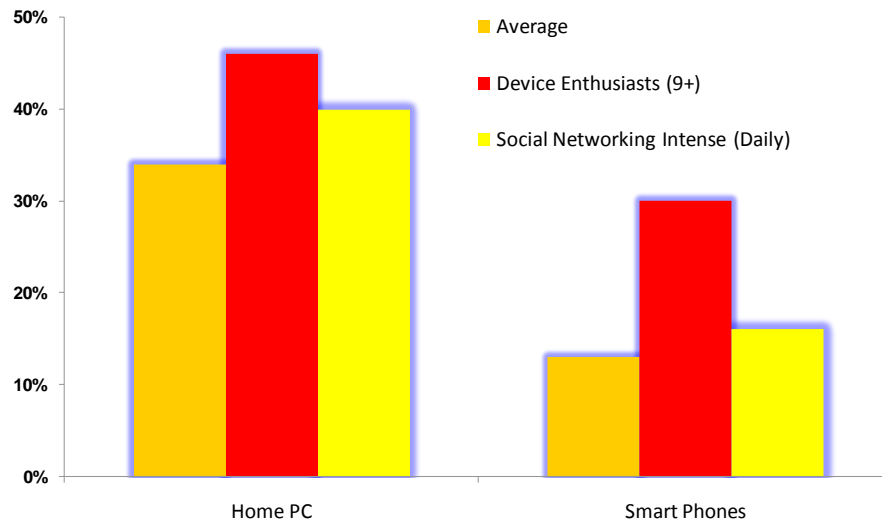
n = 2,820

When we asked the question another way - as in how many respondents accessed corporate applications from their home computers or smart phones - we got a similar picture, shown in Figure 6.

Note that we have plotted the survey average, along with the responses from two subsets of the respondent base:

- Those who use nine or more devices for personal and business use
- Those who access social networks daily

Figure 6: Accessing Corporate Applications



Source: Information Worker Custom Survey, Sponsored by Unisys, May 2010

n = 2,820

It is possible that the gadget enthusiasts — those with nine or more devices — are harbingers of the future for the enterprise. At any rate, it seems pretty likely that the number of iWorkers accessing corporate applications from new devices and locales and the number mingling business and personal use will grow. And grow rapidly.

Does your enterprise produce audio and video podcasts (as we will see many do)? Then don't you need to support handheld audio and video players, like the iPod, so employees can see what you produce? If you want to use the capabilities of smart phones for something like fleet management — letting drivers log mileage using a custom application — don't you need to live with the liability of personal use of the phone? Personal texts and pictures, perhaps? And if you automatically back up laptops when they are docked at work (as many do), aren't you also backing up and storing all sorts of personal information that may, in fact, be discoverable in litigation or subject to other laws and regulations?

The technical issues of supporting and protecting these new, mostly mobile devices and the information and data involved in the new Web-based applications are difficult enough: security, reliability, interoperability, and regulatory compliance. But the organizational issues may be even more of a challenge.

For instance, what is the policy on backing up personal information? And who makes the decision? What is the liability if that personal information is somehow toxic or discoverable? Who makes the decisions on who can blog? Marketing? Sales? IT? Who makes sure that employees who are blogging are properly representing the brand?

Many of these concerns are the same issues that bedeviled IT managers when the personal computer, often bought by individuals or departments without IT influence, first started entering the workplace — and again when employees started getting Internet access at work and companies had to decide how much access to allow and whether or not to monitor or restrict personal usage.

But it seems to be coming from all sides now. Consumers — meaning also employees, partners, and customers — are saturated with technology and eagerly adapting to the new applications that come with that technology. Smart enterprises will take it as a given that devices, applications, and personal information and data will enter the workplace, and they will find a way to turn that to an advantage.

GREAT EXPECTATIONS

As workers and customers (who are both also consumers) increase the use of multiple devices and Web applications in their personal lives, their expectations of employers (and suppliers) for support, backup, and willingness to use the new tools change.

