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Four Steps To Mobilize The Business

Firms Need a Business Strategy that Uses the Unique Attributes of Mobile Technologies

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Purpose and Intent

As the types of connected devices increase and the adoption of mobile devices grows, businesses will need to fundamentally change their operations to take advantage of the new capabilities that a portable, always-on environment provides. This best practices report answers the questions: How will mobility change the landscape? What should business and IT leaders be considering? What elements should IT and business leaders consider as part of a mobile strategy?

Executive Summary

Mobility is about more than wireless connectivity. Mobility fundamentally changes what we connect and how we connect it. It also provides the opportunity to change how we engage with our employees, customers and partners. Mobile, while providing great opportunity, also provides security and management risks as well as business process challenges. To capitalize on the potential benefits of mobile, IT and business leaders must build a business strategy that incorporates mobile attributes into business processes to create differentiation, speed to market, and competitive advantage.

The selection of the appropriate processes and application to mobilize is the most important elements a business must master in order to reap the benefits of mobility. A business must master both the technology choices as well as how business processes should be changed to take advantage of the anywhere access to data which mobility enables. The IT strategy should take into consideration several key areas including mobile security, management, and application development methods. Meanwhile, the mobilization of applications should be based on what business processes can benefit from mobile access.

Mobility Transforms Employee and Customer Interactions

Mobile has the potential to change business – to make it more immediate, more relevant, and more intelligent. It also serves as an accelerator for two other major trends: social computing and cloud / Software as a Service (SaaS). Mobile increases the reach of social and gives it additional context such as location and presence. Mobile also generates – and has the capacity to use – massive quantities of real-time and analytic information as well as applications on the go, making it one of the fastest growing users of cloud computing. Cloud computing helps mobile overcome challenges of limited battery life and memory in mobile devices by enabling data and transaction processing in the cloud. Together, each of these technologies feeds the other and creates new opportunities. Mobility represents one of the most fundamental changes

in technology over the past two decades. But to reap the benefits, companies must rethink computing and business process strategies and move away from old paradigms. Mobility will change business in three ways:

- **What we connect.** Instead of being a laptop or a desktop, it can be a phone, a tablet, a car, a medical device, or myriad of connected devices. In fact, Ericsson estimates there will be 50 billion connected devices by 2020. These devices can be as sophisticated as a tablet or as simple as a sensor that monitors humidity. This requires a company to modify its user and interaction models as well as prepare for a massive increase in real-time information.

- **How we connect.** Not only are devices changing, but the software landscape is changing as well. The operating system (OS) is shifting from the Microsoft Window's world that connected PCs, to a world where there are at least four major contenders in the battle for the next-generation OS. Apple has shipped 100 million iPhones and 15 million tablets with iOS. Google claims 400,000 Android devices are activated per day and has a new tablet OS. RIM launched QNX for its tablets and Nokia teamed up with Microsoft to use Windows Phone for its new mobile devices. Advances in Web technologies, such as HTML-5 and its support for caching, allow companies to write full applications that run entirely in the Web. A firm must decide if it should design its apps and processes to operate in the Web, to run natively on several OSs, or to do both.

- **How we engage with data, services and people.** "Going mobile" forces a company to reconsider how it has constructed a business process. PC systems were designed with menu structures and browsing, while mobile-optimized systems are task oriented. Users typically want to access relevant information in one to two clicks on a mobile device, which means IT can't simply port an application to a device. The screen size, the content, and the process aren't optimized for the device. It also requires discovering where there are data dependencies, devising a strategy on where that data lives (cloud versus premise-based), and designing applications and processes that won't break when a data connection is lost. A company should also review its website and consider building a mobile version for its customers.

Businesses and IT Organizations Are Ill-Prepared for the Change

A majority of business leaders recognize that mobile is important and will change business. This is where the agreement ends and confusion reigns. What exactly qualifies as mobile? How will it change business? What should a business do to prepare? These questions paralyze most IT departments. Today, "going mobile" comes with both business and technical challenges. IT faces:

- **Increasing technical complexity and business process challenges.** Times were easy when IT issued a single type of device to a small number of employees with email-only access. Now employees want to bring in whatever device they currently own and expect to access much more than email. IT must decide what devices to support, which apps and processes to mobilize, how to design apps to take advantage of multiple devices, and how to manage and secure access to corporate data. Additionally, many of the business processes weren't designed with mobile in mind and need to be redesigned to take advantage of new capabilities and constraints.

