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# Friendly Takeover

## *The Consumerization of Corporate IT*

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## EXECUTIVE SUMMARY

*The frontiers of innovation in information technology are moving from corporate IT to consumer IT. With that shift, corporate IT is rapidly becoming “consumerized”: Employees expect to be able to use all the innovative new devices and tools at their disposal, both to do their jobs and to maintain their always-connected lifestyles while being able to work whenever and wherever they need to. Depending on industry and function, companies might not be able to hold back the tide of consumerization.*

This demand-driven culture of consumer technology offers real benefits—and real risks—for companies willing to meet employees halfway. Handled properly, consumerization can mean increases in employee efficiency and satisfaction—both critical elements in the ongoing corporate war for talent—and even lower IT costs, eventually. At the same time, the multiplicity of devices, the right to use those devices freely, and greater access to company networks can degrade security, reduce productivity, increase support costs, and leave companies open to compliance and reputational risks.

CIOs can take one of two paths to accommodate the consumer revolution in corporate IT. They can “bring in” employees under the corporate

umbrella, allowing them to use corporate devices for work and non-work activities—and install their own private applications on those devices—and loosening restrictions on Web surfing and the use of social media. Or they can “reach out” to employees, allowing them to use their own personal devices to do their work, perhaps within virtual clients installed on the devices. Either way, companies need to assess carefully their readiness for consumerization, use the results to determine how different groups of employees should make the switch, and set up pilot programs to understand better the effect of consumerization on productivity, security, and other factors. Strategy and implementation models may vary significantly based on industry or function.

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## INNOVATION IN IT

Is enterprise IT in danger of becoming a dinosaur? Driven for years by the high-spending ways of large corporations, and their thirst for more and more powerful systems underpinned by huge databases, enterprise IT was long the primary force in technology innovation. From the mainframe to client-server architecture to sophisticated ERP, customer relationship management, and supply chain management software, corporations ran what everyone conceded was cutting-edge information technology. Suppliers of hardware and software invested huge sums of money in developing innovative products for large corporations, some of which eventually trickled down into the hands of consumers.

But now the tables are turning. The real innovation in the information and communication technology spheres has shifted to the realm of the consumer, while corporate IT remains hidden behind its fortress of firewalls and other data security restrictions. The shift began in the 1990s, with the creation of the World Wide Web, a move that put vast amounts of information—and power—in the hands of consumers. Since then, any number of vastly popular consumer-oriented Internet services

such as online shopping, social networking, and online video have emerged, as well as a wide variety of increasingly common computing and communication devices such as Netbooks and smart phones.

The emerging effect of these changes is the “consumerization” of corporate IT. The dikes built by corporate IT departments to protect their companies from the outside world—a world full of hackers and corporate spies—and to restrict employees from the distractions of the Internet are springing ever-larger leaks. Employees, especially the young and Web-savvy, are demanding the right to use all the innovative new devices at their disposal, both to do their jobs and to maintain their always-connected lifestyles.

CIOs must contend with the growing consumerization of IT. Refusing to do so, we believe, is not a winning strategy—because of both dwindling employee loyalty and morale and lost innovation. But CIOs must also be prepared for the consequences, both technological and cultural, of shifting to a more consumer-oriented IT focus, and they must be prepared with a plan for making sure the shift goes smoothly and successfully.

# WHAT CONSUMERS WANT

Many observers of the information and communication industries have noted the growing gap between the kinds of technologies available to consumers and how they use those technologies, and the contrasting culture of corporate IT. Differences in the performance and usability of

consumer IT devices and software, and in the speed of adoption of consumer technologies, have led to a demand-driven culture in which consumers expect rapid innovation and the right to use their powerful new devices and services to stay connected every minute of the day and night. *Exhibit 1* outlines the many significant differences between the two cultures in areas as disparate as devices, services, and styles of use.

Consumers are not likely to stop demanding ever-newer, more innovative products and services

anytime soon. And they are carrying those demands over into their working lives. It isn't just that employees are beginning to expect the kinds of technologies and services at work that they have grown accustomed to at home. Now they are insisting on the right to use technology at work with the same freedom and interaction as they do at home. That always-on mind-set is rapidly blurring the very distinctions between employees' working lives and private lives. Work is no longer a place you go to, and then leave, but an ongoing activity.

