

Thriving in a **BYOD** World



Eric Shuster, CEO, and Alex Kalamarides, Ph.D., Managing Director, IntelliClear, Inc.

Abstract

In the old days laborers brought their own tools to work—it was part of a professional trade. Centuries and decades later the practice seems to have come back around in the form of “Bring Your Own Device.” The Bring Your Own Device (BYOD) concept is a natural progression of the ongoing consumerization of IT, where technology evolves from consumers into corporations and personal usage drives new deployments. Public and private entities, large and small (including Fortune 500 companies), are embracing BYOD in hopes of enjoying its many potential benefits, while managing an array of prospective hazards of the booming trend. Successful BYOD implementations will depend on each component of the information technology continuum playing its role: end users, IT, executive management, device and technology manufacturers, software developers as well as solutions providers and distributors. BYOD is not a fad; BYOD is the new emerging reality of information technology that will disrupt the traditional IT model toward a new era of innovation and productivity.

Table of Contents

IT Consumerization and BYOD	2
Embracing BYOD	2
Potential Benefits of BYOD	2
Potential Downsides of BYOD	3
Roles in a BYOD Environment	3
The Way Forward	7
Sources	8

IT Consumerization and BYOD

The term “IT Consumerization” was introduced in 2004 and refers to the trend of technology originating among consumers and spreading into the commercial and public spaces. A natural outgrowth of IT Consumerization is a concept known as “Bring Your Own Device” (BYOD), where individuals use their own personal devices for work instead of those issued by corporate IT.

BYOD is a disruptive IT trend much like virtualization, the cloud, social networking, and search; however, unlike these other trends where IT retains substantial control, BYOD requires IT to relinquish a portion of its control in favor of user responsibility to a clear set of policies. Gartner estimates by 2014 approximately 90% of organizations will support corporate applications on personal devices, a leading indicator of an emerging BYOD trend.

Embracing BYOD

Healthcare is an industry leading the way in BYOD. A study by Aruba Networks in 2012 reported 85% of hospitals support the use of personal devices for work. Although only 8% of those hospitals enabled full access to corporate networks to use such applications as Electronic Medical Records (EMR), that number is expected to grow quickly as pressure mounts on IT to open up access to physicians and other clinical personnel. A November 2011 study conducted by IDC Health Insights of 50 healthcare CIOs in the US and Europe revealed similar statistics. Apple has been instrumental in fueling this trend with the Aruba Networks study reporting 83% of BYOD participants were using iPads.

According to a 2011 Good Technology study other industries on the leading edge of BYOD include Finance/Insurance, Professional Services, and Manufacturing with large to very large companies (2,000 or more employees) at the forefront. BYOD’s penetration into finance and healthcare is all the more impressive given the intense security, regulatory and compliance-driven environments (PCI DSS, HIPAA, GLBA, etc.) of these industries. Notable companies that have implemented a BYOD program include Citrix Systems, Sybase, Procter & Gamble, CARFAX, Kraft Foods, and Best Buy.



Potential Benefits of BYOD

Companies are embracing BYOD to take advantage of the compelling benefits to end users and employers, thus making it a classic win-win situation for the enterprise. End users enjoy increased job satisfaction, enhanced refresh cycles, a greater sense of empowerment, increased productivity, and improved flexibility. Employers benefit from avoiding costs associated with traditional device issuance and usage, higher employee satisfaction, fresher technology deployments, higher mobile enablement, increased motivation to drive innovation, and enhanced work-at-home programs.

Potential Downsides of BYOD

Although it offers a compelling array of benefits, there are potential downsides to the BYOD concept. The corporate challenges of BYOD include loss of device and data control, dealing with lost or stolen devices, loss of security control, the impact on network bandwidth, increased proliferation of malicious apps, and a new set of privacy and legal issues pertaining to the use of personal devices. A common theme among these challenges is the word “control”, something IT retains today but will have to learn to manage, and even share, in a BYOD environment. BYOD may also put more pressure on managers to ensure employees have devices that are capable of doing the job, while dealing with the inevitable need of the operation to accommodate the slowest performing device in the group.