- **Escalating support and connectivity costs.** IT's currently staffed to support a small number of mobile workers, but allowing everyone to connect to the network increases support calls and expense. According to Boxtone, a mobile management vendor, mobile device-related trouble tickets cost between $25-$275 per incident, depending on the tier of support that is required to resolve the issue, with approximately 30-40 percent requiring the highest levels of support. Meanwhile, companies with a global or traveling workforce can incur thousands of dollars in roaming fees for a single user. Unpredictable roaming fees coupled with increased telecom reimbursements for employees that use their own devices is crippling IT budgets.

- **Mounting security and compliance risk.** Security and cost have topped the list of mobile concerns for years, but numerous surveys reveal firms are worried about personal devices invading the enterprise. The financial costs of ID theft and fraud to businesses and government are staggering – estimated at billions of dollars annually. Ensuring compliance with security regulations has heightened both the CIO's and the CFO's awareness of mobility. The most recent "Internet Security Threat Report" from Symantec illustrates that mobile vulnerabilities, while comparatively small, are on the rise – the number of new reported mobile operating system vulnerabilities increased 42 percent from 115 in 2009 to 163 in 2010. As more employees bring their own devices into the workplace, businesses need to secure employee-owned devices while allowing device owners to use apps and services.

Four Steps Help Firms Prepare for the Mobile Revolution

The shifts in consumer behavior as a result of social, mobile and the cloud are profound. The cloud is providing data storage for consumer and enterprise data, scaling capacity for small companies to develop new apps, and services and new content distribution models. Social technologies are embedding communications in a wide range of applications and offering new methods of authentication. Social is combining with mobile to enable check-ins and gamification in the consumer and enterprise markets. Mobility bridges the physical and the digital world with more portable devices that blend a consumer's personal and corporate life. Given these changes, there are at least four steps a business should consider when building a strategic plan for capitalizing on mobile, which include:

Step 1. Define processes and apps to support business goals.

Step 2. Build a foundation with network services

Step 3. Provide security and stability with enterprise mobility management

Step 4. Create flexible app development models to mobilize business processes

Step 1. Define Processes and Apps to Support Business Goals

A company's mobile strategy won't be successful if it starts by saying, "We need to mobilize apps," or "What devices should the company support?" A successful mobile strategy requires firms to evaluate what processes are working, what needs to be changed, and how mobile can improve the success of its business strategy. The move to mobility provides an opportunity to design for today's new market realities. To get started, business leaders and IT should:

- **Reevaluate today's processes and go back to the drawing board if necessary.** A business will fail if it tries to recreate the PC experience on a mobile device. Firms should ask themselves: If the business were started today, what would we do differently? Would our Web site look the same? Would we use these applications? Is the process as efficient as it could be? Are we losing potential sources of revenue or types of customers that could be valuable for our business? How many clicks does it take to get to actual data? Does the application provide actionable data or simply a data dump? Is anyone actually using this process or app and is it still sneaker-net behind the scenes?

- **Understand what processes and requisite apps benefit from mobile.** Once the business has defined the core set of processes and data that are required to run the firm, IT should look for ways that mobile can benefit these apps. A business must understand how its employees want to interact with the company. What data do your employees actually need to access on a device? Also, today's app doesn't look or act like yesterday's app. An app can be a single process such as an approval; a call for a piece of data such as inventory; or a subset of an entire app such as ERP. Business unit leaders should rank deployments by those with the highest impact on business results. Processes that benefit from location, communications and real-time data capture are a logical starting point. For example, it makes sense to mobile-enable apps and data that improve billing cycles, increase inventory turns, and accelerate sales. The business should also look for areas where employees can gain insight with real-time data delivered to and from the field. For example, supply chain data and CRM data can arm sales and service people with valuable information.