*Exhibit 1*  
**Corporate vs. Consumer IT**

## CORPORATE SPACE

Devices with functionality limited to phone calls and e-mail, typically BlackBerry

Restricted storage for files and e-mail

Static employee directories and cumbersome proprietary collaboration platforms

Outdated static content within corporate intranet—centralized maintenance and control

Long replacement cycles—up to four years for hardware and eight years for software

Highly standardized, inflexible, and often restricted environment ("beige box")

Mobile Phones

Storage

Innovative Services

Dynamic Content Creation

Update Cycles

Style and Customization

## CONSUMER SPACE

Smart phones offering tens of thousands of useful apps, typically iPhone or Goggle Phone

Providers such as Google and Yahoo offering virtually unlimited storage

Social networks such as Facebook and LinkedIn used for both socializing and working

Blogging, wiki, social networking, and content services allowing consumers to create, customize, and manage the content they want

Very rapid updated hardware—immediate download of new apps and services

High variety of consumer devices systems, applications, and "skins"

Source: Booz & Company analysis

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## ERODING CORPORATE BOUNDARIES

At the same time, corporate IT departments are facing significant changes in both their infrastructure and application environments.

- *Ubiquitous access:* Even within the corporation, the number and variety of devices and methods of network access keep growing larger. Access to corporate networks via virtual private networks is already common, but employees have come to expect ever-greater ease of use.
- *The cloud:* Even as corporate network access opens up, the inevitable trend is for applications, storage, and infrastructure to move into cloud computing environments. That will make the provisioning of applications increasingly independent of internal corporate infrastructures and allow even more open access to critical corporate data.
- *Loss of control:* Corporate IT is losing the battle for control over the devices and applications that

employees want to use. Users are learning how to bypass corporate blocking mechanisms and demanding that IT departments support the devices they want to use.

- *The virtual workplace:* The corporate working environment has greatly expanded in the past decade or so, with large numbers of employees working outside the traditional office, employees around the world combining and recombining into short-lived virtual teams, and outside contractors requiring access to corporate networks.

In short, the efforts of corporate IT departments to maintain perimeter security by exerting tight control over their networks is ultimately doomed to failure. Instead, CIOs must get ahead of the consumerization curve by coming to terms with what is valuable and productive about the influence of consumer IT on corporations and then devising strategies to make it work.

*CIOs must get ahead of the consumerization curve by coming to terms with what is valuable and productive about the influence of consumer IT.*

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## THE BENEFITS OF CONSUMERIZATION

Despite many fears to the contrary, the infiltration into the corporate world of consumer-oriented technologies and attitudes has great potential to boost corporate performance on several levels.

- *Employee efficiency:* Corporate IT departments have long fretted about the negative effects of the Internet on employee productivity. Yet recent studies have shown that moderate use of the Internet actually increases productivity. Allowing employees to use innovative, state-of-the-art devices and services of their own choosing can increase their efficiency. The “always-on” culture of consumer IT—its flexibility and ubiquitous availability—has the potential to lead employees to work even longer hours.
- *Employee satisfaction:* As the culture of consumer IT invades the corporation, IT departments

will ultimately have no choice but to accommodate it. Companies that can offer an IT environment that embraces this new culture will have an advantage in the fight to hire and retain talented young employees. Ongoing consumer IT initiatives can help companies demonstrate their relevance to employees and increase their trust and goodwill.

- *IT costs:* The consumerization of IT might even have the potential to increase the efficiency of IT while lowering costs. Reduced capital expenditures are likely as employees turn to their own personal devices to perform work, with the added benefit of lower device management and maintenance costs.

Companies that embrace the consumerization trend, we believe, will ultimately gain a real competitive advantage in the war for talent, while potentially reducing IT costs.

# ACCOMMODATING CONSUMER IT

In our view, corporate IT departments have little choice but to come to some kind of accommodation with the consumerization of corporate IT. CIOs who are determined to defend their companies against the invasion of new devices, applications, and means of access—through ever more powerful and expensive perimeter security technologies and tightly enforced, policy-based controls over employee behavior—will increase the gap between employee and IT interests. Instead, CIOs need to approach this task carefully, but with an open mind, as they try to determine what’s best for their companies and employees.

We envision two approaches to the integration of consumer IT. The

first assumes the need to maintain a relatively high level of control by corporate IT departments; the second gives a greater degree of freedom to employees.