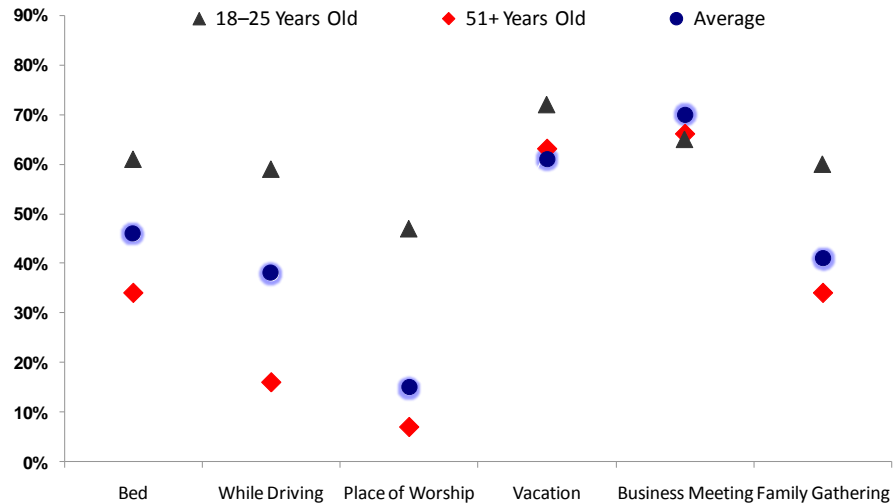
Academic and industry research is pretty clear that the use of mobile devices and new applications increases productivity and job satisfaction. Workers with the flexibility to time shift work using mobile devices actually tend to work more hours. Applications like instant messaging, which seem so disruptive, can actually cut wasted time in other types of communications, and so on.

But there seems to be a trade-off. Give us the tools and we'll work more efficiently and perhaps even longer, but do so in a way that is seamless to us.

Figure 7, in an oblique way, illustrates this trade-off by showing the willingness of employees to work at off hours at off places. It shows the response to the question "In which location have you reviewed or sent a business text message?" It also shows the difference by age group. For the youngest workers — those 18 to 25 years old — receiving and sending business messages throughout the day is already ingrained behavior. The barrier between business and personal applications is already disappearing.

Figure 7: Anytime, Anywhere

Places from Which Respondent Has Reviewed or Sent Business Texts



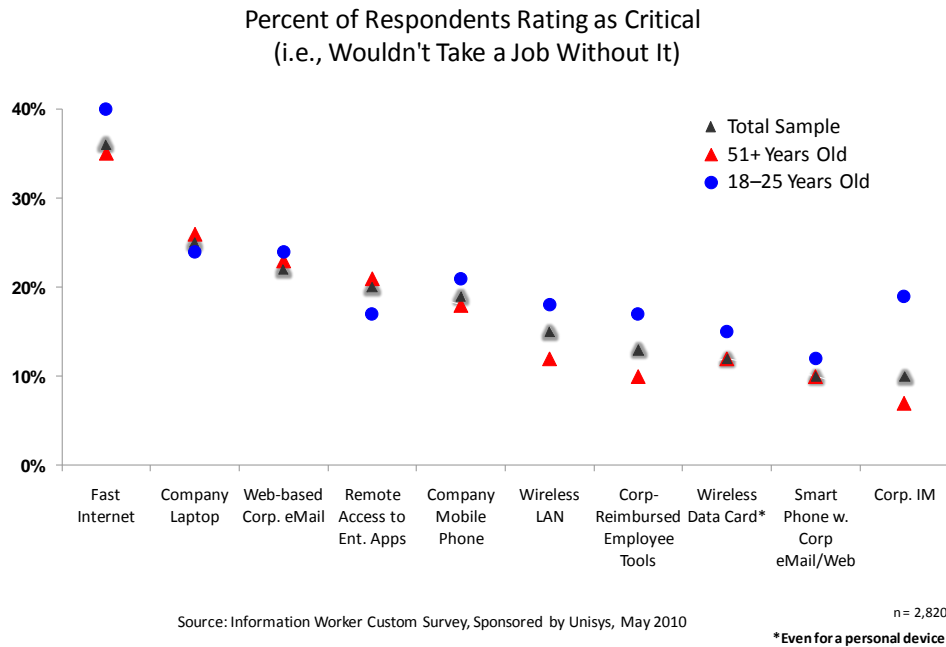
Source: Information Worker Custom Survey, Sponsored by Unisys, May 2010

n = 2,820

That trade-off has a dark side, though, doesn't it? Not just in maintaining work-life balance for employees. Look at the percentage of respondents who admitted to texting while driving. Isn't that illegal in many places and unsafe in all? If it's a business text, is the company liable in any way if there is an accident or a legal infraction?