Roles in a BYOD Environment

In a traditional framework the IT decision maker (ITDM) is the focal point of activity among a host of other players. Under BYOD the end user becomes a partner with the ITDM, creating greater complexities for the supporting cast. The most successful BYOD implementations will include careful execution of six roles in the information technology continuum: end users, IT, executive management, device manufacturers, application developers, and solutions providers and distributors.

“Under BYOD the end user becomes a partner with the IT Decision Maker”

The Role of the End User in BYOD

There are a variety of end users in any enterprise environment, each with varying degrees of technical expertise, corporate access, management influence, and job responsibility. Whether it’s top management in the corner suite or a data entry clerk in the back office, the end user role in BYOD includes honoring policies and guidelines, acting responsibility in device and data acquisition and usage, and earning a second generation BYOD inclusion by optimizing personal productivity and effectiveness. End users will also have a duty in understanding product and service requirements and options in order to make intelligent purchasing and ongoing maintenance decisions.

The Role of IT in BYOD

Some have theorized that BYOD marks the decline or death of the corporate IT department. On the contrary, by relinquishing some of its duties in device procurement and management IT can better address the ever-growing list of strategic projects it rarely has time to do. IT’s role in a BYOD environment becomes well defined and includes the following key aspects:



- IT will be responsible for developing secure but realistic device and data usage policies. Such policies and procedures are likely to be tiered according to the user group and will have to address a mixed-ownership mobile environment.
- IT will need to establish basic security requirements, including working with OEM partners on identifying minimum product features to seamlessly integrate into corporate networks. The challenge will be to maintain a secure corporate environment while not disrupting the user experience or infringing on privacies.
- IT will take a more active role in procuring applications—both standard and customized—and making those applications available in a corporate app store. In 2012 Symantec reported that 71% of technology managers around the world are evaluating the implementation of app stores for mobile applications.
- IT will have to contemplate tools such as mobile device management (MDM) software from the likes of AirWatch, BoxTone, Fiberlink, MobileIron, and Zenprise. Also worthy of consideration will be management tools that will allow for traffic identification and enhanced network administration such as the Converged Network Solution from Alcatel-Lucent and AirTight Networks and Extreme Networks' Intelligent Mobile Edge solution.
- IT will engage in a deeper understanding of the role of the cloud in a BYOD-based environment. The desire for a device-agnostic, data-resident-free environment is an ideal application for cloud computing (public or private). The use of virtual connectors on devices to meet the operational objective may be a short-term consideration, but the limitations of application rendering on small displays are likely to make virtual connectors an unacceptable long-term solution for BYOD.
- IT will work with Executive Management and Human Relations (HR) on the economics of BYOD including stipends and pay-back models, while helping to evangelize the virtues of BYOD.

“Some have theorized that BYOD marks the decline or death of the corporate IT department... on the contrary”

Although IT is at least partially familiar with the duties required to effectively manage a BYOD environment, this new integrated role is likely to remake the corporate IT brand from the big bad wolf who said no to nearly everything, to the kind and helpful traffic cop who confidently directs activity toward a more productive and enjoyable user experience.

The Role of Executive Management in BYOD

Once the decision has been made to move to BYOD, Executive Management must work with IT to develop a funding strategy. On one end of the spectrum is the “employees fund their own devices and service plans” approach. A Forrester Research 2011 report titled *Consumerization Drives Smartphone Proliferation* states “More than half of US information workers pay for their smartphones and monthly plans.” The other end of the spectrum is a corporate funded plan that addresses anything employees desire.



The more intelligent strategy revolves around user stipends for hardware and service plans. For example, Citrix Systems Inc. provides employees with a stipend of \$2,100 toward the purchase of a laptop, while Sybase covers the cost of employees’ smartphone bills. Stipends should reflect the needs and replacement cycles of different segments of workers and in all cases the economics must balance financial prudence with user satisfaction.

The Role of Device Manufacturers and Technology Suppliers

The emerging BYOD model provides good news and bad news for device manufacturers and technology suppliers. First the bad news: the instances of corporations purchasing hundreds or thousands of devices on a single purchase order to assign to employees may decrease in the future. Furthermore, in the past where advertising was more focused on IT decision makers, in the future the overall promotional mix will need to reflect the growing influence of the end user. Now the good news: the days of developing user-centric devices may be coming back—a welcome development that is sure to spurn new innovation and cause a great deal of excitement in engineering labs around the world.