- **Select applications and services that are mobile-compatible.** The next w[illegible]ruptive software and h[illegible]vendors have tailo[illegible] rather than retrofitted, products for mobile access. Companies should look for pr[illegible] that w[illegible]igned to [illegible] types, tolerate partially connected environments, and opt for quick-hit, task-driven apps ra[illegible]an [illegible]out, m[illegible]

- **Define a customer-facing strategy.** This means a business must consider how mobile fits into both the employee and customer experience. Are customers expecting the company to engage with them via SMS, mobile apps and mobile websites? Different customer segments will have differing preferences, and firms must monitor these preferences as they may change over time. A business can also gain more value out of mobilizing processes by taking certain data that would be used by its employees, such as inventory availability and shipment information, and extending this data to its customers via mobile-optimized web sites and apps.

Step 2. Build a Foundation with Network Services

Mobile provides employees the opportunity to connect from any location but this doesn't happen without cost and IT intervention. If firms aren't careful, the support and connectivity costs of mobility will escalate out of control. A comprehensive mobile-aware network services strategy is the foundation of all successful business. A mobile-aware network strategy will:

- **Connect the Internet of things, not just laptops.** Firms need a strategy that accounts for the wide range of items that will be connected. These devices may support high bandwidth, latency-sensitive services such as video streaming or more frequent small streams of data such as sensors on equipment or RFID tags.
- **Function globally using a wide range of wireless networks.** Employees will use a variety of devices with varying capabilities and use whatever network is available, regardless of cost. Roaming can cost thousands per month. When left unchecked, it can equal more than half of the cost of supporting mobile. IT needs to provide easy connectivity that leverages the right network at the right time. Successful strategies will combine global connectivity with multiple access methods such as 3G and WiFi. A company should make multi-access methods a requirement in its RFP process for communications services.
- **Integrate with Cloud and SaaS service.** Over the past five years, Infrastructure as a Service (IaaS), Platform as a Service (PaaS and Software as a Service (SaaS) have matured to the point where business can use the cloud to scale IT processing power, store data, develop and test applications, as well as rent apps on demand. There is a wide range of cloud options to meet IT requirements including private cloud, hybrid cloud and public cloud options. Mobile and the cloud are a perfect compliment as mobile devices can use the cloud's storage and processing power to retrieve and manipulate the data it needs to feed apps while on the go. The rise of SaaS also eases the burden of developing apps to work with various mobile devices by providing browser-based access and in some cases mobile optimized apps. Combining these three trends allows IT to enable anywhere access to data as well as scale resources as market demand changes.

Step 3. Provide Security and Stability with Enterprise Mobility Management

In a world where almost everyone will have a connected device, regardless of whether it's purchased by the business, employees are expecting real-time, on-demand access to business applications. Employee-liable devices are entering the enterprise – with or without IT sanctioning. As employees look to connect their own devices, the business has a tremendous opportunity to expand mobile functions beyond the 10-15 percent of the employees that have access to mobile today. But to embrace the ubiquitous computing vision, IT must have policies and tools in place to manage mobility. IT needs to build an enterprise mobile-management strategy to reduce costs, minimize risk and provide a migration path for technology changes. Businesses need to:

- **Update mobile policies.** Many firms already have policies and management procedures to support corporate-liable devices, however these policies need to be revised to account for employee-owned devices. This changes numerous sections of a company's security and management policy. (e.g. who pays for the device and plan, what type of data can be accessed, how will the device be secured etc.). Changes will vary based on the industry and regulatory environment.

- **Embrace Mobile Device Management (MDM).** With today's fragmented landscape, IT needs tools that support multiple OSs such as Android, Blackberry, iOS, and Windows Phone. MDM fills security and manageability gaps that vary across consumer-grade platforms, allowing an easy way to provision devices and distribute updates such as new configurations in an unattended manner. MDM should support remote device monitoring, remote kill and wipe for lost devices, and basic app management such as distributing updates. MDM also provides troubleshooting tools that tell IT if the problem is a device or network-related issue. To shrink support costs, firms should also look for MDM with self-service tools that let employees self-manage their devices.

- **Layer applications management on top of MDM.** Device management tools enable mass deployment of apps and updates Over-the-Air (OTA) in an unattended manner. The next level of app management, which may be provided by MDM vendors or specialty vendors, offers app monitoring for performance and use, version management, and the creation of internal enterprise application catalogs that assist with the discovery and distribution of apps.