At any rate, employees are bringing their consumer experiences into the workplace. Figure 8 shows what respondents said were "critical" to their employment with a company. For a number of criteria, as many as one of every four respondents said they wouldn't take a job without those criteria being met. This is especially the case with 18- to 25-year-olds, who look at an employer's support for these devices and applications as a critical part of their work decision.

Figure 8: The Employee Wish List



The results also vary by industry. Having a laptop is twice as critical in professional services (33%) as in the transportation industry (15%). Having a company mobile phone is twice as critical (23%) in finance as in the public sector (11%). Having a wireless LAN is more than twice as important in healthcare (18%) as in finance (8%). And so on.

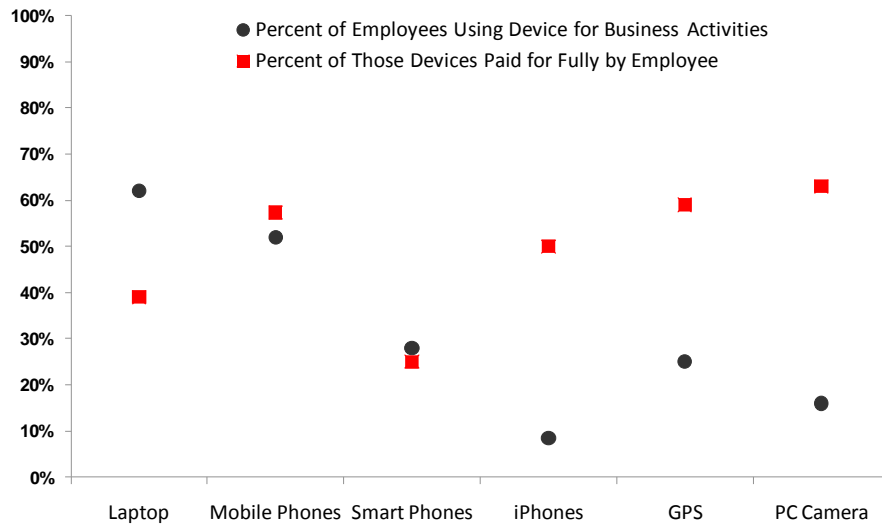
The overlap of business and personal use for devices and applications leads to another enterprise conundrum: Who should own the device?

There seems to be no one answer to that question. Enterprises have a number of strategies, including:

- Buying the device and paying usage charges
- Letting the employee buy the device and pay usage charges
- Letting the employee buy the device but reimbursing for purchase and business usage
- Letting the employee buy the device but providing a discount and partially offsetting usage charges

Figure 9 shows the percentage of devices that are paid for entirely by individuals and compares it with the percentage of devices that are used for business purposes.

Figure 9: Personally Acquired, Business Deployed



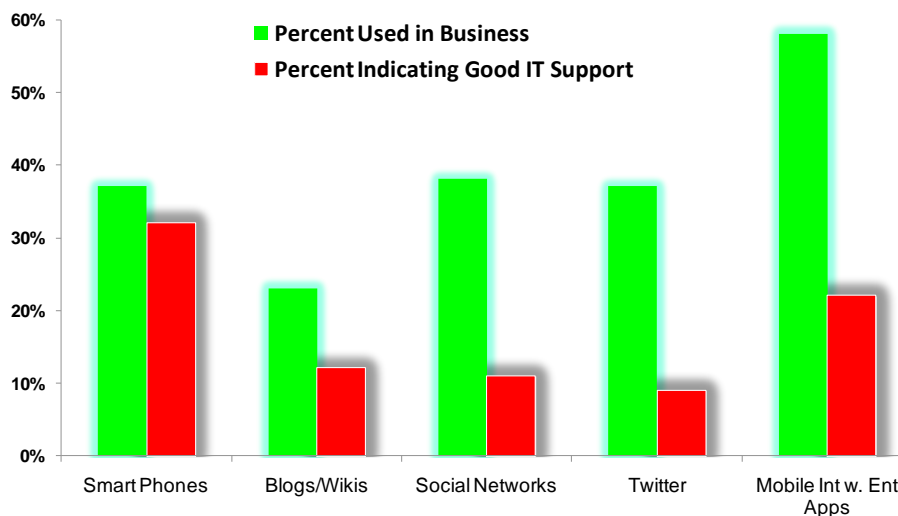
Source: Information Worker Custom Survey, Sponsored by Unisys, May 2010

