



The IT Service & Technical
Support Community

The Mobility Revolution Redux: Continued Change and Challenge

by

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Executive Summary

In February 2011, HDI published a white paper on “The Mobility Revolution and Its Consequences for Support.” Since then—and especially at the end of 2011 and the beginning of 2012—this revolution has gained momentum. It is no longer necessary to predict mobile, always-on, always-connected styles of work. They are here, and likely here to stay.

In an effort to track the progress of the ongoing mobile revolution, HDI conducted a new survey based closely on the 2010 Research Corner on the same topic. In this way, we were able to compare year-to-year results and identify trends. The new survey was in the field at the very end of 2011, and the results were published in January 2012, based on responses from 286 support centers.

In every support environment, from higher education to healthcare to manufacturing, mobility can be a benefit to both productivity and profitability; but it can also be a treadmill of keeping up with rapidly changing platforms, standards, and applications.

— “*The Mobility Revolution and Its Consequences for Support*”

The purpose of this paper is to look back over the past year, extract meaningful information, and take a look at what is and is not being done in the world of mobile support.

This paper will cover the following areas:

- An update on the past year of the mobility revolution;
- Rapid change;
- Security; and
- The state of mobile device support.

A word about BYOD

Where does the line between mobile device support and policy end and the larger “bring your own device” (BYOD) question begin? In future years, there may not be any division between the two, since it’s already beginning to blur. Right now, though, mobile device support is both running ahead of and driving more inclusive BYOD policies, although gathering accurate and meaningful numbers about the breadth of BYOD’s current state is difficult at best. The state of the larger BYOD question—and its relative, the consumerization of IT—is too large to tackle in this paper, but will be covered separately in future HDI research and publications.

During the latter part of 2011 and into 2012, many online sources (blogs and the social media world) seemed to take it for granted that the majority of companies have “bring your own device” (BYOD) policies in place, and that most workers are buying and using their own computers, tablets, and smartphones for work.¹ This is *demonstrably not the case* (yet), according to our research and that of others. This is not to say that people

¹ See, for example, Galen Gruman’s [blog](#) at *Smart User*. The results of several surveys fail to support his opening statements. Early analysis of HDI’s 2012 research on BYOD indicates that more than half of respondent companies are currently not considering BYOD policies for smartphones, laptops, or tablets.

are not bringing personal devices to work and using them in unsupported ways. However, most organizations do not yet have formal policies in place to allow or encourage employees to use devices they have personally purchased as a matter of course for their work.

Related topics

There are questions related to the use of mobile devices for accessing organizational resources that go beyond the support organization itself, but which may and should be considered by HR and other senior management. These questions include, but are not limited to:

- Impact on compensation of hourly staff for access to email and calendar during “off” hours;
- Impact on employee vacation time; and
- Possible tax implications of stipends, allowances, or other methods of compensation for devices and data plans.

These questions should be born in mind by management, but do not bear directly on the questions of mobile support considered here.

Introduction

Here are some astounding statistics about the mobile industry at the beginning of 2012:²

- There are now 5.9 billion active mobile phone subscriptions worldwide (representing 4 billion unique users), compared with 1.1 billion landlines. These subscriptions represent 4.8 billion mobile handsets.
- Nineteen percent of the global installed base is smartphones
- At 1.2 billion, the smartphone installed base approaches the *total installed base for all types of personal computers* (1.3 billion personal computers, including desktops, laptops, netbooks, and tablet PCs like the Apple iPad)

To put this another way, not using a smartphone is getting to be about as anachronistic as using a pen and paper for business recordkeeping. People lead complex lives, and the line between personal time and work time is becoming more and more blurred. Children have calendars for school and extracurricular activities. Parents need to coordinate errands, travel, meals, and often caregiver duties for their own parents—all in addition to increasingly demanding work schedules. The need for real-time communication of both business and personal information is increasing, and voice calling is not always—or perhaps even often—the best way to communicate. Text (SMS) messages, tweets, Facebook posts, and emails are often the preferred and most efficient ways to get information from point A to point B, or to points B to Z.

² Tomi T. Ahonen's *Almanac 2012*

The demand on organizations to expand support for mobile devices has intensified during the past year, especially with regard to personal devices (i.e., those of the employees' own choosing). This paper explores the consequences of those demands, and how support centers are attempting to meet them.