- **Secure corporate data/ Strong security support.** Basic security features such as password enforcement, remote lock and wipe are found in MDM today. But CIOs need a comprehensive mobile security solution that provides protection on three levels by preventing unauthorized access to: 1) the device and its data –including data on removable storage 2) data as it transits the network and 3) the corporate network. Mobile security software from vendors, such as McAfee and Trend Micro, support centrally-defined and distributed security policies, device and removable media encryption, strong authentication, mobile VPN support, and two-factor authentication such as biometrics if deemed necessary. Additionally, IT should evaluate solutions that partition or sandbox corporate data from an employee's personal data. This allows IT to wipe just the corporate data if necessary. Ideally, mobile security should tie into your existing security solutions to provide a single screen view for the entire network.

- **Consider Telecom Expense Management (TEM).** In some cases, vendors that offer MDM, such as MobileIron, also provide basic TEM tools that help companies understand what mobile services and devices it is paying for and if employees are actually using these services. TEM specialists, such as Tangoe and Telwares, also examine rate plans, make changes that optimize costs based on usage, and administer and support all aspects of billing from receipt to payment across a broad range of communications services. TEM specialists may also provide technology and network readiness advisory services for all forms of network services.

Step 4. Use Multiple App Development Models to Mobilize Processes

The fragmented mobile landscape has put IT shops in a bind as they try to figure out the best way to mobilize apps and processes for the widest range of devices without reinventing the wheel every six months. Like the early days of web applications, a thin (mobile web) versus thick (native device apps) argument has ensued. The holy grail of "build once and run anywhere" is possible if using the mobile web, but the mobile web can't replicate all of the functions of a native app. Hence cross-platform design tools, such as Appcelerator and Rhomobile, are emerging to enable richer apps that can run in native environments. Cross-platform tools vary on the basis of OS support and use of HTML among other things. There is also the option to use mobile enterprise application platforms, such as Antennae Software, Sybase and Pyxis. Device manufacturers and solutions companies, such as Motorola Solutions, are also building cross-platform solutions.

In truth, developing a strategy for mobile devices is not a binary choice. In many cases, firms will use both native and web apps. And in many cases, a native app uses mobile technology such as browser elements to build the user interfaced. What tools a firm selects will be based on whether they want prepackaged mobile apps, what tools the firm's current app vendors recommend, and how quickly they want to embrace the mobile web. Given these complexities, transforming from PC-based apps to mobile-aware apps requires IT to:

- **Look for the quick hits.** Oftentimes, IT will look to build the perfect app, which can take too long and often leads to disappointing results. Instead, IT should start small with a few lightweight apps that can be deployed quickly and changed quickly if necessary. IT should work closely with different business units to define what apps will deliver value while meeting the criteria of short development cycles. Once IT has a few successes under their belt, it can request funding for larger mobility initiatives.
- **Overhaul its app development strategy.** Given that IT must support multiple OSs, IT should review several areas. First, what languages must be supported and does IT have the necessary skills in-house? In the past, IT could use a wide variety of development tools but businesses looking to support multiple OSs such as Android and iPhone must develop skills in Java and Objective-C. One grey area in the mobile landscape is developer support. Before committing to any OS, IT should evaluate the vendor's support for the developer community and if IT can get a development SLA from the vendor. Other areas of concern are how do you debug apps in mobile world. IT's strategy should also define how apps will integrate with different devices such as a bar code scanner, NFC, and cameras.

- **Develop for the web whenever possible but realize the benefits of native.** While there is intense fragmentation, IT will likely need to build both cross-platform and native apps. The choice depends on the richness of experience that you are trying to create and connectivity requirements. Native apps have full access to device features (e.g. accelerometers, camera, etc.), the benefits of local processing, persistence, and integration with other native apps such as contacts and calendar. However, mobile web development provides multi-platform support, a large pool of developers, and rapid deployment cycles. The latest advancements in HTML-5 also bridge some of the gaps between native and mobile development by providing support for a small amount of local storage, Web SQL databases and geo-location. In fact, the difference isn't that stark as most native apps have user interface elements that incorporate web technologies such as HTML-5. If a firm needs access to specific device features and if an app is sensitive to intermittent connectivity, the firm should evaluate native.