From iPhones to PC cameras, it's clear that a migration of personally acquired devices into the enterprise is occurring. Many information workers are not restricting their usage based on ownership of the device. Business is personal and personal is business. Over time, we would expect a higher percentage of the usage of the devices — as with PCs in the 1980s — to be business related. As the devices become more critical to daily enterprise operation, we would expect IT departments to exert more influence on device choice and usage, which means picking up more of the tab.

There is also the issue of IT support.

Figure 10 plots the respondent rating for "good IT support" — which means 4 or 5 on a scale of 1–5, where 5 means high — for a handful of applications and devices.

Figure 10: The IT Support Gap



Source: Information Worker Custom Survey, Sponsored by Unisys, May 2010

n = 2,820
*500+ employees

Again, these ratings varied by industry and by demographic. Support for social networks was rated higher in telecom (27% rating 4 or 5) than in finance (7%). Support for mobile integration with enterprise applications was nearly twice as high in manufacturing/construction/energy (31% rating 4 or 5) as in finance (16%).

Within the data was one demographic oddity — the difference in perception of IT support between young employees (18–25) and older employees (51+). Although both demographic segments rated support below average on a 5-point scale, invariably the older employees rated IT support lower than younger employees.

Our interpretation is that younger employees are more accustomed to a self-service mode and may need less support and application training than those employees who weren't raised in the digital, Internet era.

But the message for IT is clear: Not all employees will react the same to a standard level of IT support.

REACHING CUSTOMERS...OR SPMMING THEM?

In prehistoric times — which for us is before email and the Internet — most enterprises reached out to customers with mail (junk or otherwise) or in person (with salespeople, customer service agents, and telemarketing teams). Contacts between enterprises and their customers, except for the occasional ATM transaction or autodialed phone call, occurred on a time scale familiar to humans: monthly, weekly, daily.

Then came the Web. Through Web pages interacting with internal systems and email, enterprises could contact customers on a time scale familiar to computers: by the minute, second, or microsecond.

In the Web 1.0 era, the most common contact was through automatic notifications, email marketing, and customer self-service for Web-delivered information. Contact generally flowed in one or, at most, two directions. Enterprise to customer. Customer back to enterprise.

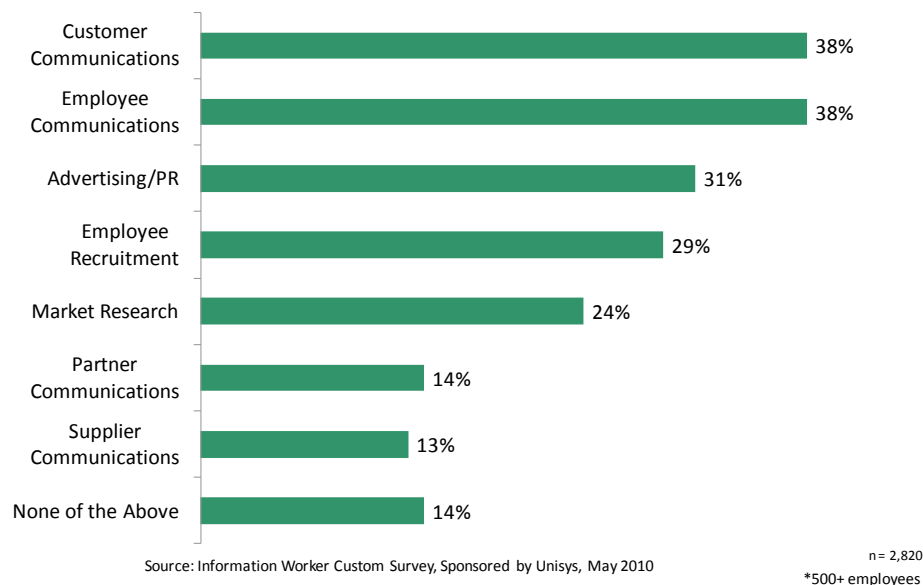
Today, in the Web 2.0 era, those interactions are becoming more multidimensional. Enterprises communicate with customers via multiple channels — email, professional communities, Facebook, Twitter, text messages, podcasts — sometimes all at once. Customer interactions once driven by sales and marketing or customer service professionals in an enterprise are now driven by information systems, augmented with content created by multiple groups within an organization and even customers and partners outside the organization.