The Mobility Revolution: Year in Review

Many of the trends articulated in our previous mobility paper have continued and grown. Mobile device sales have soared, and more people than ever are using, or asking to use, their mobile devices for work purposes. Many of these devices are personally owned—not selected and purchased by the company—and that complicates the matter in many ways. Fewer organizations say that they are not supporting mobile devices (from eight percent in our 2010 research to five percent in late 2011). The iPad has become one of the most popular devices, and is now given at least some support by about three-quarters of support centers that responded to our survey,³ challenging BlackBerry as the most supported device. Mobile device management (MDM) tools have been implemented in over one-third of respondent support centers, and almost one-quarter of support centers have changed their staffing structures somewhat to adapt to the surge in mobile devices. These are all rapid, big changes in the way support organizations are doing business with regard to mobile devices.

The proliferation and diversification of the mobile marketplace has complicated many organizations' attempts to create mobile device support plans that are not so confusing and time consuming that they become impractical. We all see this in the advertising of countless mobile devices, whether they are running Android, iOS, BlackBerry, or Windows Phone systems. Mobile service providers all seem to say that they are the best and the fastest and have the most network coverage. New devices are introduced regularly, each having some features that a subset of customers wants, and support centers find themselves scrambling to learn enough to provide even rudimentary support. To make matters worse, hundreds of thousands of apps are available through the Android Marketplace and Apple's huge App Store, which posted its 25 billionth download earlier this month. What do these apps do? How will they interact with corporate resources, if at all? How can support centers even begin to vet these apps and/or their seemingly incessant updates?

Changes in the mobile business itself have also created complications. A year ago, few could have predicted the course of events at Research in Motion,⁴ the marriage of Nokia to Windows Phone,⁵ the purchase of Motorola Mobility by Google,⁶ or the wide popularity of Apple's voice-driven iPhone assistant, Siri. Tablets seem to have tapped an unforeseen market somewhere in between smartphones and laptops, as well. Tablet sales grew an

³ Jenny Rains, "Supporting Mobile Devices in 2011," HDI Research Corner (January 2012).

⁴ Elizabeth Woyke, "RIM CEOs Balsillie and Lazaridis Step Down as COO Takes Top Post," *Forbes.com* (January 22, 2012).

⁵ Kevin J. O'Brien, "One Year Later, Nokia and Microsoft Deliver," *The New York Times* (February 27, 2012).

⁶ "Google to Acquire Motorola Mobility," press release dated August 15, 2011.

astounding 260 percent in 2011.⁷ These market-driven changes and others have done nothing to simplify the choices facing organizations and their support centers.

Rapid Change

The treadmill of device revisions, model expansions, and app updates has continued to accelerate. Market conditions continue to fluctuate, and the decline of BlackBerry and the increase in Android and Apple device penetration into the enterprise continues. Despite this rapid change, support for connection from mobile devices to internal resources, which include email and calendar, is up across the board for both company-owned and personal devices, and device support continues to cross brands and platforms. Last year, we reported that about one-third of the respondents said they did not allow connections from personal devices; those numbers fell during 2011. In the case of personal iPhones, for example, last year 34 percent of organizations said they *did not* allow connections, while this year that number had dropped to 19 percent. Similarly, 31 percent said last year that they were not allowing iPads to connect, while this year the number had again dropped to 19 percent. Personal Android devices also gained some ground. The percentage of organizations *prohibiting* Android devices from connecting dropped from 38 percent last year to 26 percent in our latest research. At the same time, the percentage of organizations allowing personal Android devices to connect for “anyone who has one” rose from 31 percent to 41 percent.

Still struggling to keep up

Last year, we reported that just about half of respondent support centers were struggling to keep up with the pace of change in the mobile device world, and that 41 percent claimed to be keeping up. This year’s survey reveals that 52 percent are struggling to keep up and 40 percent say they are keeping up with the pace of change. This indicates that the struggle to keep up has intensified, at least somewhat. There seems, however, to be no let up in organizations’ determination to provide support. The percentage of respondent organizations that say they are not supporting mobile devices dropped from eight to five percent since last year. Now only a very small portion (3%) of our survey respondents report that they are actually keeping up with the rapid pace of change.