- **Create adaptive apps.** Recognize that apps must operate in poorly connected scenarios. While we await the promise of 4G, IT must ensure line of business apps – such as field service, BSD and asset management – can work in an offline mode. For example, how do I create and store a database with 50,000 parts on a device to support a repairman in the field? As a result, mobile apps must be constructed in a way that the app can store certain data on the device and wait to connect, or the device must have a rich client that contains a basic amount of data on the device.

The Bottom Line: Firms Must Mobilize or Risk Being Left Behind

While today's mobile landscape is fraught with issues, any business that fails to mobilize quickly will lose customers and its competitive edge. Business leaders must provide IT with business goals and direction on what processes need to be improved to achieve these goals. Business leaders must also provide IT with the time and financial resources to make mobile a reality. In return, CIOs must take some risks. If IT waits for users to ask for what they need, IT will be six to 18 months behind the curve. To start the process, business and IT must recognize that mobility is:

- **More than smart phones.** Mobility embodies multiple networks, multiple connected devices including the Internet of things, as well as apps and processes that have been designed or redesigned to be accessed anywhere over a wide range of devices. IT needs a strategy that treats mobile as an integral part of the network instead of an overlay set of tools and technologies.

- **A business strategy, not just a technical strategy.** Mobilizing the business isn't about device or the app. Successful mobile strategies focus on improving and changing business processes to create competitive advantage and improved operations. For example, business leaders should evaluate how attributes of mobile technologies – such as location information, presence and sensor data – will change the business strategy.

- **A fluid, not rigid, strategic plan**. Mobile technology continues to evolve. The types of devices and functions, operating systems and the tools used to create mobile apps and managed devices are still in a constant flux. Device and OS fragmentation will dominate the landscape for at least several years. Today, the cadence of IT releases is far longer than the six to twelve month lifespan of any mobile OS. With such a dynamic landscape, IT will need to shift from a lockdown mode of three-five years to shorter timeframes. Over the next several years, businesses must look for "quick hit" strategies such as processes that can be rolled out in less than a year, and IT must build architectures that are flexible enough to accommodate changes. IT must emulate the start-up culture of fail fast, develop a new plan, and iterate success stories as necessary.

The mobile market will continue to be a complex, rapidly evolving landscape. Business leaders and IT will harness the power of this revolution if they spend the time to adapt business processed for mobile. IT will meet risk and compliance metrics by creating an environment that supports and secures employee-owned devices through dynamic policies and mobility-management solutions. Finally, CIOs will deliver business value if they can mobilize business processes.

Endnotes

Symantec Corp., Internet Security Threat Report, Vol. 16.

http://www.symantec.com/business/threatreport/index.jsp

Analyst Biography

Maribel Lopez is the Founder and Principal Analyst of Lopez Research. Maribel brings both enterprise and consumer market expertise honed from two decades of product management and technology marketing expertise as well as industry analyst expertise roles. Prior to founding Lopez Research, Maribel was a respected analyst for more than ten years at Forrester Research, most recently as Vice President of the tech industry strategies group. There she provided analysis on multiple topics including network and service strategies, enterprise communications, and consumer markets for voice, video and data. Before she joined Forrester, she worked for Shiva Corporation, where she held positions in strategic marketing and product marketing as well as a ran a competitive product evaluation laboratory. Prior to joining Shiva, she worked for International Data Corporation as a data networking industry analyst. Maribel started her career at Motorola holding positions in finance, marketing and global corporate development.

About Lopez Research

Lopez Research, founded in 2008, is a market research and strategy consulting firm that specializes in communications technologies with a heavy emphasis on the disruptive nature of mobile technologies. The company's mission is to understand the evolution of these industries, provide thought leadership, and assist both enterprise and technology vendor clients in building winning market strategies. Her perceptions in the enterprise market are gained through direct industry involvement and client interaction. Lopez Research combines survey-based research and predictive analysis to gain insight into coming trends. With a background in emerging business and technology trends, voice and data networking technologies, and vendor and service provider selection, Lopez Research provides clients and readers with the bridge between business leadership and technology adoption.

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