This transition has happened very fast. In half the time it took enterprise email to become ubiquitous, these Web 2.0 tools have flooded the enterprise. Facebook was founded just six years ago, and Twitter four years ago! The Apple iPhone, progenitor of the modern smart phone, first shipped three years ago.

To test the current level of adoption of these new mobile and Web-based tools, we asked respondents to our survey how their companies were communicating with customers using these new tools.

Figure 11 shows how their companies use social networks and online communities.

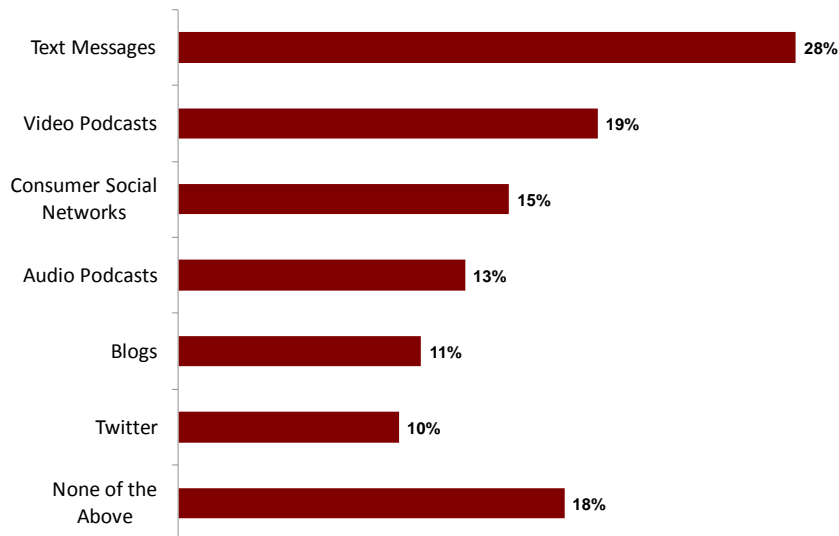
Figure 11: What Social Networks and Communities Are Used For



Customer communications is tied with employee communications at the top of the list. But look at the other outward-facing uses: customer and supplier communications, recruitment, and advertising and PR. And 81% of the enterprises were doing *something*.

How these enterprises specifically reached their customers is shown in Figure 12.

Figure 12: Applications Used for Outbound Communication with Customer



Source: Information Worker Custom Survey, Sponsored by Unisys, May 2010

n = 2,820
*500+ employees

It's an eclectic mix. Again, only 18% weren't using any of these tools. And again, the mix of tools varies by segment. Healthcare companies are three times as likely as manufacturing or finance companies (15% versus 5%) to reach out using blogs. Enterprises in Europe or Latin America are at least three times more likely (35%) to use texting to reach customers than enterprises in the United States (10%).

It's pretty clear that use of these new tools — mobility, social networks, and alternate communications paths — offers benefits to enterprises, including personalized contact with customers, real-time feedback and potential real-time analytics on customer behavior, ability to monitor reputation and brand value, and productivity improvements from customer self-service and shorter communication cycle times.