In “The Mobility Revolution,” we cited a November 2010 *Technology Review Business Impact* report⁸ that did predict a change in the brands and types of devices that would be coming into the enterprise in 2011 and 2012. Although that publication reported that 57 percent of IT decision makers preferred BlackBerry in 2010, it also predicted

Mobile devices are being released and embraced by customers faster than organizations can create policies around them and support teams can learn about them.

— Jenny Rains, Senior Research Analyst, HDI

⁷ Greg Quick, “Friday Grab Bag: Tablet Sales Grew 260% in 2011,” *mobile sports report* (January 27, 2012).

⁸ Mark Lowenstein, “The ‘Bring Your Own Device’ Policy,” *Technology Review Business Impact: The Mobile Enterprise 1.2* (November 3, 2010).

that in 2012, BlackBerry would have only 34 percent of the market, while iPhone would increase from 20 percent to 34 percent, Android phones from nine percent to 28 percent. As we now know, both the Apple and Android markets have dramatically increased in both overall popularity and enterprise penetration.⁹

Security Concerns and Access to Internal Resources

There are still many open questions regarding mobile device security. Mobile malware is on the rise. Recent events have revealed highly insecure aspects of some embedded smartphone software and some mobile apps. Employee behavior, especially as it relates to the online storage and sharing of proprietary business documents, is also a serious concern.

The reports of “Carrier IQ” embedded software¹⁰ and the unauthorized uploading and storage of address book contacts¹¹ that surfaced in late 2011 and early 2012 placed new emphasis to the security concerns of many organizations, and may have increased their reluctance to offer broad BYOD access to organizational resources and data, in spite of strong indications that such policies produce an increase in productivity.¹² But hidden applications and bad app behavior are not the only cause for concern. The cloud storage and sharing utility Dropbox now has over 45 million users.¹³ The Dropbox app for mobile devices—and other storage and sharing services such as Evernote, Huddle, Google Docs, and Box.com—make online file storage and sharing extremely easy and accessible. Is it then likely that corporate documents and spreadsheets are being viewed on mobile devices and stored in third-party sites? In a word, yes. It is important to remember that even though these sites may be “secure” in that they use a secure protocol (HTTPS) and require authentication, unless the organization has complete access control, organizational data will be stored and possibly shared using methods and utilities of which the organization has no knowledge, and over which it has no control. Mobile devices serve as the enabling technology. Even if there is a policy (and an agreement with end users) that a company or institution will “wipe” a device—whether personal or company-owned—there is no guarantee that critical data and/or intellectual property that might have been transmitted to the phone via email attachments have been deleted. Those documents may very well still exist in one or more online storage sites. Organizations continue to be very concerned about substantial data leakage through the use of mobile devices.

“Total lockdown is rarely an option and is almost never a good idea.”

— Monica Basso, Gartner

⁹ Zach Epstein, “IDC: Smartphone sales hit all-time high in Q4 led by Apple, Samsung,” *BGR* (February 6, 2012).

¹⁰ Jaikumar Vijayan, “FAQ: Behind the Carrier IQ rootkit controversy,” *Computerworld* (December 1, 2011).

¹¹ Nicole Perloth and Nick Bilton, “Apps helping themselves to address books,” *The Bulletin* (March 12, 2012).

¹² Larry Dignan, Rachel King, and Andrew Nusca, “Bring-your-own-device becoming accepted business practice (survey),” *Between the Lines* (November 21, 2011).

¹³ “Dropbox Now Open for Business,” press release dated October 27, 2011.

Malware attacks on mobile devices have also increased. As stated on MIT's *Technology Review* site, Lookout, a mobile security firm, says that "four percent of Android users were likely to encounter malware over the course of the year—up from one percent of users a year ago, though part of the increase may be a function of improved detection."¹⁴ Fortunately, the marketplace has continued to respond with innovative solutions, ranging from enhanced MDM to virtualization on the mobile device, allowing a separation between corporate and personal apps, contacts, and data on the phone.

A recent summary of Focus.com answers on the topic of mobile device security provided some suggestions for best practice, including:¹⁵

- Understand the compliance issues related to your business;
- Limit network access;
- Properly identify all devices;
- Mandate user authentication (PIN or passcode on the device); and
- Invest in mobile device management software.