- *“Bring in”*: This strategy involves opening the corporate IT environment to private use and letting employees’ digital lives freely enter their work environments. Employees would be given a wide degree of individual choice about the devices they could use to do their work, and corporate policies regarding private Web surfing, the use of corporate applications, and the like would be loosened. Employees would also be allowed to configure their own working environment and install private apps on the devices they use. CIOs might even provide employees with separate private spaces within the secure corporate environment, perhaps through the use of virtual machines.
- *“Reach out”*: Under this scheme, IT departments would “reach out”

to employees, allowing them to use their personal devices—even PCs—to do their work. Virtual machines or virtual clients would be installed on employee-owned PCs that would provide the corporate computing environment, probably by streaming needed applications. A reasonable degree of control would be maintained through the installation of low-level hypervisors on all hardware. Innovative vendors have just started addressing these scenarios with solutions based on established virtualization technology (e.g., MokaFive Player).

It is conceivable that especially innovative CIOs might consider a much more active approach to consumer IT, using their IT departments to try to compete with consumer products, perhaps through the development of their own “consumer-oriented” services. Such an approach is very likely to increase IT costs dramatically.

*CIOs who are determined to defend their companies against the invasion of new devices, applications, and means of access will only increase the gap between employee and IT interests.*

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## RISKS OF CONSUMERIZA- TION

Every major shift in how corporations run their IT operations comes with risks, and the trend to consumer IT is no exception. Just as the shift in the 1980s from mainframes to client-server environments put more power and control in the hands of corporate end-users, the consumerization of corporate IT is predicated on the rise of a vastly more open, easily accessed, and user-determined corporate computing environment. That environment in turn creates the real potential for problems—most notably in the area of network security, but also in terms of productivity, legal and compliance issues, and potentially higher costs. In determining which model works best for their companies, CIOs must take these risks into account.

- *Security:* As soon as the multiplicity of devices, applications, and services available to consumers is allowed into the corporate comput-

ing environment, the potential for security risks, and the headache of managing those risks, escalates enormously. Also data leakage, whether inadvertent or malicious, is harder to prevent, and the potential for hackers and malicious viruses to worm their way into corporate networks is much higher.

- *Productivity:* Corporate managers continue to worry about the potential for lost productivity as a result of employee use of such services as social media. Indeed, recent studies show that more than 20 percent of companies have instituted policies to restrict or even prohibit their use. But the Internet's many distractions aren't the only source of concern. Employees using their own devices may find themselves spending inordinate amounts of time configuring them for work, and the possibility always exists that, from time to time, their

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corporate computing environments might not work at all.

- *Legal and compliance:* Complying with the many laws and regulations governing how companies operate has long been a concern of CIOs. The Sarbanes-Oxley Act, for instance, puts the onus on all public companies to closely monitor financial and accounting activities, and some industries are legally bound to monitor data access and store all e-mail traffic. The greater openness of consumer-oriented IT will make these tasks much more difficult.
- *Reputation:* A number of highly publicized incidents of employees spreading unsubstantiated rumors and bad news have made many managers wary of allowing the use

of consumer-oriented services such as social networking.

- *Support and maintenance costs:* Among the many reasons corporate IT departments have long been unwilling to allow personal devices within the corporate firewalls are the added support and maintenance costs that seem to inevitably ensue. They remain a risk, as does the cost of the increased complexity caused by more heterogeneous computing environments.

At the same time, it is important that employees be made aware of the risks they themselves face as consumer-oriented IT becomes the norm. The deeper integration between the work and the private spheres has its disadvantages as well as its advantages. As the boundary

between the two blurs, the ability to stop working entirely dwindles, and employees may find themselves working even harder and longer than they do now. The use of personal devices such as PCs at work will inevitably introduce some degree of employer control over those devices. And there is always the possibility that employees will suddenly lose the ability to access their work on their PCs.

Many employees may find, too, that the use of personal PCs for work is more costly for them in the long run. Stipends may lower the initial cost, but they might be subject to income tax. Finally, employees who use personal devices for work may run the risk of legal liability for violation of licenses or copyrights.