But there are challenges, as well, including:

- **Resource demands.** Once you start reaching customers using these new technologies, you must ensure fast response time and dependable uptime. The unscheduled nature of demand will make this harder.
- **Security.** Using public social networks (Facebook, Twitter) to reach your customers may expose unwitting customers to all the perils of the Internet: viruses, malware, cyberattacks, and so on. Will these exposures somehow affect your customers' perceptions of the enterprise if you are communicating in this milieu?
- **Employee productivity.** Not all employee use or customer use of social networking will be in the pursuit of business. How big is your exposure to time lost or wasted by employees?
- **Privacy.** This is a two-way street. Enterprises need to safeguard and ensure the privacy of customers as well as the privacy of employees *from* customers. Think medical records and doctor records. Who wants whom to see what?
- **Coherence.** Multichannel communications with customers run the risk of coming across as uncoordinated. Regulate them too tightly and you lose the benefits of the networking. Take a

laissez-faire approach, and customers will be swamped with conflicting information, inconsistent look and feel, and too many messages to assimilate.

- **Reputation.** Many of these tools — blogs, forums, communities, and online town meetings — allow for customer or outsider feedback. If these tools are unmanaged, they can become a repository for bad or misleading information. If they are overly managed, then customers will lose interest.

The use of these tools in the enterprise is in its infancy. Experience with them can be measured in months, not years.

But from the data — IDC's and the survey's — it's clear that the tools are being put to use. Savvy companies with savvy IT shops will stay atop the results and adjust strategies on a continual basis.

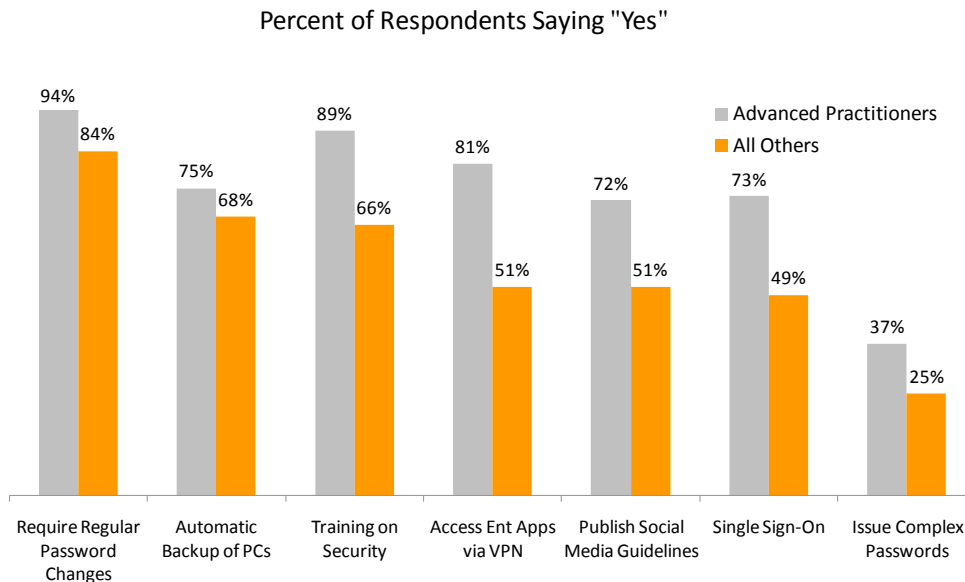
LEARNING FROM LEADERS

As we have said, while mobile devices and Web-based applications are revolutionizing the enterprise — whether or not we welcome the change — there is not a huge body of knowledge from which to form a set of best practices.

But we do have tools at our disposal to get a feeling for what separates the leaders from the rest of the market. If we look at companies that are (1) highly rated by their employees for the ability to utilize the new tools and (2) considered early adopters, we get a subset of our sample we could consider consumerization pros or advanced practitioners. In this case, one in seven qualifies.

Although they weren't selected based on technology or application penetration, they are heavier users of the new tools. Figure 13 shows how they compare with the rest of the sample when it comes to providing or managing those new tools.

Figure 13: Enterprises* Currently Provide ...