In spite of these security concerns, more organizations are allowing access to internal resources, including, but not necessarily limited to, email and calendar. Our research compares access to resources afforded to company-owned and personal devices. Year over year, there has been significant change, and more of it is happening with respect to personal devices. This can be taken as an indicator of the trend toward mobile BYOD.

The State of Mobile Device Support

Just under half the support centers in this year's survey report that formal mobile device support policies are "in development." It is noteworthy that the percentage reporting "well-defined" policies has dropped since last year. This is disconcerting because, as the Research Corner report on mobility says, "Deeper analysis of the survey data validates and reinforces the importance of well-defined policies. In both 2010 and 2011, those organizations with well defined policies were more likely to feel like they are keeping up with the pace of emerging technologies."¹⁶

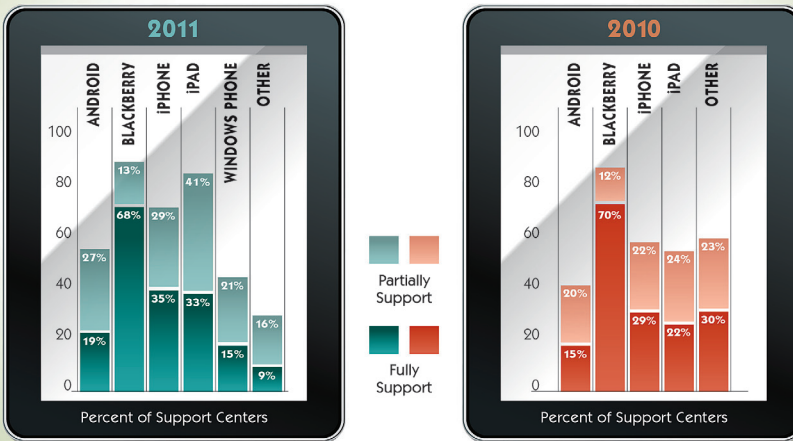
Support for company-owned devices still exceeds that of personal devices by large (though shrinking) margins. BlackBerry still leads the way, with 72 percent of respondent organizations supporting company-owned BlackBerry devices with access to internal resources, compared to runners-up iPhone and iPad (both 52%), Android devices (38%), and Windows Phone (32%). In all cases, the number of support centers *not* supporting company-owned devices for access to internal resources is less than 20 percent, and for most device platforms, less than ten percent.

¹⁴ David Talbot, "Attacks on Android Devices Intensify," *MIT Technology Review* (February 9, 2012).

¹⁵ Amy Babinchak, Martyn Davies, Bob Egan, Rasib Hassan Khan, Josh Lipton, and Ken Wineberg, "Best Practices for Managing Security on Mobile Devices," *Focus.com*.

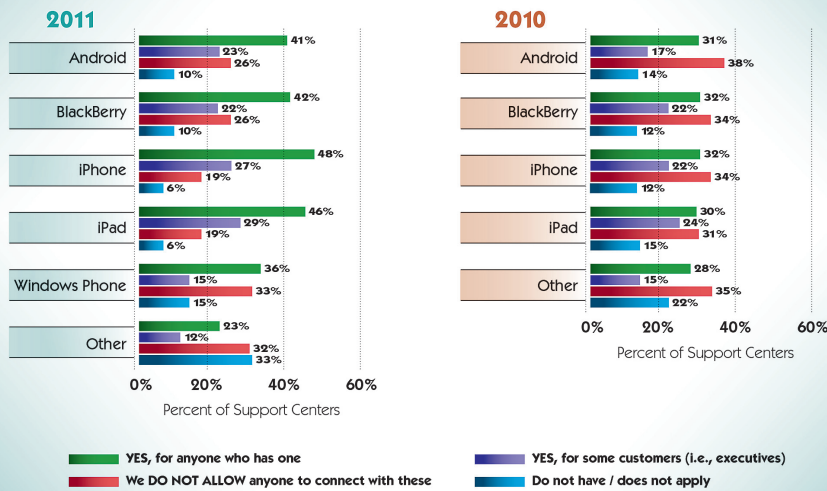
¹⁶ Jenny Rains, "Supporting Mobile Devices in 2011," HDI Research Corner (January 2012).