# ASSESSMENT AND PILOTING

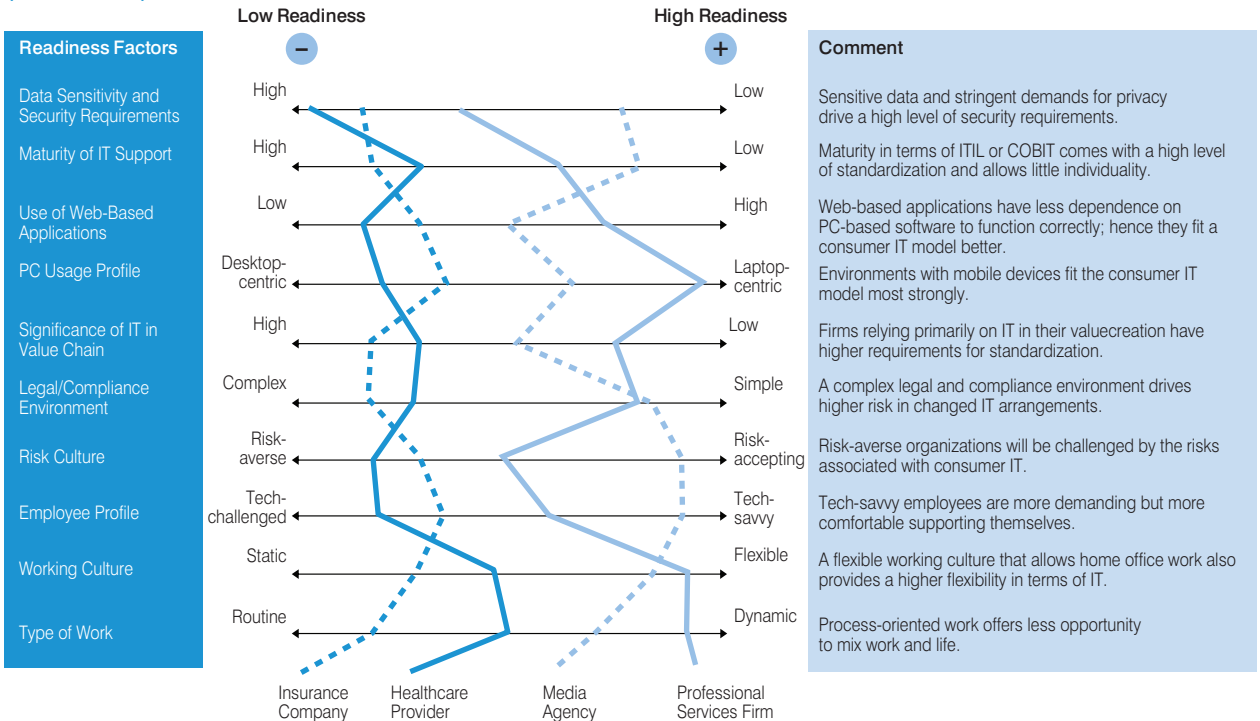
Given both the potential benefits and the risks, we believe that every company needs to prepare carefully for the coming boom of consumer IT. Employees at every level of the hierarchy will demand it, and companies that don't jump on the bandwagon might find themselves at a real competitive disadvantage. To that end, we suggest taking a step-by-step approach to the acceptance of consumer IT within the corporation.

- *Step 1:* Assess whether the company or group is prepared to make the shift to consumer IT. Choosing the proper model and making the shift, however, will depend on the specific requirements

and capabilities of the employees involved. The size of the company or unit, and the industry it competes in, should be taken into consideration. An advertising agency may be more likely to decide that it is important to attract and retain young, innovative, creative, and Web-savvy employees than a manufacturing company would. Employees' overall technical sophistication is also an issue—will they be able to manage the dual use of their devices? Different user groups within the company might require different consumerization models. Finally, the legal, compliance, and security requirements must also

**Exhibit 2**  
Consumerization Readiness Assessment with Sample Results

## FACTORS INDICATING READINESS TO ADOPT CONSUMER IT (ILLUSTRATIVE)



Source: Booz & Company analysis

be accounted for. *Exhibit 2* offers a tool that will enable managers to judge readiness in a variety of critical areas, from technical requirements to cultural affinity.