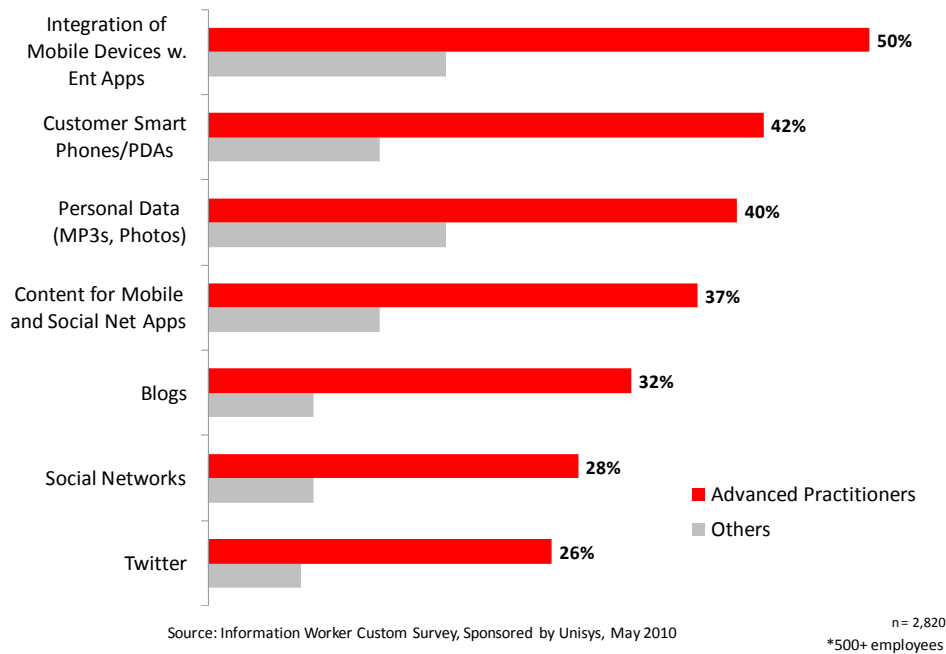
Source: Information Worker Custom Survey, Sponsored by Unisys, May 2010

n = 2,820
*500+ employees

All respondents seemed pretty good on the basics, like password changes and automatic backups of employee data. But the advanced practitioners seemed to take their IT a little bit further: more access to enterprise applications via VPN, more training on information security, and single sign-on to enterprise applications.

Not surprisingly, when asked to rate their employers on IT support, the advanced practitioners seemed to be more technically supportive, as shown in Figure 14.

Figure 14: Rating on IT Support for ...

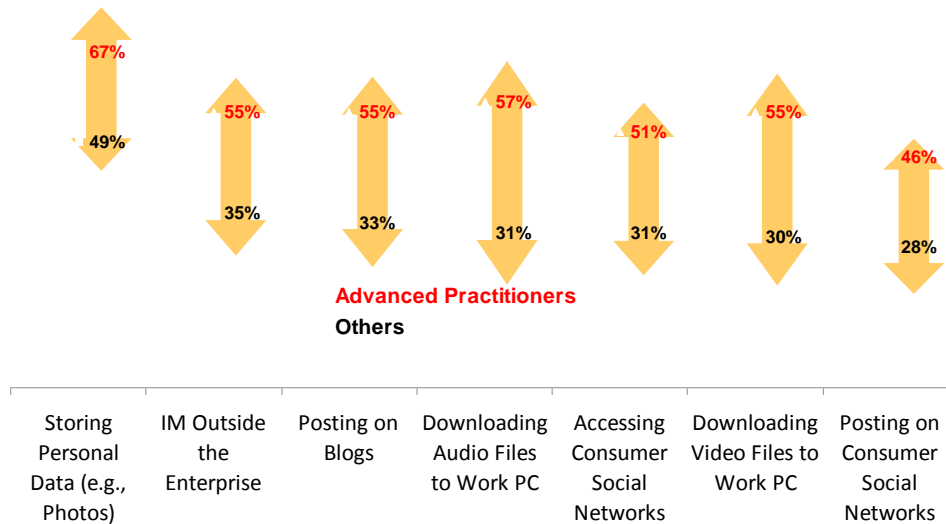


These advanced practitioners seemed to be pretty well distributed by industry — although they were half as present in the public sector as in most other industries. And there was little difference by geography.