Supporting Company-Owned Mobile Devices



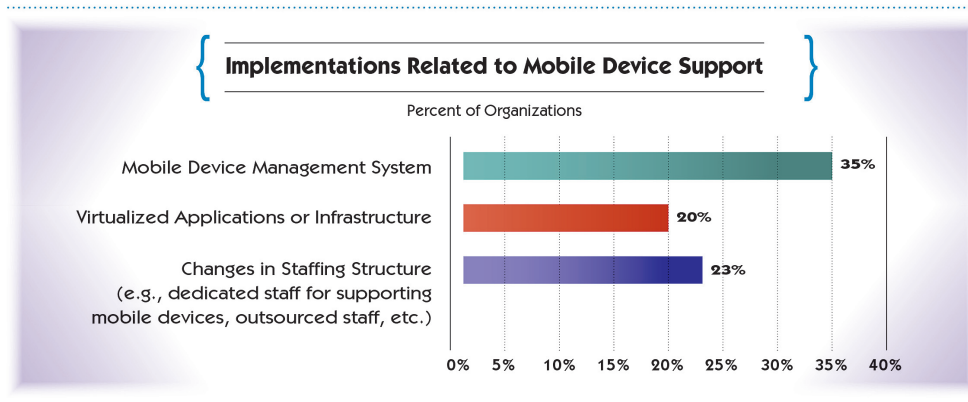
A small percent reports that they support resource access for only some customers (e.g., executives), but the only case where there is a large differential is with iPads.

Resource Access for Personal Devices



Personal device support for resource access increased noticeably from year to year. Many companies allow use of personal devices solely for email and calendar. Others are providing access through secure gateways to virtualized infrastructures. Still others are building “mobile first” websites and venturing into the development of apps.

Last year’s paper identified the state of support as “developing,” and this year’s research confirms that development has proceeded rapidly in *every area except policy*. A strong indicator of the move to open up the organization to multiple mobile platforms is the increase in implementation of mobile device management (MDM) systems. More than one-third of the respondents to this year’s mobile device Research Corner survey report that they have implemented MDM. Perhaps even more telling, however, is the finding that almost a quarter say they have made changes to staffing, either dedicating some staff to mobile device support or outsourcing some or all of that work. Both the MDM implementation and the staff changes are indicators of how great the pressure is to get mobile devices integrated into organizations.



Many businesses and institutions (20% of our respondents) have expanded and accelerated their plans for virtualization, with the intent of providing access to virtual desktops and virtualized applications to mobile devices, especially tablets.

Virtualization has many levels and approaches, and, depending on the organization and its infrastructure, not all of them are well suited for supporting mobility. Although many organizations have hurried to provide virtual desktop infrastructure (VDI) in the hope that end users would be able to simply connect from mobile devices to a virtual Windows desktop configured and controlled by IT, in some cases this has not proven to meet the needs of the end users. A physician who wants tablet access to medical records so that updates and changes can be made at the bedside may find that logging into a virtual desktop (depending on network bandwidth and infrastructure) can take minutes rather

than seconds.¹⁷ In addition, trying to navigate in a Windows environment from an iPad may be difficult. In some cases, however, applications can be delivered well and quickly to the tablet without the intervening virtual machine. There are individual organizational goals and capabilities that need to drive the technology choices, rather than having the choice of technology driving the goals.

Thinking that desktop virtualization can solve all the potential riddles associated with the move to mobility is a kind of tunnel vision. Providing secure access to a virtual desktop may be all that some organizations need to do, while in other cases the money spent on virtualizing desktops may be an unnecessary expense. Mobile apps or mobile-enabled websites may prove to be a better solution.

How the technology marketplace is helping

To meet the needs of mobile users, providers of software aimed squarely at this market have grown and diversified. In addition to antivirus and antimalware applications, some companies have devised ways to virtualize a corporate “personality” on the mobile device itself, basically creating a “wall” between the personal apps and contacts and those used “officially” by the enterprise. This type of technology has some advantages, namely:

- The personal personality of the phone or tablet never overlaps with the corporate side, so that an end user’s desire to use social media, camera, or other applications is met without imposing artificial obstacles;
- In the event that a mobile device is lost or stolen, no proprietary data from the company or institution resides on the device itself; and
- The corporate personality can be wiped from the device without affecting the personal data, providing a clean process for separation (offboarding).