A challenge for device manufacturers will be developing solutions that not only meet minimum security requirements, but appeal to users in meeting their functional, emotional and self-expressive needs in an affordable package commensurate with user stipends. Such devices must be capable of not just managing email, but complex corporate applications in secure data environments. The manufacturers most accustomed to this way of thinking may be HP and Dell. HP in February announced the launch of a new Windows 8 tablet that will ship by the end of 2012 that CEO Meg Whitman touts will address the BYOD trend in hopes of providing a more professional alternative to the iPad. Dell, while not overtly addressing the BYOD space with specific products to date, is likely to rely on open and industry standard technology to make a variety of products and services available to meet the BYOD challenge.



SONY

TOSHIBA

BYOD breathes additional life into device makers Sony and Toshiba who are sometimes overlooked by corporate IT departments. Toshiba and Sony appeal to end users' desire for style, choice, and innovation. To that end Toshiba recently announced its ultra-thin (.3 inches) Excite LE tablet with a 10.1 inch display at just over one pound. Sony recently announced the Xperia Sola smartphone with native surround sound media playback, SmartTags and floating touch navigation on a brilliant display.

Behind the scenes, but never far from end users' minds, Intel is focusing on the BYOD trend making its debut in the smartphone space with its 32nm Atom Z2460 "Medfield" chip. Atom, along with Intel's latest acquisition McAfee, will deliver incremental security and integration technology to address BYOD environments. Intel plans for tighter integration with the upcoming release of Windows 8, along with 22nm and 14nm offerings in 2013 and 2014 respectively, to further solidify its commitment to being the chip provider of the BYOD era.



The Role of Application Developers

The role of application developers will be to provide compelling applications that address the need for increased productivity and integrated security. BYOD will bring a host of new devices to the environment with smaller displays and less processing power. The challenge for developers will be the ability to securely run their applications on smaller devices to deliver an enjoyable user experience.

The Role of Solution Providers and Distributors

BYOD presents a new set of challenges and opportunities for solution providers and technology distributors. For the sake of simplicity we will segment this group into Retailers and National Distributors—VARs/integrators, both of which have roles to play in BYOD.

Retailers provide direct access to technology through brick and mortar stores. No company exemplifies this role more fully than Best Buy. Having already implemented the concept internally, Best Buy understands the impact of BYOD on companies large and small. Where Best Buy once merely sold technology to rogue corporate types, in the future it has the potential to become a one-stop BYOD headquarters selling a variety of devices, 3G/4G service plans, accessories, and aftermarket support services. Showcasing technology in-store, allowing users to touch and feel devices, along with personnel to help guide the purchase face-to-face, gives Best Buy and other retailers a clear advantage in a BYOD-driven environment. Retailers will have to become savvier on security requirements and business applications, while engaging with corporations on fulfilling stipends, long term contracts and post-sale service and support.



National distributors such as CDW, Insight, NewEgg and PC Connection are already engaged with small, medium and large enterprises and therefore in a perfect position to help shape BYOD corporate strategies in the future. CDW is by far the strongest of the bunch with a proven track record in logistics, integration services, technology consultation, vertical specialization and the broadest partnerships in the industry. CDW is already out in front of the trend having recently published the whitepaper *BYOD: Cost Saver, Not Curse*. CDW employs a team of experienced consultants who can hand-hold companies into this new and challenging era of information technology. National distributors can expand their influence by becoming capable in offering MDM solutions, assistance in developing ROI models (including compliance, audit and tax implications), and demonstrating the ability to effectively serve end users in technology fulfillment and ongoing helpdesk services.