At the same time, advanced practitioners seemed more willing to enable employees to use the new tools. The gap, or difference between advanced practitioners and the other 86% of the sample, can be seen in Figure 15.

Figure 15: Enterprises* Currently Permit ...

Percent of Respondents Saying "Yes"



Source: Information Worker Custom Survey, Sponsored by Unisys, May 2010

n = 2,820
*500+ employees

When it came to using the new tools to reach customers or other stakeholders, the advanced practitioners were generally 10 to 20 percentage points more likely to use a technology than the remainder of the sample. For example, 55% said they used social networks and online communities to reach customers compared with 36% for the rest of the sample. And 38% used video podcasts to reach customers versus 16% for the other group.

But, as we said, the use of these tools is in its infancy. A few false steps or setbacks and some of these leaders could fall back into the pack. A few innovative moves and some in the pack can move up. The early use of PCs in the enterprise went by trial and error, and it wasn't until a whole new set of supporting tools and practices was in place — local area networks, office suites, graphical user interfaces, inexpensive printers, security software, and the Internet — that PCs became ubiquitous and a major force for increased enterprise productivity and customer and employee satisfaction.

The same will be true here. We will need "killer" enterprise applications, device and application interoperability, new security and asset management tools, real-time analytics, and an open market for a variety of applications before the tools and applications consumers are bringing into the enterprise are truly part of daily mission-critical operations.

IMPLICATIONS FOR THE ENTERPRISE

If you have been through the findings in the rest of the iView, a few things may have struck you:

- The pace of change:** In three years, the number of iWorkers in enterprises like yours using smart phones and accessing social networks for business will double — to more than half of them. The interactions between people created by iWorkers using new devices and new applications — such as social networks, podcasts, Twitter, enterprise-created communities, and SMS — will grow by a factor of nearly four.

- **The disappearing personal-business boundary:** 70–80% of devices used for business purposes are also used for personal reasons. For the most part, that percentage is even higher for the new Web-based applications.
- **The leadership gap:** The usage rates at enterprises we have identified as leaders in dealing with these new, mostly mobile devices and applications are generally 10 to 20 percentage points higher than those at the average enterprise.
- **The perception gap:** This refers to the difference between what employees expect from employers (and suppliers) and what employers are currently delivering. Survey respondents rated their IT support for the new applications below average in all cases (lower than 3 on a 5-point scale).
- **The customer touch point:** The most common use of the new Web-based applications was to reach out to customers, even more so among advanced practitioners.

The call to action seems pretty clear. Enterprise IT departments will need to pick up the pace in deployment and support for the new mobile devices, enable more iWorker usage of the Web-based applications, and do so with nearly the same safeguards and reliability required by mission-critical systems.

Remember, email was once a nice-to-have application, as was running a corporate Web site. Now both are critical to enterprises, with millions if not billions of dollars at stake if they experience outages or aren't up to snuff.

Enterprise IT departments at organizations like those we surveyed should be able to deal with the technical issues of security and reliability, but it will take the rest of the company, also, to deal with the policy, legal, privacy, and political issues. For that, IT will need lots of support from top management and other business units.

Engendering this support is not a new requirement — it has been needed for all major enterprise IT advances, from installing customer relationship management systems to developing PC-based applications for customers.

What's different this time around is the speed with which all this change is happening — and to some degree the unfamiliarity of management with the actual tools themselves. Outside the high-tech community, how many top executives are on Facebook or Twitter? And while many may soon be using smart phones, how many will know how to deal with malware, or for that matter, how many will guard the security of their phones as jealously as they guard their laptops today?

A new breed of customer and employee, who sees no time or technical boundaries when it comes to transacting business or doing his or her job, will require increasing levels of IT service delivery. IT services will have to be user-friendly and available 24 x 7, provisioning and delivering services on demand according to user requirements. IT will have to maintain a more varied IT infrastructure and take greater care to protect organization and client data as new, more cost-effective delivery methods come into play. In short, traditional IT will be challenged to transform to drive the enterprise and keep it competitive.

The challenges are not impossible. They are just, well, challenges.

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