The “best of breed” of this technology will avoid degrading performance as much as possible. If performance of the mobile device is severely degraded, end users will either avoid using their smartphones—and lose productivity—or will look for ways around the security restrictions, taking the mobile support question back to square one.

In determining the type and extent of support your organization will provide for mobile devices, answer these general questions:

- Does the organization currently possess the mobility management and security tools necessary to provide the level of support to which the company has committed, through policies, procedures, compliance requirements, and service level agreements?
- Does the support center have the appropriate level of access to those tools, and/or a clear escalation path for resolving incidents and requests?
- Is information about mobile devices—at whichever levels of support are appropriate—included in the knowledge management system?
- Are support analysts being appropriately trained to assist and to capture new knowledge?
- Are end users/customers aware of the support center’s ability to assist them, the policies that exist, and their responsibilities to the organization?
- Are there consequences for violating organizational policies that clearly apply to personal mobile devices? (Does your acceptable use policy make it clear that personal devices connected to corporate network assets are subject to the same use policies as company-owned devices, or state what the differences are? Do end users/customers know the consequences of sending confidential data across insecure connections?)

— “The Mobility Revolution and Its Consequences for Support”

¹⁷ One healthcare institution we spoke with clocked the connection and login time, and, in their case, it took up to six minutes to log into an application from an iPad through a virtual desktop. This was unacceptable to their physicians.

Because of the wide array of products now available for the mobile enterprise, organizations need to think strategically (above and beyond the budget) about:

- How their employees use (or want to use) their mobile devices;
- What access employees need:
 - » Email and calendar only,
 - » Enterprise applications through secure gateways,
 - » Enterprise applications optimized for mobility, and
 - » Proprietary corporate mobile apps; and
- What expectations the organization has for savings or efficiency improvements.

Summary

The trends we saw last year are continuing to accelerate, putting increasing pressure on the support center to accommodate mobile device support or find ways to absorb the extra work. Markets shift, devices evolve, and support either transforms, outsources, or dedicates staff to the tasks required to provide mobile device support. Nearly everyone is—or feels as if they are—running behind and struggling. Policies that appeared well developed last year may not appear to be that way now. Although there is some consensus around what best practices are with regard to mobile devices, the sheer speed and pressure of the move to mobility are making policies difficult to write and enforce.

Last year's paper suggested three approaches to mobile support:

- **The exclusion approach:** Defined as the organization limiting support to defined devices, or to no mobile devices. This approach, given the increases in supported platforms and devices across the board, is shrinking.
- **The limited-support approach:** This approach appears to have blurred over the last year, opening up the organization to more mobile devices and tending more toward BYOD.
- **The BYOD approach:** With regard only to mobile devices, and without getting into the larger questions of laptops or other equipment, this approach most certainly is growing. Personal devices are connecting to and accessing resources more than they were, and to a large extent fueling the treadmill on which the support organization finds itself today.

As we stated earlier in this paper, the larger BYOD and consumerization question is currently at the forefront of the issues facing many organizations. Lessons learned during the ramp-up of support for mobile devices will undoubtedly be revisited when companies and institutions review their policies for the provision of equipment. The experiences that organizations have now with the security and support of mobile devices will pave the way for notebooks, laptops, and other devices in the near future.

About the Author



Roy Atkinson is HDI's senior writer/analyst. He is an HDI-certified Support Center Manager and a veteran of both small business and enterprise consulting, service, and support. In addition, he has both frontline and management experience. Roy is a member of the conference faculty for the HDI 2012 Conference & Expo and is known for his social media presence, especially on the topic of customer service. He also serves as the chapter advisor for the HDI Northern New England local chapter.

About HDI

HDI, a UBM TechWeb company, is the leading professional association and certification body for technical service and support professionals. Serving a community of over 110,000 members, followers, customers, solution providers, and contributors, HDI hosts industry conferences and events, produces comprehensive publications and research, and connects solution providers with practitioners, while certifying and training thousands of professionals each year.