The Way Forward

BYOD will not happen overnight, and is not likely to reach its full potential for the next several years. However, BYOD is like a runaway freight train that cannot easily be stopped or contained. There will be companies who attempt to slow BYOD's progress, only to be rebuked by highly talented and sought after employees who will choose those institutions that allow them the freedom to maximize personal productivity. There will be those companies that embrace the BYOD trend wisely and learn how to tame the beast toward a more competitive position and future corporate success. There are roles to be filled and opportunities to be seized across the information technology continuum for those who are able to adapt and creatively take advantage of BYOD and its future prospects. William Pollard once said "Without change there is no innovation, creativity, or incentive for improvement. Those who initiate change will have a better opportunity to manage the change that is inevitable." BYOD is bound to present plenty of opportunities for innovation and creativity, along with incentives for improvement among all of information technology's stakeholders.

About IntelliClear

IntelliClear brings clarity to IT market intelligence by delivering results-oriented research, responsive industry experience, and effective data synthesis — enabling clients to confidently develop go-to-market plans. IntelliClear utilizes powerful primary market research, data synthesis and seasoned IT industry experience to deliver unique real-world solutions to even the most complex business problems. Through its experienced global partner network, IntelliClear can extend its services into over 65 countries across the globe including North America, Western and Eastern Europe, Asia Pacific, and Latin America.

Sources

- Antonopoulos, Andreas, M., (2011, July). IT Security's Scariest Acronym: BYOD, Bring Your Own Device. *NetworkWorld*.
- Aruba Networks Inc, (2012, February). 2012 healthcare Mobility Trends Survey Results.
- Bentm Kristin, (2012, March). Intel's Dallman Says BYOD, Mobility Offer New Opportunities For Partners. *CRN*.
- Bess, Charles, (2011, October). Are there 5 top reasons CIOs should allow a Bring Your Own Device (BYOD) policy?
- Blasso, Monica and Redman, Phillip, (2011, July). Critical Capabilities for Mobile Device Management.
- Bradley, Tony, (2011, December). Pros and Cons of Bringing Your Own Device to Work. *PCWorld*.
- Brown, Matt, Martyn, Heather and Schadler, Ted, (2011, December). Consumerization Drives Smartphone Proliferation," Forrester Research, Inc.
- Brown, Eileen, (2012, March). Barclays creates its own App Store for mobile devices.
- Blurt, Jeffrey, (2012, March). Alcatel-Lucent, AirTight Networks Address BYOD Trend.
- Drinkwater, Doug, (2012, February). HP will target business BYOD schemes with new Windows 8 tablet.
- Evans, Nicholas D., (2011, August). Consumerization of IT: Lessons for Business Applications. *Computerworld*
- Fulton, Scott M., (2012, February). Xerox Goes Up Against RIM in 'BYOD' Mobile Device Management.
- Goodchild, Joan, (2012, March). Security managers split on BYOD, skeptical of Android devices.
- Good Technology, (2000, December). State of BYOD Report
- Lai, Eric, Can a 'Bring Your Own' Device policy make sense for your company? Sybase, blog Ubermobile.
- Mearian, Lucas, (2012, February). 85% of Hospitals Embrace BYOD, Survey Shows. *Computerworld*.
- Messmer, Ellen, (2012, February). The BYOD Struggle: From Writing Custom Apps to Defining Security. *NetworkWorld*.
- Mobile Iron, (2011). Building "Bring Your Own Device" (BYOD) Strategies
- Mobile Iron, (2011). Limitations of the Walled Garden
- Moschella, David and Neal, Doug, (2004). Consumerization of Information Technology. Leading Edge Forum. <http://lef.csc.com/projects/70>, retrieved 3/20/2012
- Reed, Brad, (2011, October). Q&A: Why Consumerization Won't Kill Corporate IT. *NetworkWorld*.
- Schwarz, Paul, (2011, October). Top 5 Enterprise Security Challenges with "Bring Your Own Device".
- Special Report: Personal Technology, "Consumerisation: The Power of Many", (2011, October). *Economist*. <http://www.economist.com/node/21530921>, retrieved 3/20/2012
- Stager-to-Go, (2012, March). BYOD – Worst Idea of the 21st Century?
- Symantec, (2012). State of Mobility Survey. http://www.symantec.com/about/news/resources/press_kits/detail.jsp?pkid=state-of-mobility-survey, retrieved, 3/20/2012
- Weinschenk, Carl, (2012, March). BYOD Faces Many Challenges. *IT Business Edge*.