- **Step 2:** Use the results of the readiness tool to segment groups of employees according to the company’s security requirements and the needs and culture of employees. Then determine which consumerization model best fits each group. *Exhibit 3* offers a way to determine which models will work best for each employee group.
  - Models 1a through 1c (“Bring in”) retain a relatively high degree of control over the computing

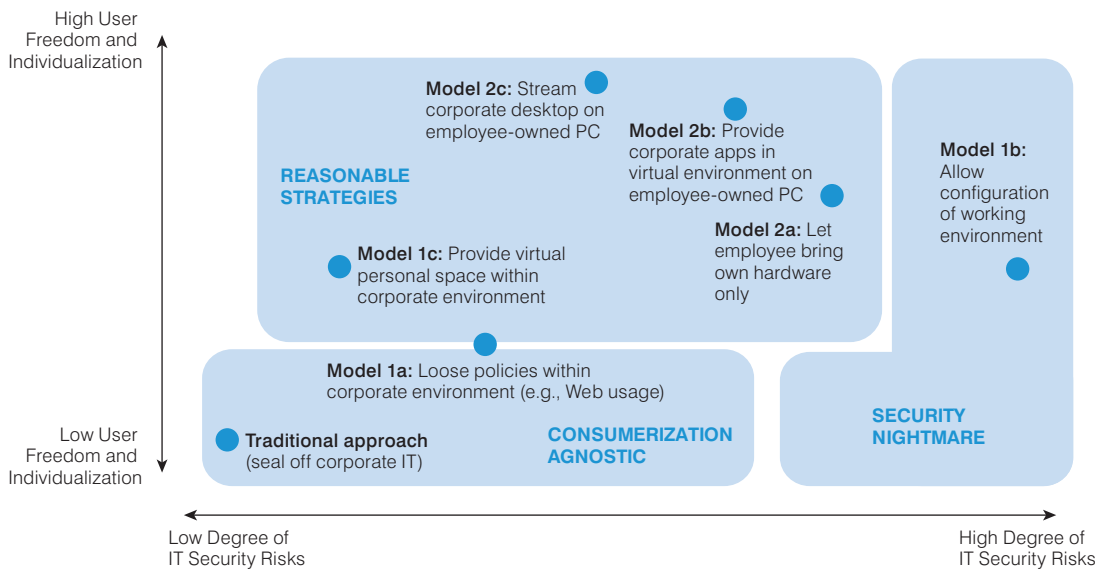
environment, although the degree of Internet and consumer services use would vary. Employees would continue to use company-owned equipment.

- Models 2a through 2c (“Reach out”) assume employees would benefit from greater freedom within varying levels of security. They all permit the use of employee-owned hardware, with different degrees of control over the device’s working environment.
- You may also ignore IT consumerization altogether. This exerts the highest level of control, essentially banning the use of consumer-oriented IT.

- **Step 3:** Conduct pilot programs with small groups of “early adopter” employees. Monitor the program carefully, using metrics to determine the effect of consumer IT on productivity, hours worked, security risks, and the like (see “A Consumerization Pilot”).
- **Step 4:** Depending on the results of the pilot program, make plans to roll out the consumerization model to larger groups of employees. Introducing consumerization on a larger scale will bring with it greater challenges; we recommend employing a rigorous change management effort to ensure the smoothest transition.

**Exhibit 3**  
**Consumerization Models**

**COMPARISON OF AVAILABLE CONSUMERIZATION MODELS**



Source: Booz & Company analysis

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### **A Consumerization Pilot**

Citrix Australia, a provider of IT services, embarked on a pilot program to test the virtues of employee-owned computers. The test involved 300 employees, each of whom was given a stipend of \$2,100 to buy a computer and pay for the mandatory three-year service agreement; half chose PCs, half chose Macintoshes. Access to the working environment was provided by a virtual private network, with applications delivered by Citrix's own XenApps system. The results were impressive: With the manufacturers providing support, costs to maintain the computers were minimal. The attrition rate of the computers declined, since they were owned by the users. And the employees proved more productive than their peers. The program was then opened up to 10 percent of the company's employees—and twice that number asked to be included.

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## THE FUTURE OF CONSUMER- IZATION

In the course of the next decade, an entire generation of “digital natives” will make up the majority of employees at corporations around the world. This generation will expect—indeed, demand—the right to mix business with pleasure, to work whenever and wherever they want to, and to have the same applications and services at their disposal at work and at home. Already, 40 percent of all companies have a policy on the use of employee-owned notebooks, according to Gartner; by the middle of 2010, the average portion of workers using employee-owned notebooks as their primary devices at work will reach 15 percent. This does not yet account for

the potential impact of the emerging variety of devices such as the Kindle, iPad, and Google Tablet that are creating more computing options.

Companies that make the shift to consumer-oriented IT smoothly will see real benefits in the form of lower costs and happier, more productive employees. Companies that don’t make the move face a future in which employees will do it stealthily, using their own consumer devices to get their work done, with no input from management at all. The result: technological chaos and inevitable security issues. This scenario should definitely be avoided.

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